•	omena of Uranus fro		•				page 1
direct	-12900 Feb 27 j 12:40		in astronomical co	conjunction	-12894 Jul 14 j 23:26		
evening set	-12900 Jun 01 j 13:11			minimum elong	-12894 Jul 14 j 23:25		0°53'35
evening set	12900 Juli 01 j 15.11	23 /(3334		max. Earth dist.	-12894 Jul 15 j 08:18		
conjunction	-12900 Jun 17 j 08:27	24° ₩ 35'17	0°20'45	morning rise	-12894 Jul 30 j 12:36		17.77737710
minimum elong	-12900 Jun 17 j 08:26		0°20'40	retrograde	-12894 Oct 30 j 19:33		
max. Earth dist.	-12900 Jun 17 j 00:31			opposition	-12893 Jan 14 j 23:41		1°01'42
morning rise	-12900 Jul 03 j 00:53		19.12731110	min. Earth dist.	-12893 Jan 14 j 12:49		
retrograde	-12900 Oct 02 j 11:17			direct	-12893 Apr 01 j 21:57		17.01133 110
opposition	-12900 Dec 16 j 10:48		0°26'26	evening set	-12893 Jul 04 j 01:50		
min. Earth dist.	-12900 Dec 16 j 16:20			evening sec	120,5 001 01,50	20 102 10	
direct	-12899 Mar 03 j 17:24		17.43032710	conjunction	-12893 Jul 19 j 15:21	26°℃50'19	0°57'34
evening set	-12899 Jun 06 j 10:44			minimum elong	-12893 Jul 19 j 15:20		0°57'56
evening set	120)) Juli 00 j 10.44	20 /(1/02		max. Earth dist.	-12893 Jul 20 j 03:25		
conjunction	-12899 Jun 22 j 04:56	20°¥16'28	0°26'47	morning rise	-12893 Aug 04 j 04:08		17.04333710
minimum elong	-12899 Jun 22 j 04:56		0°26'47	morning rise	-12893 Sep 14 j 19:15		
max. Earth dist.	-12899 Jun 21 j 23:52			retrograde	-12893 Nov 04 j 14:18	_	
max. Lartii dist.	-12899 Jul 03 j 16:42		17.47473 AU	retrograde	-12893 Nov 04 j 14:18 -12893 Dec 28 j 04:08	_	
morning rise	-12899 Jul 07 j 20:37	0° Υ 15'33		opposition	-12892 Jan 19 j 23:46		1°06'16
retrograde	-12899 Oct 07 j 08:33	3° Υ 36'48		min. Earth dist.	-12892 Jan 19 j 11:33		
opposition		1° Υ 35'15	0°33'04	direct	-12892 Jan 19 j 11:53 -12892 Apr 05 j 19:53		17.87969 AU
min. Earth dist.	-12899 Dec 21 j 14:07		17.50051 AU	direct			
min. Earm dist.	-12899 Dec 21 j 17:38		17.30031 AU	. ,	-12892 Jul 01 j 11:14		
r.	-12898 Feb 02 j 13:55			evening set	-12892 Jul 07 j 17:23	0° 8 22'23	
direct	-12898 Mar 08 j 19:02			. ,.	12002 1 1 22:06 20	101111	1001120
	-12898 Apr 11 j 02:27	0° Υ		conjunction	-12892 Jul 23 j 06:20		1°01'29
evening set	-12898 Jun 11 j 07:23	2° Y 57′02		minimum elong	-12892 Jul 23 j 06:19		1°01'56
				max. Earth dist.	-12892 Jul 23 j 19:46	_	19.91418 AU
conjunction	-12898 Jun 27 j 00:37	3° Y 56′10	0°32'37	morning rise	-12892 Aug 07 j 19:06		
minimum elong	-12898 Jun 27 j 00:36	3° Y 56′10	0°32'40	retrograde	-12892 Nov 08 j 09:49		
max. Earth dist.	-12898 Jun 26 j 22:35	3° Y 55'51	19.52759 AU	opposition	-12891 Jan 23 j 22:55		1°10'24
morning rise	-12898 Jul 12 j 15:38	4° Y 54'59		min. Earth dist.	-12891 Jan 23 j 07:38	_	17.94900 AU
retrograde	-12898 Oct 12 j 07:29	8° Ƴ 15'52		direct	-12891 Apr 10 j 17:47		
opposition	-12898 Dec 26 j 17:04	6° Ƴ 14'26	0°39'27	evening set	-12891 Jul 12 j 07:57	4° 8 50'02	
min. Earth dist.	-12898 Dec 26 j 16:40		17.55570 AU				
direct	-12897 Mar 13 j 22:07	4° Υ 10'38		conjunction	-12891 Jul 27 j 20:37	5° 8 47'03	1°05'01
evening set	-12897 Jun 16 j 03:05	7° Ƴ 35'29		minimum elong	-12891 Jul 27 j 20:37	5° 8 47'02	1°05'30
				max. Earth dist.	-12891 Jul 28 j 13:10	5° 8 49'36	19.98325 AU
conjunction	-12897 Jul 01 j 19:26	8° Ƴ 34'19	0°38'13	morning rise	-12891 Aug 12 j 09:10	6° 8 44'04	
minimum elong	-12897 Jul 01 j 19:26	8° Ƴ 34'19	0°38'22	retrograde	-12891 Nov 13 j 02:50	10° 8 01'32	
max. Earth dist.	-12897 Jul 01 j 20:40	8° Ƴ 34'31	19.58502 AU	opposition	-12890 Jan 28 j 21:14	8° 8 00'46	1°14'04
morning rise	-12897 Jul 17 j 09:50	9° Ƴ 32'53		min. Earth dist.	-12890 Jan 28 j 04:35	8° 8 02'28	18.01817 AU
retrograde	-12897 Oct 17 j 04:10	12° Y 53′24		direct	-12890 Apr 15 j 14:46	6° 8 00'01	
opposition	-12897 Dec 31 j 19:43	10° Y 52′05	0°45'33	evening set	-12890 Jul 16 j 21:43	9° 8 15'35	
min. Earth dist.	-12897 Dec 31 j 17:31	10° Y 52′19	17.61526 AU				
direct	-12896 Mar 17 j 21:58	8° Ƴ 48'44		conjunction	-12890 Aug 01 j 09:57	10° 8 12'18	1°08'07
evening set	-12896 Jun 19 j 22:04	12° Υ 12'23		minimum elong	-12890 Aug 01 j 09:57	10° 8 12'18	1°08'41
				max. Earth dist.	-12890 Aug 02 j 03:39	10° 8 15'01	20.05249 AU
conjunction	-12896 Jul 05 j 13:33	13° Υ 10'54	0°43'33	morning rise	-12890 Aug 16 j 22:41	11° 8 09'05	
minimum elong	-12896 Jul 05 j 13:32		0°43'44	retrograde	-12890 Nov 17 j 20:36	14° 8 25'57	
max. Earth dist.	-12896 Jul 05 j 17:16		19.64645 AU	opposition	-12889 Feb 02 j 18:42		1°17'16
morning rise	-12896 Jul 21 j 03:30			min. Earth dist.	-12889 Feb 01 j 23:16		
retrograde	-12896 Oct 21 j 02:32			direct	-12889 Apr 20 j 10:31		
opposition	-12895 Jan 04 j 21:28		0°51'19	evening set	-12889 Jul 21 j 10:19		
min. Earth dist.	-12895 Jan 04 j 15:35						
direct	-12895 Mar 22 j 23:14		-,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	conjunction	-12889 Aug 05 j 22:31	14° \3 5'25	1°10'48
evening set	-12895 Jun 24 j 16:10			minimum elong	-12889 Aug 05 j 22:31		
evening sec	120)0 Juli 21 j 10.10	10 1 17 50		max. Earth dist.	-12889 Aug 06 j 19:27		
conjunction	-12895 Jul 10 j 06:57	17° ℃ 45'50	0°48'34	man. Durur dist.	-12889 Aug 12 j 15:27		20.121/3 AO
minimum elong	-12895 Jul 10 j 06:57			morning rise	-12889 Aug 21 j 11:14		
max. Earth dist.	-12895 Jul 10 j 06.57			retrograde	-12889 Nov 22 j 12:10		
max. Earth dist.	-12895 Jul 10 j 13:54 -12895 Jul 25 j 20:23		17./10/0 AU	opposition	-12889 Nov 22 j 12:10 -12888 Feb 07 j 15:15		1010/50
retrograde	-12895 Jul 25 j 20:23 -12895 Oct 25 j 22:30			min. Earth dist.	-12888 Feb 0/j 13:13 -12888 Feb 06 j 18:17		
•	-12894 Jan 09 j 22:57		0°56'42	mm. Earm dist.			10.13003 AU
opposition min. Earth dist.	-12894 Jan 09 j 22:57			direct	-12888 Apr 01 j 21:25		
direct	-12894 Jan 09 j 15:35 -12894 Mar 27 j 22:00		17.74391 AU	direct	-12888 Apr 24 j 06:01		
	-12894 Mar 27 j 22:00 -12894 Jun 29 j 09:26			avaning sat	-12888 May 16 j 03:47		
evening set	-12074 Juli 29 J 09:26	Z1 1 Z1 U3		evening set	-12888 Jul 24 j 22:19	10 00014	

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12888 in astronomical counting style is the year 12889 BCE in historical counting style. -12888 Aug 09 j 10:15 18°\(256'25\) 1°13'04 retrograde -12882 Dec 22 j 11:11 18°**Д**30'27 conjunction minimum elong -12888 Aug 09 j 10:15 18°\(256'25\) 1°13'42 min. Earth dist. -12881 Mar 09 j 04:57 16°**Д**33'36 18.63613 AU max. Earth dist. -12888 Aug 10 j 08:13 18°\(259'46\) 20.19109 AU -12881 Mar 10 j 12:54 16° **II** 30'23 1°25'43 opposition -12888 Aug 24 j 23:21 19°**8**52'45 -12881 May 25 j 10:30 14°**Д**32'51 morning rise direct -12888 Nov 26 j 04:05 23°**8**08'22 -12881 Aug 23 j 13:17 17°**Д**37'12 retrograde evening set -12887 Feb 10 j 11:16 21°8 10'03 18.22642 AU min. Earth dist. -12887 Feb 11 j 10:36 21°**8**07'41 1°22'13 -12881 Sep 08 j 03:14 18° **II** 31'57 1°16'57 opposition conjunction -12881 Sep 08 j 03:14 18°**Д**31'57 1°17'46 direct -12887 Apr 28 j 23:20 19°**8**07'57 minimum elong -12887 Jul 29 j 09:18 22°**8**19'25 -12881 Sep 09 j 13:26 18°**Д**36'59 20.66653 AU evening set max. Earth dist. morning rise -12881 Sep 23 j 19:56 19°**Ⅲ**27'06 conjunction -12887 Aug 13 j 21:22 23°**8**15'20 1°14'53 retrograde -12881 Dec 26 j 22:42 22°**Ⅱ**38'41 -12887 Aug 13 j 21:22 23°**8**15'20 -12880 Mar 12 j 17:24 20°**Ⅲ**42'03 18.69790 AU minimum elong 1°15'34 min. Earth dist. -12887 Aug 14 j 22:29 23°**8**19'09 20.26063 AU -12880 Mar 14 j 02:18 20°**Ⅲ**38'44 1°24'41 max. Earth dist. opposition morning rise -12887 Aug 29 j 10:34 24°**8**11'28 direct -12880 May 28 j 22:42 18°**Д**41'31 retrograde -12887 Nov 30 j 17:59 27°**8**26'27 evening set -12880 Aug 26 j 20:23 21°**Ⅲ**44'51 min. Earth dist. -12886 Feb 15 j 04:08 25°**8**28'22 18.29609 AU opposition -12886 Feb 16 j 05:12 25°**8**25'49 1°23'59 conjunction -12880 Sep 11 j 10:45 22°**Д**39'27 1°15'51 direct -12886 May 03 j 16:39 23°**8**26'29 minimum elong -12880 Sep 11 j 10:45 22°**Д**39'27 1°16'41 evening set -12886 Aug 02 j 19:32 26°836'37 max. Earth dist. -12880 Sep 12 j 20:29 22°**Д**44'24 20.72652 AU morning rise -12880 Sep 27 j 04:25 23°**Д**34'30 conjunction retrograde -12880 Dec 30 j 09:49 26° **II** 45'32 minimum elong min. Earth dist. -12879 Mar 17 j 06:09 24°**Ц**48'59 18.75609 AU max. Earth dist. -12886 Aug 19 j 09:34 27°**8**36'13 20.33037 AU opposition -12879 Mar 18 j 14:54 24°**I**I45'41 1°23'14 morning rise -12886 Sep 02 j 21:16 28°\(28'13\) direct -12879 Jun 02 i 07:22 22°**Ⅱ**48'43 -12886 Sep 30 i 22:47 0°**П** evening set -12879 Aug 31 j 02:50 25° **I** 51'06 -12886 Dec 05 j 08:50 1°**II**42'37 retrograde -12885 Feb 13 j 13:29 30°R8 conjunction -12879 Sep 15 j 18:03 26°**II**45'35 1°14'22 -12885 Feb 20 j 22:57 29°842'04 1°25'16 minimum elong -12879 Sep 15 j 18:03 26°**II**45'35 1°15'12 opposition -12885 Feb 19 j 19:50 29°**8**44'49 18.36599 AU max. Earth dist. -12879 Sep 17 j 05:13 26°**Д**50'44 20.78263 AU min. Earth dist. -12885 May 08 j 07:34 27°**8**43'04 morning rise -12879 Oct 01 j 12:25 27° **II** 40'32 direct -12879 Nov 18 j 16:23 0°ഇ -12885 Jul 22 j 21:41 0°**Ⅱ** -12885 Aug 07 j 05:02 0°**Ц**51'57 -12878 Jan 03 j 20:34 0°551'02 evening set retrograde -12878 Feb 20 j 16:42 30°R II -12885 Aug 22 j 17:23 1°**II**47'26 1°17'16 min. Earth dist. -12878 Mar 21 j 17:15 28° **I** 54'37 18.81001 AU conjunction -12885 Aug 22 j 17:22 1°**Д**47'26 1°18'01 -12878 Mar 23 j 02:46 28°**I**51'15 1°21'21 minimum elong opposition -12885 Aug 23 j 22:22 1°**П**51'47 20.40007 AU -12878 Jun 06 j 18:19 26°**Ⅲ**54'30 max. Earth dist. direct -12885 Sep 07 j 07:26 2°**Д**43'10 -12878 Sep 04 j 08:57 29°**Д**55'58 morning rise evening set retrograde -12885 Dec 09 j 21:20 5° II 56'58 -12878 Sep 05 j 13:17 0°95 min. Earth dist. -12884 Feb 24 j 10:55 3°**Д**59'26 18.43549 AU opposition -12884 Feb 25 j 15:38 3°**Д**56'32 1°26'05 conjunction -12878 Sep 20 j 00:46 0°950'20 1°12'30 direct -12884 May 11 j 22:26 1°**Ц**57'55 minimum elong -12878 Sep 20 j 00:46 0°950'20 1°13'22 -12884 Aug 10 j 14:00 5°**Д**05'36 max. Earth dist. -12878 Sep 21 j 11:10 0°955'21 20.83438 AU evening set morning rise -12878 Oct 05 j 20:16 1°9545'13 -12884 Aug 26 j 02:28 6°**Д**00'51 1°17'49 retrograde -12877 Jan 08 j 06:46 4°955'13 conjunction -12884 Aug 26 j 02:28 6°Д00'51 1°18'35 min. Earth dist. -12877 Mar 26 j 05:06 2°558'45 18.85957 AU minimum elong -12884 Aug 27 j 08:00 6°Щ05'16 20.46921 AU -12877 Mar 27 j 14:01 max. Earth dist. opposition 2°955'27 1°19'04 -12884 Sep 10 j 17:16 6°**Д**56'26 morning rise direct -12877 Jun 11 i 02:16 0°958'51 -12884 Dec 13 j 11:02 10°**Д**09'40 -12877 Sep 08 j 14:40 retrograde evening set 3°959'28 -12883 Feb 28 j 01:32 8°Щ12'22 18.50421 AU min. Earth dist. -12883 Mar 01 i 07:33 8° II 09'21 1°26'26 conjunction -12877 Sep 24 i 07:29 4°953'45 1°10'18 opposition direct -12883 May 16 i 10:57 6°**Ⅱ**11'06 minimum elong -12877 Sep 24 i 07:29 4°953'45 1°11'08 evening set -12883 Aug 14 j 22:10 9°**II**17'37 max. Earth dist. -12877 Sep 25 j 18:58 4°\$58'54 20.88166 AU morning rise -12877 Oct 10 j 03:50 5°9548'34 -12883 Aug 30 j 11:08 10°**Ⅲ**12'42 1°17'56 conjunction retrograde -12876 Jan 12 j 16:24 8°958'02 -12883 Aug 30 j 11:08 10°**Ⅲ**12'42 1°18'45 minimum elong min. Earth dist. -12876 Mar 29 j 14:43 7°501'38 18.90452 AU max. Earth dist. -12883 Aug 31 j 19:12 10°П17'28 20.53712 AU opposition -12876 Mar 31 j 00:10 6°958'17 1°16'25 morning rise -12883 Sep 15 j 02:21 11°**Д**08'07 direct -12876 Jun 14 j 11:39 5°901'49 retrograde -12883 Dec 17 j 22:48 14°**Д**20'47 evening set -12876 Sep 11 j 20:09 8°901'37 -12882 Mar 05 j 22:34 12°**Ⅲ**20'36 1°26'18 opposition min. Earth dist. -12882 Mar 04 j 15:12 12°**Д**23'46 18.57122 AU -12876 Sep 27 j 13:41 8°955'50 1°07'45 conjunction -12882 May 21 j 00:14 10°**Ⅲ**22'44 -12876 Sep 27 j 13:42 direct minimum elong 8°955'50 1°08'36 -12882 Aug 19 j 06:05 13°**Д**28'09 evening set max. Earth dist. -12876 Sep 29 j 00:10 9°500'49 20.92448 AU morning rise -12876 Oct 13 j 11:15 9°950'36 conjunction -12882 Sep 03 j 19:19 14°**Д**23'02 1°17'39 retrograde -12875 Jan 16 j 01:30 12°559'35 minimum elong -12882 Sep 03 j 19:18 14°**II**23'02 1°18'28 min. Earth dist. -12875 Apr 03 j 01:13 11°503'04 18.94527 AU max. Earth dist. -12882 Sep 05 j 03:30 14°**П**27'48 20.60312 AU -12875 Apr 04 j 09:48 10°559'48 opposition 1°13'25

direct

-12875 Jun 18 j 18:32

9°503'26

morning rise

-12882 Sep 19 j 11:23 15°**Д**18'19

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12875 in astronomical counting style is the year 12876 BCE in historical counting style. -12875 Sep 16 j 01:01 12°502'30 max. Earth dist. -12869 Oct 27 j 14:51 6° **Ω**49'14 21.11954 AU evening set -12869 Nov 11 j 11:10 $7^{\circ}\Omega$ 39'24 morning rise -12875 Oct 01 j 19:38 12°556'40 1°04'54 -12868 Feb 14 j 11:07 $10^{\circ}\Omega$ 46'09 retrograde conjunction -12875 Oct 01 j 19:38 12°556'40 1°05'44 -12868 May 01 j 06:21 8° Ω 49'34 19.12657 AU minimum elong min. Earth dist. -12875 Oct 03 j 07:09 13°501'47 20.96322 AU -12868 May 02 j 11:43 8° Ω 46'36 0°43'55 max. Earth dist. opposition -12868 Jul 16 j 08:58 -12875 Oct 17 j 18:05 13°951'23 morning rise direct 6°**£**50′43 -12868 Oct 13 j 10:01 9°**Ω**47'07 retrograde -12874 Jan 20 j 10:10 16°559'54 evening set min. Earth dist. -12874 Apr 07 j 09:23 15°503'27 18.98203 AU -12868 Oct 29 j 11:57 $10^{\circ}\Omega41'25$ $0^{\circ}37'26$ opposition -12874 Apr 08 j 18:36 15°500'07 1°10'04 conjunction -12868 Oct 29 j 11:57 $10^{\circ}\Omega41'25$ $0^{\circ}38'05$ direct -12874 Jun 23 j 02:23 13°503'49 minimum elong evening set -12874 Sep 20 j 05:56 16°502'14 max. Earth dist. -12868 Oct 30 j 18:45 $10^{\circ}\Omega$ 45'47 21.13120 AU -12868 Nov 14 j 18:30 11°**Ω**36'20 morning rise -12874 Oct 06 j 01:21 16°556'22 1°01'45 conjunction retrograde -12867 Feb 17 j 17:55 14° **Ω**42'58 minimum elong -12874 Oct 06 j 01:21 16°556'22 1°02'33 opposition -12867 May 06 j 17:23 12°**Ω**43'28 max. Earth dist. -12874 Oct 07 j 11:51 17°501'19 20.99820 AU min. Earth dist. -12867 May 05 j 14:16 12° Ω 46'12 19.13569 AU morning rise -12874 Oct 22 j 01:04 17°951'04 direct -12867 Jul 20 j 11:29 10° Ω 47'36 retrograde -12873 Jan 24 j 18:13 20°559'10 evening set -12867 Oct 17 j 15:03 13° **Ω**43'57 min. Earth dist. -12873 Apr 11 j 18:37 19°502'36 19.01532 AU opposition -12873 Apr 13 j 02:48 18°559'22 conjunction -12867 Nov 02 j 18:17 14° Ω 38'20 0°32'39 direct -12873 Jun 27 j 07:55 17°503'08 minimum elong -12867 Nov 02 j 18:17 $14^{\circ}\Omega$ 38'20 0° 33'15 evening set -12873 Sep 24 j 10:31 20°501'00 max. Earth dist. -12867 Nov 04 j 00:36 14° Ω 42'38 21.13772 AU -12867 Nov 09 i 03:18 $15^{\circ}\Omega$ conjunction -12873 Oct 10 j 07:08 20°\$55'07 0°58'19 morning rise -12867 Nov 19 j 01:48 15°Ω33'20 minimum elong -12873 Oct 10 j 07:08 20°\$55'07 0°59'07 retrograde -12866 Feb 22 i 02:29 $18^{\circ}\Omega$ 39'52 max. Earth dist. -12873 Oct 11 j 18:26 21°500'10 21.02978 AU opposition -12866 May 10 j 22:39 $16^{\circ}\Omega 40'24 \quad 0^{\circ}33'20$ -12873 Oct 26 j 07:49 21°5549'48 min. Earth dist. -12866 May 09 j 20:08 $16^{\circ}\Omega43'05$ 19.13932 AU morning rise -12872 Jan 29 j 02:56 24°\$57'32 -12866 Jun 29 j 21:31 15°RΩ retrograde -12872 Apr 15 j 01:38 23°501'02 19.04507 AU -12866 Jul 24 j 17:14 14°Ω44'31 min. Earth dist. direct -12872 Apr 16 j 10:17 22°557'45 1°02'27 -12866 Aug 18 j 04:21 15°**Ω** opposition -12872 Jun 30 j 14:24 21°501'36 -12866 Oct 21 j 20:45 $17^{\circ}\Omega 40'53$ direct evening set -12872 Sep 27 j 15:10 23°559'00 evening set conjunction -12872 Oct 13 j 12:38 24°\$53'06 0°54'37 -12866 Nov 07 j 00:58 18° Ω 35'23 0°28'17 conjunction minimum elong -12866 Nov 08 j 04:37 $18^{\circ}\Omega$ 39'17 21.13853 AU -12872 Oct 13 j 12:39 24°\$53'06 0°55'22 max. Earth dist. minimum elong -12872 Oct 14 j 22:40 24°557'58 21.05781 AU -12866 Nov 23 j 09:45 19°**Ω**30'29 max. Earth dist. morning rise -12872 Oct 29 j 14:36 25°547'49 -12865 Feb 26 j 09:39 22°**Ω**36'57 morning rise retrograde -12871 Feb 01 j 10:04 28°555'14 -12865 May 14 j 03:58 $20^{\circ}\Omega$ 39'53 19.13718 AU retrograde min. Earth dist. min. Earth dist. -12871 Apr 19 j 10:01 26°558'38 19.07137 AU opposition -12865 May 15 j 03:47 $20^{\circ}\Omega$ 37'29 $0^{\circ}27'47$ opposition -12871 Apr 20 j 17:19 26°55'29 0°58'12 direct -12865 Jul 28 j 19:54 18°**Ω**41'30 direct -12871 Jul 04 j 18:39 24°559'25 evening set -12865 Oct 26 j 02:38 21°**Ω**37'58 -12871 Oct 01 j 19:35 27°556'25 evening set conjunction -12865 Nov 11 j 08:11 22° Ω 32'35 0°22'38 -12871 Oct 17 j 18:19 28°\$50'33 0°50'39 -12865 Nov 11 j 08:11 22° Ω 32'35 0°23'08 conjunction minimum elong -12871 Oct 17 j 18:19 28°\$50'33 0°51'25 max. Earth dist. -12865 Nov 12 j 10:46 22° Ω 36'20 21.13346 AU minimum elong -12871 Oct 19 j 04:51 28°555'29 21.08238 AU -12865 Nov 27 j 17:54 23° **Ω**27'47 max. Earth dist. morning rise morning rise -12871 Nov 02 j 21:15 29°545'17 retrograde -12864 Mar 01 i 17:41 $26^{\circ}\Omega$ 34'11 -12864 May 17 j 09:43 $24^{\circ}\Omega$ 37'02 19.12896 AU -12871 Nov 07 i 07:59 $0^{\circ}\Omega$ min. Earth dist. retrograde -12870 Feb 05 j 19:14 $2^{\circ}\Omega$ 52'27 opposition -12864 May 18 j 08:40 $24^{\circ}\Omega$ 34'42 $0^{\circ}22'06$ opposition -12870 Apr 24 j 23:49 $0^{\circ}\Omega$ 52'45 0° 53'41 direct -12864 Aug 01 j 01:22 22° Ω38'36 min. Earth dist. -12870 Apr 23 j 16:19 $0^{\circ}\Omega$ 55'56 19.09395 AU evening set -12864 Oct 29 j 08:53 25° Ω 35'14 -12870 May 17 j 15:15 30°RS direct -12870 Jul 09 j 00:17 28°\$56'46 conjunction -12864 Nov 14 j 15:23 $26^{\circ}\Omega 29'57$ $0^{\circ}17'27$ -12870 Aug 28 j 09:21 0°**Ω** -12864 Nov 14 j 15:23 $26^{\circ}\Omega 29'57$ $0^{\circ}17'56$ minimum elong -12870 Oct 06 j 00:11 $1^{\circ}\Omega$ 53'29 evening set max. Earth dist. -12864 Nov 15 j 15:03 $26^{\circ}\Omega$ 33'18 21.12233 AU morning rise -12864 Dec 01 j 02:17 27° **Ω**25'17 conjunction -12870 Oct 21 j 23:52 $2^{\circ}\Omega 47'39$ $0^{\circ}46'28$ -12863 Jan 28 j 11:53 0° M minimum elong -12870 Oct 21 j 23:52 2°**Ω**47'39 0°47'10 retrograde -12863 Mar 06 j 00:41 0° **m** 31'40 -12870 Oct 23 j 08:49 2°**Ω**52'20 21.10307 AU -12863 Apr 11 j 23:07 30°R**Ω** max. Earth dist. -12870 Nov 07 j 04:09 -12863 May 22 j 13:29 $28^{\circ}\Omega$ 32'07 0° 16'19 morning rise 3°**Ω**42′26 opposition -12863 May 21 j 17:20 $28^{\circ}\Omega$ 34'10 19.11493 AU retrograde -12869 Feb 10 j 01:59 $6^{\circ}\Omega$ 49'23 min. Earth dist. min. Earth dist. -12869 Apr 28 j 00:25 4° **Ω**52'44 19.11254 AU direct -12863 Aug 05 j 04:41 26° Ω35'50 opposition -12869 Apr 29 j 06:07 4°Ω49'45 0°48'55 evening set -12863 Nov 02 j 15:20 29°**Q**32'40 direct -12869 Jul 13 j 03:26 2°**£**53′49 -12863 Nov 10 j 19:47 evening set -12869 Oct 10 j 04:54 5°**£**50′20 conjunction -12863 Nov 18 j 23:07 0° m 27'33 $0^{\circ}12'11$

-12869 Oct 26 j 05:54

-12869 Oct 26 j 05:54 $6^{\circ}\Omega$ 44'34 $0^{\circ}42'44$

conjunction

minimum elong

6°**Ω**44'33 0°42'03

-12863 Nov 18 j 23:07

-12863 Nov 18 j 18:55

minimum elong

behind sun begin

0° m/27'33

0° m 26'58

0°12'36

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12863 in astronomical counting style is the year 12864 BCE in historical counting style. behind sun end -12863 Nov 19 j 03:20 0° m 28'07 direct -12857 Aug 29 j 07:23 20° m 27'24 max. Earth dist. -12863 Nov 19 j 21:41 0° m/30'44 21.10569 AU evening set -12857 Nov 27 j 16:29 23° m 27'16 -12863 Dec 05 j 10:54 1° m 22'59 morning rise -12857 Dec 14 j 06:22 24° m 23'16 -0°20'00 retrograde -12862 Mar 10 j 08:26 4° m 29'22 conjunction 2° m 29'44 0°10'28 -12857 Dec 14 j 06:21 24° m 23'15 0°19'54 opposition -12862 May 26 j 17:59 minimum elong -12857 Dec 14 j 16:18 24° m 24'40 20.91651 AU min. Earth dist. -12862 May 25 j 22:45 2° m/31'41 19.09556 AU max. Earth dist. direct -12862 Aug 09 j 09:42 0° m 33'13 morning rise -12857 Dec 30 j 23:11 25° m 19'41 evening set -12862 Nov 06 j 22:18 3° m 30'21 retrograde -12856 Apr 03 j 09:59 28° M 27'02 opposition -12856 Jun 18 j 22:10 26° M 26'56 -0°25'02 conjunction -12862 Nov 23 j 07:04 4° m 25'23 0°06'53 min. Earth dist. -12856 Jun 18 j 14:17 26° Mp 27'45 18.89513 AU minimum elong -12862 Nov 23 j 07:03 4° Mp 25'23 0°07'15 direct -12856 Sep 01 j 13:50 24° m 28'55 -12862 Nov 23 j 00:55 -12856 Dec 01 j 02:54 27° m 29'35 behind sun begin 4° Mp 24'32 evening set behind sun end -12862 Nov 23 j 13:12 4° Mp 26'13 max. Earth dist. -12862 Nov 24 j 02:45 4° m/28'09 21.08391 AU conjunction -12856 Dec 17 j 17:27 28° m 25'48 -0°25'14 morning rise -12862 Dec 09 j 19:59 5° m 20'58 minimum elong -12856 Dec 17 j 17:27 28° m 25'48 0°25'13 retrograde -12861 Mar 14 j 15:19 8° m 27'23 max. Earth dist. -12856 Dec 18 j 00:19 28° Mp 26'46 20.87297 AU opposition -12861 May 30 j 22:37 6° Mp 27′38 0°04'33 morning rise -12855 Jan 03 j 10:57 29° M 22'25 min. Earth dist. -12861 May 30 j 06:13 6° Mp 29'19 19.07144 AU -12855 Jan 15 j 00:25 0∘**⊽** direct -12861 Aug 13 j 13:26 4° m 30'53 retrograde -12855 Apr 07 j 18:30 2°**₽**30'08 0°**2**30'00 -0°30'48 evening set -12861 Nov 11 j 05:38 7° m/28'23 opposition -12855 Jun 23 j 03:45 min. Earth dist. -12855 Jun 22 j 22:58 0°**2**30'30 18.84996 AU conjunction -12861 Nov 27 j 15:36 8° m 23'35 0°01'31 -12855 Jul 05 i 07:28 30°R MD minimum elong -12861 Nov 27 j 15:37 8° m 23'350°01'49 direct -12855 Sep 05 j 18:19 28° m 31'44 behind sun begin -12861 Nov 27 j 08:54 8° m 22'40 -12855 Nov 05 i 03:04 0∘**⊽** behind sun end -12861 Nov 27 j 22:19 8° m 24'30 evening set -12855 Dec 05 j 14:04 1°**£**33'17 max. Earth dist. -12861 Nov 28 j 10:09 8° Mp 26'12 21.05767 AU -12861 Dec 14 j 05:18 9° m 19'19 -12855 Dec 22 j 05:34 2° \(\Omega\)29'44 -0°30'23 morning rise conjunction -12860 Mar 10 j 13:41 12° m 24'28 -12855 Dec 22 j 05:33 2° \(\Omega\)29'44 0°30'24 desc. node minimum elong -12860 Mar 17 j 23:31 12° m 25'49 max. Earth dist. -12855 Dec 22 j 10:31 2°**2**30'26 20.82614 AU retrograde -12860 Jun 02 j 11:25 10° m 27'33 19.04309 AU -12854 Jan 07 j 23:32 3°**♀**26'34 min. Earth dist. morning rise -12860 Jun 03 j 02:55 10° m 25'58 -0°01'24 -12854 Apr 12 j 06:05 6°**△**34'39 retrograde opposition -12860 Aug 16 j 18:36 8° Mp 28'57 -12854 Jun 27 j 09:27 4°**2**34'31 -0°36'26 direct opposition -12860 Nov 14 j 13:34 11° Mp 26'55 -12854 Jun 27 j 05:59 4°**2**34'52 18.80129 AU min. Earth dist. evening set -12854 Sep 10 j 01:40 2°**♀**35'58 direct -12860 Dec 01 j 00:24 12° Mp 22'18 -0°04'00 -12854 Dec 10 j 02:19 5°**£**38'29 conjunction evening set -12860 Dec 01 j 00:24 12° m 22'18 0°03'45 minimum elong -12860 Nov 30 j 17:45 12° m 21'23 -12854 Dec 26 j 18:26 6°**2**35'11 -0°35'24 behind sun begin conjunction behind sun end -12860 Dec 01 j 07:03 12° m 23'13 minimum elong -12854 Dec 26 j 18:26 6°**2**35'11 0°35'30 max. Earth dist. -12860 Dec 01 j 16:06 12° m 24'30 21.02742 AU max. Earth dist. -12854 Dec 26 j 19:58 6°**△**35'24 20.77555 AU morning rise -12860 Dec 17 j 15:04 13° mp 18'12 morning rise -12853 Jan 12 j 12:56 7°**♀**32'13 retrograde -12859 Mar 22 j 06:31 16° m 24'49 retrograde -12853 Apr 16 j 15:52 10°**♀**40'44 -12859 Jun 07 j 07:35 14° m 24'53 -0°07'21 -12853 Jul 01 j 15:53 8°**-**240'34 -0°41'55 opposition opposition min. Earth dist. -12859 Jun 06 j 18:50 14° Mp 26'12 19.01108 AU min. Earth dist. -12853 Jul 01 j 15:50 8°**2**40'34 18.74881 AU -12859 Aug 20 j 22:02 12° **m** 27'37 -12853 Sep 14 j 07:27 6°**£**41'43 direct direct -12859 Nov 18 j 21:42 15° m/26'07 -12853 Dec 14 j 15:19 evening set evening set 9°**£**45'16 -12859 Dec 05 i 09:42 16° m 21'41 -0°09'21 -12853 Dec 31 j 08:11 10° \(\Omega\)42'13 -0°40'16 conjunction conjunction -12859 Dec 05 j 09:42 16° m 21'41 0°09'08 -12853 Dec 31 j 08:10 10° **△**42'13 0° 40'26 minimum elong minimum elong -12859 Dec 05 i 04:02 16° m 20'54 behind sun begin max. Earth dist. -12853 Dec 31 i 07:19 10° **2**42'05 20.72107 AU behind sun end -12859 Dec 05 i 15:22 16° m 22'28 morning rise -12852 Jan 17 j 02:58 11°**△**39'28 max. Earth dist. -12859 Dec 06 j 00:12 16° mp 23'44 20.99376 AU retrograde -12852 Apr 20 j 04:27 14°**2**48'25 morning rise -12859 Dec 22 j 01:05 17° mp 17'45 opposition -12852 Jul 04 j 22:37 12° **2**48'12 -0°47'13 -12858 Mar 26 j 15:53 20° m 24'34 min. Earth dist. -12852 Jul 05 j 00:02 12° **2**48'03 18.69229 AU retrograde -12858 Jun 11 j 12:13 18° m 24'33 -0°13'17 opposition direct -12852 Sep 17 j 16:15 10° **△**49'02 min. Earth dist. -12858 Jun 11 j 00:21 18° m 25'47 18.97565 AU evening set -12852 Dec 18 j 05:14 13°**£**53'39 direct -12858 Aug 25 j 03:47 16° M 27'02 -12858 Nov 23 j 06:49 19° **m** 26'10 evening set conjunction -12851 Jan 03 j 22:36 14°**⊆**50'51 -0°44'57 minimum elong -12851 Jan 03 j 22:36 14°**2**50'51 0°45'09 -12858 Dec 09 j 19:38 20° m 21'57 -0°14'41 -12851 Jan 03 j 18:16 14°**⊆**50'14 20.66245 AU conjunction max. Earth dist. -12858 Dec 09 j 19:38 20° m 21'57 0°14'33 -12851 Jan 20 j 17:43 15°**△**48'19 minimum elong morning rise -12858 Dec 09 j 16:56 20° m 21'34 -12851 Apr 24 j 15:06 18°**♀**57'45 behind sun begin retrograde behind sun end -12858 Dec 09 j 22:20 20° m 22'19 opposition -12851 Jul 09 j 06:04 16°**⊆**57'26 -0°52'19 max. Earth dist. -12858 Dec 10 j 07:09 20° m 23'34 20.95670 AU min. Earth dist. -12851 Jul 09 j 10:55 16°**2**56'56 18.63179 AU morning rise -12858 Dec 26 j 11:53 21° Mp 18'11 direct -12851 Sep 21 j 23:17 14°**£**57'54 retrograde -12857 Mar 30 j 23:25 24° m 25'15 evening set -12851 Dec 22 j 19:46 18°**♀**03'38 -12857 Jun 15 j 17:05 22° m 25'11 -0°19'11 opposition min. Earth dist. -12857 Jun 15 j 08:10 22° Mp 26'06 18.93701 AU -12850 Jan 08 j 13:47 19°**2**01'05 -0°49'25 conjunction

Planetary Pheno	omena of Uranus fro	om -12900	through -1239	8 (UT), Astrodie	nst AG 18-Feb-2025	14:23,	page 5
•	nical year style is used: The		-				
minimum elong	-12850 Jan 08 j 13:47			retrograde	-12844 May 24 j 18:22		
max. Earth dist.	-12850 Jan 08 j 06:52	19° ≙ 00'06	20.60010 AU	opposition	-12844 Aug 07 j 01:54	16°ML48'13	-1°19'27
morning rise	-12850 Jan 25 j 09:08	19° ≙ 58'47		min. Earth dist.	-12844 Aug 07 j 20:36	16°M46'12	18.14436 AU
retrograde	-12850 Apr 29 j 04:57				-12844 Sep 27 j 17:33		
opposition	-12850 Jul 13 j 13:54		-0°57'09	direct	-12844 Oct 21 j 06:56	14°M45'36	
min. Earth dist.	-12850 Jul 13 j 20:13	21° ≏ 07'36	18.56759 AU		-12844 Nov 13 j 18:54		
direct	-12850 Sep 26 j 09:46	19° ჲ 08'18		evening set	-12843 Jan 23 j 01:31		
evening set	-12850 Dec 27 j 11:24			C	,		
-	·			conjunction	-12843 Feb 08 j 21:03	18°M59'38	-1°12'36
conjunction	-12849 Jan 13 j 05:49	23° ♀ 12'56	-0°53'39	minimum elong	-12843 Feb 08 j 21:03	18°M59'38	1°13'14
minimum elong	-12849 Jan 13 j 05:49	23° ♀ 12'55	0°53'58	max. Earth dist.	-12843 Feb 07 j 21:07	18°M56'05	20.10839 AU
max. Earth dist.	-12849 Jan 12 j 19:40	23° ≙ 11'28	20.53417 AU	morning rise	-12843 Feb 25 j 15:24	19°M58'52	
morning rise	-12849 Jan 30 j 01:17			retrograde	-12843 May 29 j 10:02		
retrograde	-12849 May 03 j 16:17	27° ≏ 21'14		opposition	-12843 Aug 11 j 14:34	21°ML11'24	-1°21'47
opposition	-12849 Jul 17 j 22:18		-1°01'43	min. Earth dist.	-12843 Aug 12 j 11:42		
min. Earth dist.	-12849 Jul 18 j 08:00	25° ≙ 19'39	18.50028 AU	direct	-12843 Oct 25 j 20:53	19°ML08'24	
direct	-12849 Sep 30 j 18:11	23° ≏ 20'16		evening set	-12842 Jan 27 j 22:53	22°M24'31	
evening set	-12848 Jan 01 j 03:43	26° ≏ 28'22			·		
•	·			conjunction	-12842 Feb 13 j 18:15	23°M24'07	-1°14'28
conjunction	-12848 Jan 17 j 22:34	27° ≏ 26'22	-0°57'36	minimum elong	-12842 Feb 13 j 18:14		
minimum elong	-12848 Jan 17 j 22:33	27° ≏ 26'22	0°58'00	max. Earth dist.	-12842 Feb 12 j 15:42	23°M20'09	20.03840 AU
max. Earth dist.	-12848 Jan 17 j 09:51	27° ≏ 24'31	20.46564 AU	morning rise	-12842 Mar 02 j 12:18	24°M23'34	
morning rise	-12848 Feb 03 j 18:05	28° ≏ 24'30		retrograde	-12842 Jun 03 j 03:39	27°M38'01	
_	-12848 Mar 05 j 04:55	0°M		opposition	-12842 Aug 16 j 04:03	25°M36'42	-1°23'40
retrograde	-12848 May 07 j 07:15			min. Earth dist.	-12842 Aug 17 j 02:07	25°M34'19	18.00439 AU
	-12848 Jul 11 j 06:57			direct	-12842 Oct 30 j 12:58		
opposition	-12848 Jul 21 j 07:14	29° ₽ 34'42	-1°05'59	evening set	-12841 Feb 01 j 21:11	26°M50'53	
min. Earth dist.	-12848 Jul 21 j 18:13	29° ₽ 33'32	18.43070 AU		·		
direct	-12848 Oct 04 j 05:53			conjunction	-12841 Feb 18 j 16:26	27°M50'44	-1°15'55
	-12848 Dec 22 j 20:11			minimum elong	-12841 Feb 18 j 16:26	27°M50'44	1°16'37
evening set	-12847 Jan 04 j 20:43	0°M43'10		max. Earth dist.	-12841 Feb 17 j 12:46	27°M46'36	19.96943 AU
•	·			morning rise	-12841 Mar 07 j 09:46	28°M50'23	
conjunction	-12847 Jan 21 j 15:50	1°M41'26	-1°01'17		-12841 Mar 28 j 05:43	0° ∡ ¹	
minimum elong	-12847 Jan 21 j 15:50	1°M41'26	1°01'43	retrograde	-12841 Jun 07 j 21:07	2° ∡ ¹05'29	
max. Earth dist.	-12847 Jan 21 j 00:32	1°M39'12	20.39507 AU	opposition	-12841 Aug 20 j 18:33		-1°25'03
morning rise	-12847 Feb 07 j 11:16	2°M39'48		min. Earth dist.	-12841 Aug 21 j 18:52	0° ∡ ¹01'31	17.93607 AU
retrograde	-12847 May 11 j 19:49	5°M51'14			-12841 Aug 22 j 08:52	30°RML	
opposition	-12847 Jul 25 j 16:55	3°M50'23	-1°09'54	direct	-12841 Nov 04 j 05:31	28°ML00'27	
min. Earth dist.	-12847 Jul 26 j 06:55	3°M48'54	18.35960 AU		-12840 Jan 13 j 21:54	0° ∡ ¹	
direct	-12847 Oct 08 j 15:57	1° M 49'04		evening set	-12840 Feb 06 j 20:26	1° ∡ 19'25	
evening set	-12846 Jan 09 j 14:38	4°M59'41		max. Earth dist.	-12840 Feb 22 j 08:50	2° ∡ 14'56	19.90173 AU
conjunction	-12846 Jan 26 j 09:59	5°M58'13	-1°04'38	conjunction	-12840 Feb 23 j 15:15	2° √ 19'31	-1°16'54
minimum elong	-12846 Jan 26 j 09:58	5°M58'13	1°05'07	minimum elong	-12840 Feb 23 j 15:14	2° √ 19'31	1°17'39
max. Earth dist.	-12846 Jan 25 j 16:11	5°M55'36	20.32351 AU	morning rise	-12840 Mar 11 j 08:08	3° √ 19'21	
morning rise	-12846 Feb 12 j 05:22	6°M56'48		retrograde	-12840 Jun 11 j 15:46	6° ∡ ³35′07	
retrograde	-12846 May 16 j 11:31	10°ML08'47		opposition	-12840 Aug 24 j 10:00	4° ∡ ³33'44	-1°25'56
opposition	-12846 Jul 30 j 03:00	8° M 07'48	-1°13'29	min. Earth dist.	-12840 Aug 25 j 11:20	4° ₹ ³31'00	17.86904 AU
min. Earth dist.	-12846 Jul 30 j 18:08	8°M06'11	18.28779 AU	direct	-12840 Nov 07 j 23:46	2° ₹ 129'42	
direct	-12846 Oct 13 j 04:45	6°M06'01		evening set	-12839 Feb 10 j 20:13	5° ₹ ¹50'05	
evening set	-12845 Jan 14 j 09:29	9° M 17′58		max. Earth dist.	-12839 Feb 26 j 07:40	6° ∡ ¹45'42	19.83508 AU
max. Earth dist.	-12845 Jan 30 j 09:04	10°M13'51	20.25139 AU				
				conjunction	-12839 Feb 27 j 14:49	6° ₹ ¹50'24	-1°17'25
conjunction	-12845 Jan 31 j 05:00	10° M ₊16'47	-1°07'39	minimum elong	-12839 Feb 27 j 14:49	6° ₰ 750'24	1°18'11
minimum elong	-12845 Jan 31 j 04:59	10° M ₊16'47	1°08'12	morning rise	-12839 Mar 16 j 06:51	7° ∡ 750′26	
morning rise	-12845 Feb 17 j 00:04	11°M15'35		retrograde	-12839 Jun 16 j 10:51	11° ∡ ¹06'49	
retrograde	-12845 May 21 j 01:42	14°M28'09		opposition	-12839 Aug 29 j 02:30	9° ∡ ¹05'25	-1°26'17
opposition	-12845 Aug 03 j 14:09	12°M27'03	-1°16'40	min. Earth dist.	-12839 Aug 30 j 05:46	9° ∡ 02′28	17.80298 AU
min. Earth dist.	-12845 Aug 04 j 07:59	12°M25'08	18.21581 AU	direct	-12839 Nov 12 j 18:31	7° ₹ 01'03	
direct	-12845 Oct 17 j 16:39	10°M24'50		evening set	-12838 Feb 15 j 21:06	10° ∡ "22'47	
evening set	-12844 Jan 19 j 05:05	13° M ₊38′09		max. Earth dist.	-12838 Mar 03 j 05:06	11° ∡ 18′10	19.76957 AU
max. Earth dist.	-12844 Feb 04 j 02:09	14°M33'54	20.17957 AU				
				conjunction	-12838 Mar 04 j 15:05	11° ∡ °23′20	-1°17'28
conjunction	-12844 Feb 05 j 00:34			minimum elong	-12838 Mar 04 j 15:05	11° ∡ 123′20	1°18'15
minimum elong	-12844 Feb 05 j 00:33	14°M37'13	1°10'54	morning rise	-12838 Mar 21 j 06:31	12° ≮ ¹23'32	
	-12844 Feb 11 j 10:55	15° ™		retrograde	-12838 Jun 21 j 06:47	15° х¹ 40'32	
morning rise	-12844 Feb 21 j 19:25	15°M36'14		opposition	-12838 Sep 02 j 19:46	13° ₹ ³39'04	-1°26'06

Planetary Phen	omena of Uranus fro	om -12900	through -1239	8 (UT), Astrodie	nst AG 18-Feb-2025	14:23,	page 6
•	nical year style is used: The		_	. //			
min. Earth dist.	-12838 Sep 04 j 00:14	•		minimum elong	-12831 Apr 07 j 04:56		
direct	-12838 Nov 17 j 15:05			morning rise	-12831 Apr 23 j 13:31		
evening set	-12837 Feb 20 j 22:32			retrograde	-12831 Jul 23 j 18:35		
max. Earth dist.	-12837 Mar 08 j 05:48		19 70533 ATT	opposition	-12831 Oct 04 j 22:06		-1°00'22
max. Larm dist.	12037 Wai 00 j 03.40	13 × 32 33	17.70333710	min. Earth dist.	-12831 Oct 06 j 05:30		
conjunction	-12837 Mar 09 j 16:09	150,759,00	101700	direct	-12831 Oct 00 j 03:30 -12831 Dec 20 j 11:22		17.30474 AU
minimum elong	-12837 Mar 09 j 16:09				-		
morning rise	•		1 1/49	evening set	-12830 Mar 26 j 19:58		10.24622 ATT
retrograde	-12837 Mar 26 j 06:36			max. Earth dist.	-12830 Apr 10 j 19:15	18 03829	19.34023 AU
•	-12837 Jun 26 j 03:16		1005101	. ,.	12020 4 12:07.46	100=744112	1000100
opposition	-12837 Sep 07 j 14:12			conjunction	-12830 Apr 12 j 07:46		
min. Earth dist.	-12837 Sep 08 j 20:02		17.6/4/4 AU	minimum elong	-12830 Apr 12 j 07:47		1°00'56
direct	-12837 Nov 22 j 12:02			morning rise	-12830 Apr 28 j 15:11		
evening set	-12836 Feb 26 j 00:32			retrograde	-12830 Jul 28 j 17:05		
max. Earth dist.	-12836 Mar 12 j 04:39	20° × ¹29'06	19.64290 AU	opposition	-12830 Oct 09 j 22:15		
				min. Earth dist.	-12830 Oct 11 j 05:57		17.33113 AU
conjunction	-12836 Mar 13 j 17:22			direct	-12830 Dec 25 j 11:55		
minimum elong	-12836 Mar 13 j 17:22		1°16'53	evening set	-12829 Mar 31 j 23:57	22° る 28'15	
morning rise	-12836 Mar 30 j 07:04	21° ∡ ³35′14		max. Earth dist.	-12829 Apr 15 j 23:18	23° る 24'20	19.31587 AU
retrograde	-12836 Jun 30 j 00:15	24° ₹ ′53′23					
opposition	-12836 Sep 11 j 09:26	22° х 51′46	-1°24'03	conjunction	-12829 Apr 17 j 10:40	23° る 29'54	-0°55'54
min. Earth dist.	-12836 Sep 12 j 16:15	22° ∡ ¹48'25	17.61354 AU	minimum elong	-12829 Apr 17 j 10:41	23° る 29'54	0°56'39
direct	-12836 Nov 26 j 10:13	20° х¹ 46′20		morning rise	-12829 May 03 j 17:00	24° る 30'56	
evening set	-12835 Mar 02 j 02:56	24° ∡ 11′50		retrograde	-12829 Aug 02 j 18:42	27° る 52'13	
max. Earth dist.	-12835 Mar 17 j 06:49	25° х¹ 07′20	19.58298 AU	opposition	-12829 Oct 14 j 23:10	25° る 50'15	-0°59'57
				min. Earth dist.	-12829 Oct 16 j 05:07	25° る 46'59	17.30378 AU
conjunction	-12835 Mar 18 j 19:15	25° ∡ 12'56	-1°14'36	direct	-12829 Dec 30 j 16:26	23° る 43'23	
minimum elong	-12835 Mar 18 j 19:15	25° ∡ 12'56	1°15'27	evening set	-12828 Apr 05 j 03:49	27° ප 14'52	
morning rise	-12835 Apr 04 j 07:55	26° ∡ 13'34		max. Earth dist.	-12828 Apr 20 j 03:26	28° る 11'09	19.29172 AU
retrograde	-12835 Jul 04 j 22:05	29° ∡ ³32'14					
opposition	-12835 Sep 16 j 05:24	27° ∡ ³30'32	-1°22'11	conjunction	-12828 Apr 21 j 13:28	28° ට 16'32	-0°51'15
min. Earth dist.	-12835 Sep 17 j 12:52	27° ∡ °27'07	17.55509 AU	minimum elong	-12828 Apr 21 j 13:29		
direct	-12835 Dec 01 j 09:07			morning rise	-12828 May 07 j 18:34		
evening set	-12834 Mar 07 j 05:55			C	-12828 May 19 j 12:35		
max. Earth dist.	-12834 Mar 22 j 07:13		19.52625 AU	retrograde	-12828 Aug 06 j 17:36		
	. , , , , , , , , , , , , , , , , , , ,			opposition	-12828 Oct 19 j 00:52		-0°54'35
conjunction	-12834 Mar 23 j 21:22	29° х 52'38	-1°12'39	min. Earth dist.	-12828 Oct 20 j 06:55		17.28271 AU
minimum elong	-12834 Mar 23 j 21:22				-12828 Nov 02 j 12:53		
	-12834 Mar 25 j 20:57			direct	-12827 Jan 03 j 18:26		
morning rise	-12834 Apr 09 j 09:10	0°る53'24			-12827 Mar 04 j 14:11		
retrograde	-12834 Jul 09 j 19:54	4°る12'34		evening set	-12827 Apr 10 j 07:51		
opposition	-12834 Sep 21 j 02:20	2° ට 10'45	-1°19'47	max. Earth dist.	-12827 Apr 25 j 07:11		19.27378 AU
min. Earth dist.	-12834 Sep 22 j 10:39		17.50032 AU				
direct	-12834 Dec 06 j 08:17	0°る04'40	17.30032710	conjunction	-12827 Apr 26 j 16:17	3° ≈ 04'00	-0°46'14
evening set	-12833 Mar 12 j 09:03	3°る32'20		minimum elong	-12827 Apr 26 j 16:17		
max. Earth dist.	-12833 Mar 27 j 10:27		19.47352 AU	morning rise	-12827 May 12 j 20:21	4°≈04'59	0 1030
max. Darm dist.	12033 Wai 27 j 10.27	1 027 33	19.17332710	retrograde	-12827 Aug 11 j 19:32		
conjunction	-12833 Mar 28 j 23:46	4° る 33'43	-1°10'13	opposition	-12827 Oct 24 j 02:55		-0°48'48
minimum elong	-12833 Mar 28 j 23:46	4°る33'43		min. Earth dist.	-12827 Oct 24 j 02:33 -12827 Oct 25 j 07:01		17.26757 AU
morning rise	-12833 Apr 14 j 10:27	5° る 34'34	1 1104	direct	-12826 Jan 09 j 00:39		17.20737710
retrograde	-12833 Apr 14 j 10:27 -12833 Jul 14 j 19:19	8°る54'12		evening set	-12826 Apr 15 j 11:47		
opposition	-12833 Sup 26 j 00:09	6°る52'19	1016'50	evening set	-12620 Apr 13 J 11.47	0 ~50 32	
				aaniumatian	12026 May 01 : 10:00	700052100	0940152
min. Earth dist.	-12833 Sep 27 j 08:08		17.44979 AU	conjunction	-12826 May 01 j 19:09		
direct	-12833 Dec 11 j 09:11	4°る45'58		minimum elong	-12826 May 01 j 19:09		
evening set	-12832 Mar 16 j 12:34	8°る14'34	10 40540 444	max. Earth dist.	-12826 Apr 30 j 12:02		19.26149 AU
max. Earth dist.	-12832 Mar 31 j 12:20	90,010 <u>0</u> 8	19.42548 AU	morning rise	-12826 May 17 j 21:53		
				retrograde	-12826 Aug 16 j 18:55		
conjunction	-12832 Apr 02 j 02:17			opposition	-12826 Oct 29 j 05:58		
minimum elong	-12832 Apr 02 j 02:18		1°08'08	min. Earth dist.	-12826 Oct 30 j 09:59		17.25799 AU
morning rise	-12832 Apr 18 j 11:58			direct	-12825 Jan 14 j 04:04		
retrograde	-12832 Jul 18 j 17:40			evening set	-12825 Apr 20 j 15:34	11° ≈ 39'11	
opposition	-12832 Sep 29 j 22:45						
min. Earth dist.	-12832 Oct 01 j 07:16		17.40449 AU	conjunction	-12825 May 06 j 21:33		
direct	-12832 Dec 15 j 08:40			minimum elong	-12825 May 06 j 21:33		
evening set	-12831 Mar 21 j 16:04			max. Earth dist.	-12825 May 05 j 15:13		19.25469 AU
max. Earth dist.	-12831 Apr 05 j 16:06	13° る 53'49	19.38297 AU	morning rise	-12825 May 22 j 23:15		
					-12825 Jun 14 j 04:54		
conjunction	-12831 Apr 07 j 04:55	13° る 59'35	-1°03'57	retrograde	-12825 Aug 21 j 21:10	17° ≈ 03'54	

Planetary Pheno	omena of Uranus fro	om -12900	through -1239	8 (UT), Astrodier	nst AG 18-Feb-2025	5 14:23,	page 7
	ical year style is used: The						
opposition	-12825 Nov 03 j 09:24	15° ≈ 02'09	-0°36'12	minimum elong	-12819 Jun 04 j 03:14	11°) 26'43	0°02'01
min. Earth dist.	-12825 Nov 04 j 11:08	14° ≈ 59'22	17.25372 AU	behind sun begin	-12819 Jun 03 j 20:37	11° ¥ 25'41	
	-12825 Nov 04 j 05:18			behind sun end	-12819 Jun 04 j 09:50		
direct	-12824 Jan 19 j 10:31	12° ≈ 55'32		morning rise	-12819 Jun 19 j 22:25	12°) €26'40	
	-12824 Mar 30 j 15:00	15° ≈		retrograde	-12819 Sep 19 j 01:27	15°) 48'48	
evening set	-12824 Apr 24 j 19:00			opposition	-12819 Dec 02 j 10:45		0°05'56
-				min. Earth dist.	-12819 Dec 03 j 01:17		
conjunction	-12824 May 10 j 23:54	17° ≈ 29'25	-0°29'21	direct	-12818 Feb 17 j 15:55		
minimum elong	-12824 May 10 j 23:54	17° ≈ 29'25	0°29'54	evening set	-12818 May 24 j 04:23		
max. Earth dist.	-12824 May 09 j 20:11	17° ≈ 25′00	19.25300 AU				
morning rise	-12824 May 27 j 00:17	18° ≈ 30′11		conjunction	-12818 Jun 09 j 01:58	16°) (11′24	0°08'38
retrograde	-12824 Aug 25 j 21:27	21° ≈ 52'38		minimum elong	-12818 Jun 09 j 01:57	16°) 11′24	0°08'25
opposition	-12824 Nov 07 j 13:15	19° ≈ 50′56	-0°29'30	behind sun begin	-12818 Jun 08 j 20:09	16° ¥ 10′30	
min. Earth dist.	-12824 Nov 08 j 14:27	19° ≈ 48′13	17.25452 AU	behind sun end	-12818 Jun 09 j 07:46	16° ¥ 12'18	
direct	-12823 Jan 23 j 14:45	17° ≈ 44'26		max. Earth dist.	-12818 Jun 08 j 12:17	16°) €09'14	19.35307 AU
evening set	-12823 Apr 29 j 22:09	21° ≈ 16′47		morning rise	-12818 Jun 24 j 20:06	17° ∺ 11'08	
max. Earth dist.	-12823 May 14 j 22:41	22° ≈ 13'45	19.25643 AU	retrograde	-12818 Sep 24 j 01:22		
				opposition	-12818 Dec 07 j 14:59	18° ¥ 31'19	0°13'01
conjunction	-12823 May 16 j 01:40	22° ≈ 18′03	-0°23'15	min. Earth dist.	-12818 Dec 08 j 02:31	18°) ₹30′05	17.37063 AU
minimum elong	-12823 May 16 j 01:40	22° ≈ 18′03	0°23'46	direct	-12817 Feb 22 j 21:36	16° ¥ 25'56	
morning rise	-12823 Jun 01 j 01:06	23° ≈ 18'42		evening set	-12817 May 29 j 03:22	19° ⊁ 54'51	
retrograde	-12823 Aug 30 j 23:24	26° ≈ 41′12					
opposition	-12823 Nov 12 j 17:19	24° ≈ 39'31	-0°22'35	conjunction	-12817 Jun 13 j 23:41	20°) 54′50	0°14'54
min. Earth dist.	-12823 Nov 13 j 16:09	24° ≈ 37′03	17.26038 AU	minimum elong	-12817 Jun 13 j 23:41	20°) 54′50	0°14'46
direct	-12822 Jan 28 j 20:12	22° ≈ 33'07		behind sun begin	-12817 Jun 13 j 20:52	20°) 54′23	
evening set	-12822 May 05 j 00:41	26° ≈ 05′14		behind sun end	-12817 Jun 14 j 02:31		
max. Earth dist.	-12822 May 20 j 03:15	27° ≈ 02'32	19.26485 AU	max. Earth dist.	-12817 Jun 13 j 12:20	20° ¥ 53′02	19.38970 AU
				morning rise	-12817 Jun 29 j 17:01		
conjunction	-12822 May 21 j 03:07	27° ≈ 06′20	-0°17'00	retrograde	-12817 Sep 29 j 00:01	25°) 16′03	
minimum elong	-12822 May 21 j 03:07	27° ≈ 06′20	0°17'27	opposition	-12817 Dec 12 j 19:00		
morning rise	-12822 Jun 06 j 01:14	28° ≈ 06′50		min. Earth dist.	-12817 Dec 13 j 04:05	23° ¥ 13′22	17.41036 AU
	-12822 Jul 09 j 10:21	0° ∀		direct	-12816 Feb 28 j 00:36		
retrograde	-12822 Sep 05 j 00:10			evening set	-12816 Jun 02 j 01:33	24°) 37'17	
	-12822 Nov 05 j 04:21						
opposition	-12822 Nov 17 j 21:43			conjunction	-12816 Jun 17 j 20:53		
min. Earth dist.	-12822 Nov 18 j 19:16		17.27125 AU	minimum elong	-12816 Jun 17 j 20:53		
direct	-12821 Feb 03 j 01:14			max. Earth dist.	-12816 Jun 17 j 13:06		19.43241 AU
	-12821 Apr 25 j 10:08	0° ∀		morning rise	-12816 Jul 03 j 13:21		
evening set	-12821 May 10 j 02:48	0°) 53′06		retrograde	-12816 Oct 02 j 23:14		
max. Earth dist.	-12821 May 25 j 05:07	1° ∺ 50′24	19.27851 AU	opposition	-12816 Dec 16 j 22:28		
				min. Earth dist.	-12816 Dec 17 j 04:03		17.45581 AU
conjunction	-12821 May 26 j 03:50	1°) 54′01		direct	-12815 Mar 04 j 05:20		
minimum elong	-12821 May 26 j 03:49	1°) 54'01	0°11'03	evening set	-12815 Jun 06 j 23:01		
behind sun begin	-12821 May 25 j 22:50	1°) 53′15			-12815 Jun 18 j 00:39	0° Υ	
behind sun end	-12821 May 26 j 08:49	1°) 54'48			12015 1 22:17.17	000017140	0027104
morning rise	-12821 Jun 11 j 01:02	2°) 54'22		conjunction	-12815 Jun 22 j 17:16		0°27'04
retrograde	-12821 Sep 10 j 01:19	6° ¥ 16'47	0000124	minimum elong	-12815 Jun 22 j 17:15		0°27'04
opposition	-12821 Nov 23 j 02:09	4° ¥ 15′04		max. Earth dist.	-12815 Jun 22 j 12:07		19.48062 AU
min. Earth dist.	-12821 Nov 23 j 21:13		17.28761 AU	morning rise	-12815 Jul 08 j 09:00		
direct	-12820 Feb 08 j 05:59	2°\(\frac{1}{2}\)08'59		retrograde	-12815 Oct 07 j 20:50		0922122
evening set	-12820 May 14 j 03:56	5° ¥ 40′09	10.207((AII	opposition	-12815 Dec 22 j 01:50		
max. Earth dist.	-12820 May 29 j 08:50	0°π3/30	19.29766 AU	min. Earth dist.	-12815 Dec 22 j 05:18		17.50665 AU
i	12020 M 20 : 02.56	COW 40152	0004117	direct	-12814 Mar 09 j 06:50		
conjunction	-12820 May 30 j 03:56	6° ∺ 40'53 6° ∺ 40'52		evening set	-12814 Jun 11 j 19:30	3 1 38 12	
minimum elong	-12820 May 30 j 03:55	6° X 4032 6° X 39'52	0 0437	aamiumatian	12014 Jun 27: 12:40	4° Ƴ 57'19	0022152
behind sun begin behind sun end	-12820 May 29 j 21:27	6° X 41'53		conjunction	-12814 Jun 27 j 12:48		
	-12820 May 30 j 10:24	6° X 41′33 7° X 41′02		minimum elong max. Earth dist.	-12814 Jun 27 j 12:48 -12814 Jun 27 j 10:50		19.53391 AU
morning rise	-12820 Jun 14 j 23:59 -12820 Sep 14 j 01:51			max. Earth dist.	-12814 Jul 27 j 10:50 -12814 Jul 13 j 03:51		17.33371 AU
retrograde opposition	-12820 Sep 14 j 01:31 -12820 Nov 27 j 06:34	9° H 01'36	-0°01'13	retrograde	-12814 Jul 13 j 03:31 -12814 Oct 12 j 19:36		
min. Earth dist.	-12820 Nov 27 j 06.34 -12820 Nov 27 j 23:32		17.30940 AU	opposition	-12814 Oct 12 j 19.36 -12814 Dec 27 j 04:46		0°30'//3
asc. node	-12820 Nov 27 j 23.32 -12819 Jan 27 j 02:01	8 ★3947 7°¥02'40	17.50940 AU	min. Earth dist.	-12814 Dec 27 j 04:30		17.56205 AU
direct	-12819 Jan 27 J 02:01 -12819 Feb 12 j 11:40	6°\(\frac{1}{2}\)55'43		direct	-12813 Mar 14 j 10:11		17.30203 AU
evening set	-12819 May 19 j 04:36			evening set	-12813 Jun 16 j 15:19		
max. Earth dist.	-12819 Jun 03 j 09:48		19 32238 ATT	ovening set	12015 Jun 10 j 15.19	0 1 20 20	
max. Lutin dist.	12017 Juli 00 J 07.40	11 /(2331	17.52250 AU	conjunction	-12813 Jul 02 j 07:42	9° Υ 35'25	0°38'26
conjunction	-12819 Jun 04 j 03:15	11° ₩ 26'43	0°02'16	minimum elong	-12813 Jul 02 j 07:41		0°38'34
	van 01 j 00.10	,(2013			va. 02 j 07.71	5525	

Dlanatamy Dhan	amana afilmanya fua	12000	4hmay ah 1220	O (LIT) A street is	ant A.C. 10 Eat 2025	14.22	 0
•	omena of Uranus fronical year style is used: The		•				page 8
max. Earth dist.	-12813 Jul 02 j 08:39	-		min. Earth dist.	-12806 Jan 28 j 16:17		18.01751 AU
morning rise	-12813 Jul 17 j 22:08		19.39129 AU	direct	-12806 Apr 16 j 01:41		18.01/31 AU
retrograde	-12813 Oct 17 j 16:15			evening set	-12806 Apr 10 j 01:41 -12806 Jul 17 j 09:36		
opposition	-12812 Jan 01 j 07:19		0°45'46	evening set	12000 341 17 1 0 7 . 30	10 01041	
min. Earth dist.	-12812 Jan 01 j 05:21			conjunction	-12806 Aug 01 j 21:51	11° X 13'23	1°08'02
direct	-12812 Mar 18 j 10:01		17.02130710	minimum elong	-12806 Aug 01 j 21:51		1°08'35
evening set	-12812 Jun 20 j 10:14			max. Earth dist.	-12806 Aug 02 j 15:25		
<i>8</i>				morning rise	-12806 Aug 17 j 10:34		
conjunction	-12812 Jul 06 j 01:47	14° Ƴ 12'01	0°43'44	C	-12806 Oct 16 j 23:24		
minimum elong	-12812 Jul 06 j 01:46	14° Ƴ 12'01	0°43'57	retrograde	-12806 Nov 18 j 08:19	15° 8 26'58	
max. Earth dist.	-12812 Jul 06 j 05:16	14° Ƴ 12'34	19.65219 AU		-12806 Dec 21 j 12:53	15°R₩	
morning rise	-12812 Jul 21 j 15:44	15° Ƴ 10′19		min. Earth dist.	-12805 Feb 02 j 10:37	13° 8 28'10	18.08672 AU
retrograde	-12812 Oct 21 j 14:30			opposition	-12805 Feb 03 j 05:58	13° 8 26'11	1°17'09
opposition	-12811 Jan 05 j 09:11	16° Y 29′13	0°51'29	direct	-12805 Apr 20 j 22:42	11° 8 25'44	
min. Earth dist.	-12811 Jan 05 j 03:36		17.68359 AU	evening set	-12805 Jul 21 j 22:13	14° 8 39'53	
direct	-12811 Mar 23 j 11:39	14° Y 26'23			-12805 Jul 27 j 11:59	15° 8	
evening set	-12811 Jun 25 j 04:23	17° Ƴ 48'47					
				conjunction	-12805 Aug 06 j 10:24	15° 8 36'20	1°10'41
conjunction	-12811 Jul 10 j 19:10		0°48'42	minimum elong	-12805 Aug 06 j 10:23		
minimum elong	-12811 Jul 10 j 19:09		0°48'58	max. Earth dist.	-12805 Aug 07 j 07:16	15° 8 39'31	20.12112 AU
max. Earth dist.	-12811 Jul 11 j 01:35		19.71549 AU	morning rise	-12805 Aug 21 j 23:05	16° 8 32'52	
morning rise	-12811 Jul 26 j 08:35	19° Ƴ 45′02		retrograde	-12805 Nov 22 j 23:07		
retrograde	-12811 Oct 26 j 09:51			min. Earth dist.	-12804 Feb 07 j 05:28		
opposition	-12810 Jan 10 j 10:37			opposition	-12804 Feb 08 j 02:17	17° 8 48'17	1°19'49
min. Earth dist.	-12810 Jan 10 j 03:37		17.74802 AU	direct	-12804 Apr 24 j 17:05		
direct	-12810 Mar 28 j 09:55			evening set	-12804 Jul 25 j 10:04	19° 8 00'57	
evening set	-12810 Jun 29 j 21:44	22° Y 22′20					
				conjunction	-12804 Aug 09 j 22:00		
conjunction	-12810 Jul 15 j 11:46			minimum elong	-12804 Aug 09 j 22:00		
minimum elong	-12810 Jul 15 j 11:46			max. Earth dist.	-12804 Aug 10 j 20:06		20.19134 AU
max. Earth dist.	-12810 Jul 15 j 20:09		19.78080 AU	morning rise	-12804 Aug 25 j 11:03		
morning rise	-12810 Jul 31 j 00:54			retrograde	-12804 Nov 26 j 15:15		
retrograde	-12810 Oct 31 j 07:39			opposition	-12803 Feb 11 j 21:42		
opposition	-12809 Jan 15 j 11:18			min. Earth dist.	-12803 Feb 10 j 22:10		18.22726 AU
min. Earth dist.	-12809 Jan 15 j 00:48		17.81407 AU	direct	-12803 Apr 29 j 11:06		
direct	-12809 Apr 02 j 09:58			evening set	-12803 Jul 29 j 20:57	23° 8 19'57	
evening set	-12809 Jul 04 j 14:02	26°'Y'54'00					
		0 0		conjunction	-12803 Aug 14 j 08:58	_	
conjunction	-12809 Jul 20 j 03:34			minimum elong	-12803 Aug 14 j 08:58		1°15'22
minimum elong	-12809 Jul 20 j 03:33		0°58'00	max. Earth dist.	-12803 Aug 15 j 10:17		20.26212 AU
max. Earth dist.	-12809 Jul 20 j 15:00		19.84733 AU	morning rise	-12803 Aug 29 j 22:07		
morning rise	-12809 Aug 04 j 16:22			retrograde	-12803 Dec 01 j 05:05		1000115
. 1	-12809 Aug 25 j 03:39	0°8		opposition	-12802 Feb 16 j 16:16		1°23'45
retrograde	-12809 Nov 05 j 01:37	2° 8 07'42	100/110	min. Earth dist.	-12802 Feb 15 j 15:09		18.29831 AU
opposition	-12808 Jan 20 j 11:22	0° 8 06'51	1°06'18	direct	-12802 May 04 j 03:40		
min. Earth dist.	-12808 Jan 19 j 23:34		17.88117 AU	evening set	-12802 Aug 03 j 07:15	21003/102	
direct	-12808 Jan 23 j 05:48			conjunction	12802 Ana 10: 10:12	280222142	1°16'04
direct	-12808 Apr 06 j 07:04	0° 8		-	-12802 Aug 18 j 19:13 -12802 Aug 18 j 19:12		1°16'04 1°16'47
	-12808 Jun 13 j 14:36			minimum elong			
evening set	-12808 Jul 08 j 05:36	1° 8 23'41		max. Earth dist. morning rise	-12802 Aug 19 j 21:27 -12802 Sep 03 j 08:54		20.55551 AU
aaniumatian	12000 1 22: 10.24	2° 8 20'59	1°01'29	morning rise		0° Ⅱ	
conjunction	-12808 Jul 23 j 18:34	2° 8 20'59	1°01'29 1°01'55	rotro ara do	-12802 Sep 12 j 10:09	0 H 2°H42'56	
minimum elong max. Earth dist.	-12808 Jul 23 j 18:33		1 01 33 19.91483 AU	retrograde min. Earth dist.	-12802 Dec 05 j 19:35		18.36959 AU
	-12808 Jul 24 j 07:30	3° 8 18'15	19.91465 AU		-12801 Feb 20 j 06:38	0° П 4311	1°25'01
morning rise	-12808 Aug 08 j 07:19	6° 8 36'15		opposition	-12801 Feb 21 j 09:56 -12801 Mar 11 j 05:23		1 23 01
retrograde	-12808 Nov 08 j 21:47	4° 8 35'27	1°10'22	direct			
opposition min. Earth dist.	-12807 Jan 24 j 10:16 -12807 Jan 23 j 19:18		17.94906 AU	direct	-12801 May 08 j 18:46 -12801 Jul 02 j 23:52	0°II	
	-	_	17.94900 AU	avanina aat	•		
direct	-12807 Apr 11 j 05:49	2° 8 34'16 5° 8 51'16		evening set	-12801 Aug 07 j 16:40	1° ∏ 52'18	
evening set	-12807 Jul 12 j 20:05	5 05116		conjunction	12801 Aug 22 : 05:00	2° ∏ 47'46	1°17'01
conjunction	12007 Int - 20 : 00.40	6° 8 48'16	1°04'58	conjunction minimum elong	-12801 Aug 23 j 05:00	2° I I47'46 2° I I47'46	1°17'01 1°17'45
conjunction minimum elong	-12807 Jul 28 j 08:46 -12807 Jul 28 j 08:45	6° 8 48'16	1°04'38 1°05'29	max. Earth dist.	-12801 Aug 23 j 04:59 -12801 Aug 24 j 10:08		20.40427 AU
max. Earth dist.	-12807 Jul 28 j 08:45 -12807 Jul 29 j 00:51		1°03 29 19.98291 AU	max. Earth dist.	-12801 Aug 24 j 10:08 -12801 Sep 07 j 19:01	3° ∏ 43′29	20.4042/ AU
max. Earth dist.	-12807 Jul 29 j 00:51 -12807 Aug 12 j 21:19	7° 8 45'18	19.90291 AU	retrograde	-12801 Sep 07 j 19:01 -12801 Dec 10 j 08:59	5°Щ43°29 6°Щ57'13	
retrograde	-12807 Aug 12 j 21:19 -12807 Nov 13 j 14:11			min. Earth dist.	-12801 Dec 10 j 08:39 -12800 Feb 24 j 22:06		18.44014 AU
opposition	-12806 Jan 29 j 08:36	9° 8 01'55	1°14'00	opposition	-12800 Feb 24 j 22:06 -12800 Feb 26 j 02:44	4° I 56'49	1°25'47
оррознин	12000 Juli 27 J 00.30) U 0133	1 1700	оррознин	12000100 20102.44	- 1130 1 7	1 2371

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direct	-12800 May 12 j 09:32			minimum elong	-12794 Sep 20 j 12:39	1° © 50'38	1°12'54
evening set	-12800 Aug 11 j 01:42	6° Ⅱ 05'54		max. Earth dist.	-12794 Sep 21 j 22:3:	3 1° 9 55'34	20.83454 AU
				morning rise	-12794 Oct 06 j 08:0°	7 2° 5 45'30	
conjunction	-12800 Aug 26 j 14:07		1°17'32	retrograde	-12793 Jan 08 j 17:50	5 5°\$55'28	
minimum elong	-12800 Aug 26 j 14:07	7° Ⅱ 01'09	1°18'18	min. Earth dist.	-12793 Mar 26 j 16:4:	3° © 58'59	18.85906 AU
max. Earth dist.	-12800 Aug 27 j 19:40	7° Ⅱ 05'34	20.47423 AU	opposition	-12793 Mar 28 j 01:2	7 3° 9 55'43	1°18'35
morning rise	-12800 Sep 11 j 04:50	7° Ⅱ 56'43		direct	-12793 Jun 11 j 14:13	3 1° 9 59'06	
retrograde	-12800 Dec 13 j 22:08	11° Ⅱ 09'52		evening set	-12793 Sep 09 j 02:29	9 4° © 59'43	
opposition	-12799 Mar 01 j 18:35	9° Ⅱ 09'37	1°26'06				
min. Earth dist.	-12799 Feb 28 j 12:36	9° Ⅱ 12'38	18.50944 AU	conjunction	-12793 Sep 24 j 19:10	5°954'01	1°09'51
direct	-12799 May 16 j 22:25	7° Ⅱ 11'25		minimum elong	-12793 Sep 24 j 19:10	5°954'01	1°10'42
evening set	-12799 Aug 15 j 10:00	10° Ⅱ 17'56		max. Earth dist.	-12793 Sep 26 j 06:2	7 5° © 59'07	20.88063 AU
				morning rise	-12793 Oct 10 j 15:34	4 6°ණ48'49	
conjunction	-12799 Aug 30 j 22:55	11° Ⅱ 12'59	1°17'38	retrograde	-12792 Jan 13 j 03:30	6 9° © 58'17	
minimum elong	-12799 Aug 30 j 22:55	11° Ⅱ 12'59	1°18'25	min. Earth dist.	-12792 Mar 30 j 02:30	8° © 01'51	18.90304 AU
max. Earth dist.	-12799 Sep 01 j 06:52	11° Ⅱ 17'44	20.54247 AU	opposition	-12792 Mar 31 j 11:4	2 7° 9 58'31	1°15'55
morning rise	-12799 Sep 15 j 14:04	12° Ⅱ 08′23		direct	-12792 Jun 14 j 23:4	1 6°ණ02'02	
retrograde	-12799 Dec 18 j 10:38	15° Ⅱ 20'59		evening set	-12792 Sep 12 j 07:52	2 9° © 01'53	
min. Earth dist.	-12798 Mar 05 j 02:41	13° Ⅱ 24′00	18.57654 AU				
opposition	-12798 Mar 06 j 09:45	13° Ⅱ 20′53	1°25'56	conjunction	-12792 Sep 28 j 01:19	9° 9 56'05	1°07'18
direct	-12798 May 21 j 11:30	11° II 23'03		minimum elong	-12792 Sep 28 j 01:19	9° 9 56'05	1°08'07
evening set	-12798 Aug 19 j 17:52	14° Ⅱ 28'27		max. Earth dist.	-12792 Sep 29 j 11:39	0 10°501'03	20.92270 AU
				morning rise	-12792 Oct 13 j 22:4		
conjunction	-12798 Sep 04 j 07:04	15° Ⅱ 23'20	1°17'18	retrograde	-12791 Jan 16 j 12:10	5 13°959'50	
minimum elong	-12798 Sep 04 j 07:04	15° Ⅱ 23'20	1°18'06	opposition	-12791 Apr 04 j 21:10		1°12'54
max. Earth dist.	-12798 Sep 05 j 15:00		20.60826 AU	min. Earth dist.	-12791 Apr 03 j 12:4		
morning rise	-12798 Sep 19 j 23:06			direct	-12791 Jun 19 j 05:4:		
retrograde	-12798 Dec 22 j 23:01			evening set	-12791 Sep 16 j 12:4		
min. Earth dist.	-12797 Mar 09 j 16:27		18.64093 AU	C	1 3		
opposition	-12797 Mar 11 j 00:10		1°25'19	conjunction	-12791 Oct 02 j 07:20	13° 9 56'58	1°04'26
direct	-12797 May 25 j 22:51			minimum elong	-12791 Oct 02 j 07:20		1°05'15
evening set	-12797 Aug 24 j 01:16			max. Earth dist.	-12791 Oct 03 j 18:54		20.96128 AU
Č	Z ,			morning rise	-12791 Oct 18 j 05:4		
conjunction	-12797 Sep 08 j 15:10	19°∏32'15	1°16'35	retrograde	-12790 Jan 20 j 21:24		
minimum elong	-12797 Sep 08 j 15:10		1°17'24	min. Earth dist.	-12790 Apr 07 j 20:5:		18.98020 AU
max. Earth dist.	-12797 Sep 10 j 00:56			opposition	-12790 Apr 09 j 06:0		1°09'33
morning rise	-12797 Sep 24 i 07:47		20.07000110	direct	-12790 Jun 23 j 13:59		1 0, 55
retrograde	-12797 Dec 27 j 10:22			evening set	-12790 Sep 20 j 17:3		
min. Earth dist.	-12796 Mar 13 j 05:07		18 70167 AU	evening sec	12770 Sep 20 j 17.5	1, 202	
opposition	-12796 Mar 14 j 13:32			conjunction	-12790 Oct 06 j 12:5	R 17°9556'49	1°01'17
direct	-12796 May 29 j 10:14		1 2 1 10	minimum elong	-12790 Oct 06 j 12:50		
evening set	-12796 Aug 27 j 08:22			max. Earth dist.	-12790 Oct 07 j 23:3		
e venning see	12770 Hug 27 J 00:22	22 12 13 10		morning rise	-12790 Oct 22 j 12:3		20.99033 110
conjunction	-12796 Sep 11 j 22:41	23°∏39'46	1°15'27	retrograde	-12789 Jan 25 j 05:4		
minimum elong	-12796 Sep 11 j 22:42			min. Earth dist.	-12789 Apr 12 j 06:0		19.01384 ATT
max. Earth dist.	-12796 Sep 13 j 07:51			opposition	-12789 Apr 13 j 14:2		
morning rise	-12796 Sep 27 j 16:18		20.72703 110	direct	-12789 Jun 27 j 18:4:		1 03 33
retrograde	-12796 Dec 30 j 21:37			evening set	-12789 Sep 24 j 22:14		
min. Earth dist.	-12796 Dec 30 j 21:37 -12795 Mar 17 j 17:52		18.75848 ATT	J. J.IIII 501	. 2.07 бор 24 ј 22.19	1 -0171	
opposition	-12795 Mar 19 j 02:20			conjunction	-12789 Oct 10 j 18:4	7 21°0555'48	0°57'50
direct	-12795 Mai 19 J 02.20 -12795 Jun 02 j 20:03		1 44 7/	minimum elong	-12789 Oct 10 j 18:4		
evening set	-12795 Aug 31 j 14:42			max. Earth dist.	-12789 Oct 10 j 18:4		
evening set	-12//3 Aug 31 j 14.42	20 113123		morning rise	-12789 Oct 26 j 19:2		21.0204) AO
aaniunation	12705 San 16 i 05:52	27°π45'52	1012157	•			
conjunction	-12795 Sep 16 j 05:52 -12795 Sep 16 j 05:52			retrograde	-12788 Jan 29 j 14:1		1901/5/
minimum elong				opposition	-12788 Apr 16 j 21:4		
max. Earth dist.	-12795 Sep 17 j 16:33		20.70420 AU	min. Earth dist.	-12788 Apr 15 j 13:1		17.04377 AU
morning rise	-12795 Oct 02 j 00:11			direct	-12788 Jul 01 j 01:4:		
rotro a J-	-12795 Oct 26 j 15:21			evening set	-12788 Sep 28 j 02:5:	24~2039.39	
retrograde	-12794 Jan 04 j 07:59				12700 0 4 14 100 1	25005405	0054107
t material	-12794 Mar 20 j 01:57		10.01006 ***	conjunction	-12788 Oct 14 j 00:19		
min. Earth dist.	-12794 Mar 22 j 05:12			minimum elong	-12788 Oct 14 j 00:19		
opposition	-12794 Mar 23 j 14:17		1°20'53	max. Earth dist.	-12788 Oct 15 j 10:2		21.05695 AU
direct	-12794 Jun 07 j 06:20			morning rise	-12788 Oct 30 j 02:12		
	-12794 Aug 18 j 16:47			retrograde	-12787 Feb 01 j 22:3		10.05055
evening set	-12794 Sep 04 j 20:53	0° ഇ 56'16		min. Earth dist.	-12787 Apr 19 j 21:3		
	10704 0 00115	100000	1010104	opposition	-12787 Apr 21 j 04:59		0°57'39
conjunction	-12794 Sep 20 j 12:39	1° © 50'38	1~12'04	direct	-12787 Jul 05 j 05:49	g 20~2000'39	

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 10 Attention, astronomical year style is used: The year -12787 in astronomical counting style is the year 12788 BCE in historical counting style.

Attention, astronom	ical year style is used: The	e year -12787	in astronomical co	unting style is the year	r 12788 BCE in historical	counting styl	le.
evening set	-12787 Oct 02 j 07:15	28° © 57'45		conjunction	-12781 Nov 11 j 20:25	23° Ω 34'57	0°22'07
				minimum elong	-12781 Nov 11 j 20:25	23° Ω 34'57	0°22'37
conjunction	-12787 Oct 18 j 05:55	29° 9 51'54	0°50'09	max. Earth dist.	-12781 Nov 12 j 22:43	23° Ω 38'40	21.12569 AU
minimum elong	-12787 Oct 18 j 05:56	29° 9 51'54	0°50'52	morning rise	-12781 Nov 28 j 06:03	24° Ω 30′09	
max. Earth dist.	-12787 Oct 19 j 16:32	29° 9 56'50	21.08169 AU	retrograde	-12780 Mar 02 j 05:53	27° Ω 36′34	
	-12787 Oct 20 j 14:42	$0^{\circ}\Omega$		opposition	-12780 May 18 j 20:59	25° Ω 36′59	0°21'32
morning rise	-12787 Nov 03 j 08:48	0° Ω 46′39		min. Earth dist.	-12780 May 17 j 22:22	25° Ω 39'17	19.12036 AU
retrograde	-12786 Feb 06 j 06:32	3° Ω 53'54		direct	-12780 Aug 01 j 13:56		
min. Earth dist.	-12786 Apr 24 j 04:14	1° Ω 57'27	19.09319 AU	evening set	-12780 Oct 29 j 21:12	26° Ω 37'24	
opposition	-12786 Apr 25 j 11:38	1° Ω 54'17	0°53'07				
	-12786 Jul 01 j 12:47			conjunction	-12780 Nov 15 j 03:38	27° Ω 32′08	0°16'57
direct	-12786 Jul 09 j 11:44			minimum elong	-12780 Nov 15 j 03:38		
	-12786 Jul 17 j 10:56	$0^{\circ}\Omega$		max. Earth dist.	-12780 Nov 16 j 03:03		21.11313 AU
evening set	-12786 Oct 06 j 12:06	2° Ω 55'10		morning rise	-12780 Dec 01 j 14:29	28° Ω 27'28	
					-12779 Jan 01 j 00:10	0° m)	
conjunction	-12786 Oct 22 j 11:42	3° Ω 49'21		retrograde	-12779 Mar 06 j 12:08	1°m/33'52	
minimum elong	-12786 Oct 22 j 11:42	3° Ω 49'21			-12779 May 12 j 09:59		
max. Earth dist.	-12786 Oct 23 j 20:28		21.10219 AU	min. Earth dist.	-12779 May 22 j 05:51		
morning rise	-12786 Nov 07 j 15:54	4° Ω 44'09		opposition	-12779 May 23 j 01:51		0°15'47
retrograde	-12785 Feb 10 j 14:47	7° Ω 51'11		direct	-12779 Aug 05 j 16:48	27° Ω 37'46	
opposition	-12785 Apr 29 j 17:55	5° Ω 51'37	0°48'20		-12779 Oct 23 j 10:32	0° ™	
min. Earth dist.	-12785 Apr 28 j 12:19	5° Ω 54'36	19.11141 AU	evening set	-12779 Nov 03 j 03:28	0° ™ 34'36	
direct	-12785 Jul 13 j 15:27	3° Ω 55'45					
evening set	-12785 Oct 10 j 16:56	6° Ω 52′21		conjunction	-12779 Nov 19 j 11:13	1° m 29'29	0°11'43
				minimum elong	-12779 Nov 19 j 11:13	1° m 29'29	0°12'07
conjunction	-12785 Oct 26 j 17:50	7° Ω 46'35	0°41'32	behind sun begin	-12779 Nov 19 j 06:44	1°m/28'52	
minimum elong	-12785 Oct 26 j 17:51	7° Ω 46'35	0°42'11	behind sun end	-12779 Nov 19 j 15:41	1° Mp 30'06	
max. Earth dist.	-12785 Oct 28 j 02:35	7° Ω 51'14	21.11804 AU	max. Earth dist.	-12779 Nov 20 j 09:51	1° mp 32'41	21.09558 AU
morning rise	-12785 Nov 11 j 23:01	8° Ω 41′26		morning rise	-12779 Dec 05 j 22:57	2° m/24'57	
retrograde	-12784 Feb 14 j 22:44	11° Ω 48'17		retrograde	-12778 Mar 10 j 20:43	5° m 31'21	
opposition	-12784 May 02 j 23:47	9° Ω 48'46	0°43'20	min. Earth dist.	-12778 May 26 j 11:17	-•	19.08520 AU
min. Earth dist.	-12784 May 01 j 18:39		19.12458 AU	opposition	-12778 May 27 j 06:24	3°m)31'34	
direct	-12784 Jul 16 j 20:34	7° Ω 52'56		direct	-12778 Aug 09 j 22:28	1° m 34'57	
evening set	-12784 Oct 13 j 22:06			evening set	-12778 Nov 07 j 10:29	4° m) 32'05	
				- · · · · · · · · · · · · · · · · · · ·			
conjunction	-12784 Oct 29 j 23:55	11° Ω 43'42	0°36'54	conjunction	-12778 Nov 23 j 19:09	5° m) 27'08	0°06'26
minimum elong	-12784 Oct 29 j 23:55			minimum elong	-12778 Nov 23 j 19:10	5° m) 27'08	0°06'46
max. Earth dist.	-12784 Oct 31 j 06:20			behind sun begin	-12778 Nov 23 j 12:55	5° m/26'16	0 00 .0
morning rise	-12784 Nov 15 j 06:22		21.12007 110	behind sun end	-12778 Nov 24 j 01:24		
morning rise	-12783 Jan 05 j 05:44			max. Earth dist.	-12778 Nov 24 j 14:54		21.07346 AU
retrograde	-12783 Feb 18 j 06:09				127701101 21 j 1 1.5 i		21.075 10 110
retrograde				morning rise	-12778 Dec. 10 i 08:02	6° 110 7 7 44	
				morning rise	-12778 Dec 10 j 08:02	6° Mp 22'44	
	-12783 Apr 04 j 03:14	15°R Ω	19 13237 AU	retrograde	-12777 Mar 15 j 03:19	9° ™ 29'12	0°04'04
min. Earth dist.	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37	15°R Ω 13° Ω 48'33		retrograde opposition	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55	9° m/29'12 7° m/29'19	
opposition	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33	15°R Ω 13° Ω 48'33 13° Ω 45'50		retrograde opposition min. Earth dist.	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28	9° m 29'12 7° m 29'19 7° m 31'00	0°04'04 19.06104 AU
opposition direct	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17	15°RΩ 13°Ω48'33 13°Ω45'50 11°Ω49'58		retrograde opposition min. Earth dist. direct	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28	
opposition	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22	15°RΩ 13°Ω48'33 13°Ω45'50 11°Ω49'58 14°Ω46'22		retrograde opposition min. Earth dist.	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28	9° m 29'12 7° m 29'19 7° m 31'00	
opposition direct	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17	15°RΩ 13°Ω48'33 13°Ω45'50 11°Ω49'58 14°Ω46'22		retrograde opposition min. Earth dist. direct evening set	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46	9° Mp 29'12 7° Mp 29'19 7° Mp 31'00 5° Mp 32'28 8° Mp 30'00	19.06104 AU
opposition direct evening set	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28	15°RΩ 13°Ω48'33 13°Ω45'50 11°Ω49'58 14°Ω46'22 15°Ω	0°38'07	retrograde opposition min. Earth dist. direct evening set conjunction	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13	19.06104 AU 0°01'04
opposition direct evening set	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31	15°RΩ 13°Ω48'33 13°Ω45'50 11°Ω49'58 14°Ω46'22 15°Ω	0°38′07 0°32′07	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13	19.06104 AU 0°01'04
opposition direct evening set conjunction minimum elong	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 03 j 06:31	15°RΩ 13°Ω48'33 13°Ω45'50 11°Ω49'58 14°Ω46'22 15°Ω 15°Ω40'46	0°32'07 0°32'42	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 27 j 20:58	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 24'18	19.06104 AU 0°01'04
opposition direct evening set conjunction minimum elong max. Earth dist.	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26	15°RΩ 13°Ω48'33 13°Ω45'50 11°Ω49'58 14°Ω46'22 15°Ω 15°Ω40'46 15°Ω40'46 15°Ω40'46	0°32'07 0°32'42	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 27 j 20:58 -12777 Nov 28 j 10:23	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 24'18 9° m 26'08	19.06104 AU 0°01'04 0°01'22
opposition direct evening set conjunction minimum elong max. Earth dist. morning rise	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56	15°RΩ 13°Ω48'33 13°Ω45'50 11°Ω49'58 14°Ω46'22 15°Ω 15°Ω40'46 15°Ω40'46 15°Ω45'00 16°Ω35'46	0°32'07 0°32'42	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist.	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 10:23 -12777 Nov 28 j 22:27	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 24'18 9° m 26'08 9° m 27'52	19.06104 AU 0°01'04
opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56 -12782 Feb 22 j 14:34	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N40'46 15°N45'00 16°N35'46 19°N42'22	0°32'07 0°32'42 21.13357 AU	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 26'08 9° m 27'52 10° m 20'58	19.06104 AU 0°01'04 0°01'22
opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist.	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56 -12782 Feb 22 j 14:34 -12782 May 10 j 08:44	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N40'46 15°N45'00 16°N35'46 19°N42'22 17°N45'31	0°32'07 0°32'42 21.13357 AU	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise desc. node	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19 -12776 Feb 09 j 23:57	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 26'08 9° m 27'52 10° m 20'58 12° m 53'59	19.06104 AU 0°01'04 0°01'22
conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56 -12782 Feb 22 j 14:34 -12782 May 10 j 08:44 -12782 May 11 j 10:53	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N45'00 16°N35'46 19°N42'22 17°N45'31 17°N42'52	0°32'07 0°32'42 21.13357 AU	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise desc. node retrograde	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 10:23 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19 -12776 Feb 09 j 23:57 -12776 Mar 18 j 12:00	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 24'18 9° m 26'08 9° m 27'52 10° m 20'58 12° m 53'59 13° m 27'32	19.06104 AU 0°01'04 0°01'22 21.04739 AU
opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 04 j 12:26 -12782 Feb 22 j 14:34 -12782 May 10 j 08:44 -12782 May 11 j 10:53 -12782 Jul 25 j 05:15	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N40'46 15°N45'00 16°N35'46 19°N42'22 17°N45'31 17°N42'52 15°N46'56	0°32'07 0°32'42 21.13357 AU	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise desc. node retrograde opposition	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19 -12776 Feb 09 j 23:57 -12776 Mar 18 j 12:00 -12776 Jun 03 j 15:24	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 24'18 9° m 27'52 10° m 20'58 12° m 53'59 13° m 27'32 11° m 27'36	19.06104 AU 0°01'04 0°01'22 21.04739 AU -0°01'52
conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56 -12782 Feb 22 j 14:34 -12782 May 10 j 08:44 -12782 May 11 j 10:53	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N40'46 15°N45'00 16°N35'46 19°N42'22 17°N45'31 17°N42'52 15°N46'56	0°32'07 0°32'42 21.13357 AU	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise desc. node retrograde opposition min. Earth dist.	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 20:58 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19 -12776 Feb 09 j 23:57 -12776 Mar 18 j 12:00 -12776 Jun 03 j 15:24 -12776 Jun 02 j 23:45	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 24'18 9° m 26'08 9° m 27'52 10° m 20'58 12° m 53'59 13° m 27'32 11° m 27'36 11° m 29'12	19.06104 AU 0°01'04 0°01'22 21.04739 AU -0°01'52
opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56 -12782 Feb 22 j 14:34 -12782 May 10 j 08:44 -12782 May 11 j 10:53 -12782 Jul 25 j 05:15 -12782 Oct 22 j 09:05	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N40'46 15°N45'00 16°N35'46 19°N42'22 17°N45'31 17°N42'52 15°N46'56 18°N43'21	0°32'07 0°32'42 21.13357 AU 19.13430 AU 0°32'44	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise desc. node retrograde opposition min. Earth dist. direct	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 10:23 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19 -12776 Feb 09 j 23:57 -12776 Mar 18 j 12:00 -12776 Jun 03 j 15:24 -12776 Jun 02 j 23:45 -12776 Aug 17 j 06:50	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 24'18 9° m 26'08 9° m 27'52 10° m 20'58 12° m 53'59 13° m 27'32 11° m 27'36 11° m 29'12 9° m 30'32	19.06104 AU 0°01'04 0°01'22 21.04739 AU -0°01'52
opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set conjunction	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56 -12782 Feb 22 j 14:34 -12782 May 10 j 08:44 -12782 May 11 j 10:53 -12782 Jul 25 j 05:15 -12782 Oct 22 j 09:05 -12782 Nov 07 j 13:14	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N40'46 15°N45'00 16°N35'46 19°N42'22 17°N45'31 17°N42'52 15°N46'56 18°N43'21	0°32'07 0°32'42 21.13357 AU 19.13430 AU 0°32'44	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise desc. node retrograde opposition min. Earth dist.	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 20:58 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19 -12776 Feb 09 j 23:57 -12776 Mar 18 j 12:00 -12776 Jun 03 j 15:24 -12776 Jun 02 j 23:45	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 24'18 9° m 26'08 9° m 27'52 10° m 20'58 12° m 53'59 13° m 27'32 11° m 27'36 11° m 29'12 9° m 30'32	19.06104 AU 0°01'04 0°01'22 21.04739 AU -0°01'52
opposition direct evening set conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set conjunction minimum elong	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56 -12782 Feb 22 j 14:34 -12782 May 10 j 08:44 -12782 May 11 j 10:53 -12782 Jul 25 j 05:15 -12782 Oct 22 j 09:05 -12782 Nov 07 j 13:14 -12782 Nov 07 j 13:15	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N40'46 15°N45'00 16°N35'46 19°N42'22 17°N45'31 17°N42'52 15°N46'56 18°N37'50 19°N37'50	0°32'07 0°32'42 21.13357 AU 19.13430 AU 0°32'44 0°27'11 0°27'43	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise desc. node retrograde opposition min. Earth dist. direct evening set	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 10:23 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19 -12776 Feb 09 j 23:57 -12776 Mar 18 j 12:00 -12776 Jun 03 j 15:24 -12776 Jun 02 j 23:45 -12776 Aug 17 j 06:50 -12776 Nov 15 j 01:33	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 26'08 9° m 27'52 10° m 20'58 12° m 53'59 13° m 27'32 11° m 27'36 11° m 29'12 9° m 30'32 12° m 28'33	19.06104 AU 0°01'04 0°01'22 21.04739 AU -0°01'52 19.03304 AU
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.	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56 -12782 Feb 22 j 14:34 -12782 May 10 j 08:44 -12782 May 11 j 10:53 -12782 Jul 25 j 05:15 -12782 Oct 22 j 09:05 -12782 Nov 07 j 13:14 -12782 Nov 07 j 13:15 -12782 Nov 07 j 13:15 -12782 Nov 08 j 16:23	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N40'46 15°N45'00 16°N35'46 19°N42'22 17°N45'31 17°N42'52 15°N46'56 18°N37'50 19°N37'50 19°N37'50 19°N41'40	0°32'07 0°32'42 21.13357 AU 19.13430 AU 0°32'44 0°27'11 0°27'43	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise desc. node retrograde opposition min. Earth dist. direct evening set	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 10:23 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19 -12776 Feb 09 j 23:57 -12776 Jun 03 j 15:24 -12776 Jun 02 j 23:45 -12776 Aug 17 j 06:50 -12776 Nov 15 j 01:33 -12776 Dec 01 j 12:18	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 24'18 9° m 26'08 9° m 27'52 10° m 20'58 12° m 53'59 13° m 27'32 11° m 27'36 11° m 29'12 9° m 30'32 12° m 28'33	19.06104 AU 0°01'04 0°01'22 21.04739 AU -0°01'52 19.03304 AU
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. morning rise	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56 -12782 Feb 22 j 14:34 -12782 May 10 j 08:44 -12782 May 11 j 10:53 -12782 Jul 25 j 05:15 -12782 Oct 22 j 09:05 -12782 Nov 07 j 13:14 -12782 Nov 07 j 13:15 -12782 Nov 08 j 16:23 -12782 Nov 08 j 16:23 -12782 Nov 23 j 21:58	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N40'46 15°N45'00 16°N35'46 19°N42'22 17°N45'31 17°N42'52 15°N46'56 18°N43'21 19°N37'50 19°N37'50 19°N41'40 20°N32'57	0°32'07 0°32'42 21.13357 AU 19.13430 AU 0°32'44 0°27'11 0°27'43	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise desc. node retrograde opposition min. Earth dist. direct evening set conjunction minimum elong	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 10:23 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19 -12776 Feb 09 j 23:57 -12776 Mar 18 j 12:00 -12776 Jun 03 j 15:24 -12776 Aug 17 j 06:50 -12776 Nov 15 j 01:33 -12776 Dec 01 j 12:18 -12776 Dec 01 j 12:18	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 26'08 9° m 27'52 10° m 20'58 12° m 53'59 13° m 27'32 11° m 27'36 11° m 29'12 9° m 30'32 12° m 28'33	19.06104 AU 0°01'04 0°01'22 21.04739 AU -0°01'52 19.03304 AU
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. morning rise retrograde	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56 -12782 Feb 22 j 14:34 -12782 May 10 j 08:44 -12782 May 11 j 10:53 -12782 Jul 25 j 05:15 -12782 Oct 22 j 09:05 -12782 Nov 07 j 13:14 -12782 Nov 08 j 16:23 -12782 Nov 23 j 21:58 -12781 Feb 26 j 21:18	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N45'00 16°N35'46 19°N42'22 17°N45'31 17°N42'52 15°N46'56 18°N37'50 19°N37'50 19°N37'50 19°N41'40 20°N32'57 23°N39'26	0°32'07 0°32'42 21.13357 AU 19.13430 AU 0°32'44 0°27'11 0°27'43 21.13260 AU	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise desc. node retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 10:23 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19 -12776 Feb 09 j 23:57 -12776 Mar 18 j 12:00 -12776 Jun 03 j 15:24 -12776 Jun 02 j 23:45 -12776 Aug 17 j 06:50 -12776 Nov 15 j 01:33 -12776 Dec 01 j 12:18 -12776 Dec 01 j 12:18	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 26'08 9° m 27'52 10° m 20'58 12° m 53'59 13° m 27'32 11° m 27'36 11° m 29'12 9° m 30'32 12° m 28'33 13° m 23'56 13° m 23'56 13° m 23'56 13° m 23'56	19.06104 AU 0°01'04 0°01'22 21.04739 AU -0°01'52 19.03304 AU
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. morning rise retrograde opposition	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56 -12782 Feb 22 j 14:34 -12782 May 10 j 08:44 -12782 May 11 j 10:53 -12782 Jul 25 j 05:15 -12782 Oct 22 j 09:05 -12782 Nov 07 j 13:14 -12782 Nov 08 j 16:23 -12782 Nov 23 j 21:58 -12781 Feb 26 j 21:18 -12781 May 15 j 16:11	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N45'00 16°N35'46 19°N42'22 17°N45'31 17°N42'52 15°N46'56 18°N37'50 19°N37'50 19°N37'50 19°N37'50 19°N37'50 19°N37'50	0°32'07 0°32'42 21.13357 AU 19.13430 AU 0°32'44 0°27'11 0°27'43 21.13260 AU	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise desc. node retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun begin behind sun end	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 10:23 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19 -12776 Feb 09 j 23:57 -12776 Mar 18 j 12:00 -12776 Jun 03 j 15:24 -12776 Jun 02 j 23:45 -12776 Aug 17 j 06:50 -12776 Nov 15 j 01:33 -12776 Dec 01 j 12:18 -12776 Dec 01 j 12:18 -12776 Dec 01 j 05:41 -12776 Dec 01 j 18:55	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 26'08 9° m 27'52 10° m 20'58 12° m 53'59 13° m 27'32 11° m 27'36 11° m 29'12 9° m 30'32 12° m 28'33 13° m 23'56	19.06104 AU 0°01'04 0°01'22 21.04739 AU -0°01'52 19.03304 AU -0°04'24 0°04'10
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. morning rise retrograde opposition min. Earth dist.	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56 -12782 Feb 22 j 14:34 -12782 May 10 j 08:44 -12782 May 10 j 08:44 -12782 May 11 j 10:53 -12782 Oct 22 j 09:05 -12782 Nov 07 j 13:14 -12782 Nov 07 j 13:15 -12782 Nov 08 j 16:23 -12782 Nov 23 j 21:58 -12781 Feb 26 j 21:18 -12781 May 15 j 16:11 -12781 May 15 j 16:11	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N40'46 15°N45'00 16°N35'46 19°N42'22 17°N45'31 17°N42'52 15°N46'56 18°N37'50 19°N37'50 19°N37'50 19°N37'50 19°N37'50 19°N37'50 19°N37'50 19°N37'50 19°N37'50	0°32'07 0°32'42 21.13357 AU 19.13430 AU 0°32'44 0°27'11 0°27'43 21.13260 AU	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise desc. node retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist.	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 10:23 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19 -12776 Feb 09 j 23:57 -12776 Mar 18 j 12:00 -12776 Jun 03 j 15:24 -12776 Aug 17 j 06:50 -12776 Nov 15 j 01:33 -12776 Dec 01 j 12:18 -12776 Dec 01 j 12:18 -12776 Dec 01 j 15:55 -12776 Dec 02 j 04:10	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 26'08 9° m 27'52 10° m 20'58 12° m 53'59 13° m 27'32 11° m 29'12 9° m 30'32 12° m 28'33 13° m 23'56 13° m 23'56 13° m 23'56 13° m 23'56 13° m 23'61 13° m 24'51 13° m 26'10	19.06104 AU 0°01'04 0°01'22 21.04739 AU -0°01'52 19.03304 AU -0°04'24 0°04'10
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. morning rise retrograde opposition	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56 -12782 Feb 22 j 14:34 -12782 May 10 j 08:44 -12782 May 10 j 08:44 -12782 May 11 j 10:53 -12782 Oct 22 j 09:05 -12782 Nov 07 j 13:14 -12782 Nov 07 j 13:15 -12782 Nov 08 j 16:23 -12781 Feb 26 j 21:18 -12781 May 15 j 16:11 -12781 May 14 j 16:38 -12781 Jul 29 j 08:41	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N40'46 15°N45'00 16°N35'46 19°N42'22 17°N45'31 17°N42'52 15°N46'56 18°N43'21 19°N37'50 19°N37'50 19°N37'50 19°N41'40 20°N32'57 23°N39'26 21°N39'54 21°N42'18 19°N43'51	0°32'07 0°32'42 21.13357 AU 19.13430 AU 0°32'44 0°27'11 0°27'43 21.13260 AU	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise desc. node retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun begin behind sun end max. Earth dist.	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 10:23 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19 -12776 Feb 09 j 23:57 -12776 Mar 18 j 12:00 -12776 Jun 03 j 15:24 -12776 Jun 02 j 23:45 -12776 Aug 17 j 06:50 -12776 Dec 01 j 12:18 -12776 Dec 01 j 12:18 -12776 Dec 01 j 12:18 -12776 Dec 01 j 18:55 -12776 Dec 02 j 04:10 -12776 Dec 18 j 02:56	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 26'08 9° m 20'58 12° m 53'59 13° m 27'32 11° m 29'12 9° m 30'32 12° m 28'33 13° m 23'56 13° m 23'56 13° m 23'56 13° m 23'56 13° m 24'51 13° m 26'10 14° m 19'51	19.06104 AU 0°01'04 0°01'22 21.04739 AU -0°01'52 19.03304 AU -0°04'24 0°04'10
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. morning rise retrograde opposition min. Earth dist.	-12783 Apr 04 j 03:14 -12783 May 06 j 02:37 -12783 May 07 j 05:33 -12783 Jul 21 j 00:17 -12783 Oct 18 j 03:22 -12783 Oct 22 j 05:28 -12783 Nov 03 j 06:31 -12783 Nov 04 j 12:26 -12783 Nov 04 j 12:26 -12783 Nov 19 j 13:56 -12782 Feb 22 j 14:34 -12782 May 10 j 08:44 -12782 May 10 j 08:44 -12782 May 11 j 10:53 -12782 Oct 22 j 09:05 -12782 Nov 07 j 13:14 -12782 Nov 07 j 13:15 -12782 Nov 08 j 16:23 -12782 Nov 23 j 21:58 -12781 Feb 26 j 21:18 -12781 May 15 j 16:11 -12781 May 15 j 16:11	15°RN 13°N48'33 13°N45'50 11°N49'58 14°N46'22 15°N 15°N40'46 15°N40'46 15°N45'00 16°N35'46 19°N42'22 17°N45'31 17°N42'52 15°N46'56 18°N43'21 19°N37'50 19°N37'50 19°N37'50 19°N41'40 20°N32'57 23°N39'26 21°N39'54 21°N42'18 19°N43'51	0°32'07 0°32'42 21.13357 AU 19.13430 AU 0°32'44 0°27'11 0°27'43 21.13260 AU	retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist. morning rise desc. node retrograde opposition min. Earth dist. direct evening set conjunction minimum elong behind sun begin behind sun end max. Earth dist.	-12777 Mar 15 j 03:19 -12777 May 31 j 10:55 -12777 May 30 j 18:28 -12777 Aug 14 j 01:13 -12777 Nov 11 j 17:46 -12777 Nov 28 j 03:42 -12777 Nov 28 j 03:41 -12777 Nov 28 j 03:41 -12777 Nov 28 j 10:23 -12777 Nov 28 j 10:23 -12777 Nov 28 j 22:27 -12777 Dec 14 j 17:19 -12776 Feb 09 j 23:57 -12776 Mar 18 j 12:00 -12776 Jun 03 j 15:24 -12776 Aug 17 j 06:50 -12776 Nov 15 j 01:33 -12776 Dec 01 j 12:18 -12776 Dec 01 j 12:18 -12776 Dec 01 j 15:55 -12776 Dec 02 j 04:10	9° m 29'12 7° m 29'19 7° m 31'00 5° m 32'28 8° m 30'00 9° m 25'13 9° m 25'13 9° m 26'08 9° m 20'58 12° m 53'59 13° m 27'32 11° m 29'12 9° m 30'32 12° m 28'33 13° m 23'56 13° m 23'56 13° m 23'56 13° m 23'56 13° m 24'51 13° m 26'10 14° m 19'51	19.06104 AU 0°01'04 0°01'22 21.04739 AU -0°01'52 19.03304 AU -0°04'24 0°04'10

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12775 in astronomical counting style is the year 12776 BCE in historical counting style. -12775 Jun 07 j 20:08 15° m 26'36 -0°07'47 opposition -12769 Jul 02 i 05:00 9°**Ω**44'43 -0°42'12 opposition min. Earth dist. -12775 Jun 07 j 07:05 15° Mp 27'56 19.00158 AU min. Earth dist. -12769 Jul 02 j 05:06 9°**£**44'42 18.73823 AU -12775 Aug 21 j 10:05 13° m/29'18 -12769 Sep 14 j 20:21 7°**-**45'51 direct direct -12775 Nov 19 j 09:50 16° m 27'53 -12769 Dec 15 j 04:03 10° **2**49'32 evening set evening set -12775 Dec 05 j 21:45 17° m 23'29 -0°09'44 -12769 Dec 31 j 20:54 11° **2**46'31 -0°40'30 conjunction conjunction -12775 Dec 05 j 21:46 17° m 23'29 0°09'33 -12769 Dec 31 j 20:54 11°**△**46'31 0°40'39 minimum elong minimum elong behind sun begin -12775 Dec 05 j 16:13 17° m 22'43 -12769 Dec 31 j 19:58 11°**△**46'23 20.70982 AU max. Earth dist. behind sun end -12775 Dec 06 j 03:18 17° m 24'15 morning rise -12768 Jan 17 j 15:40 12°**-**43'48 max. Earth dist. -12775 Dec 06 j 12:31 17° m 25'34 20.98455 AU retrograde -12768 Apr 20 j 17:28 15° **⊆**52'56 morning rise -12775 Dec 22 j 13:05 18° Mp 19'34 opposition -12768 Jul 05 j 11:54 13°**2**52'39 -0°47'28 -12774 Mar 27 j 04:29 21° m 26'32 -12768 Jul 05 j 13:27 13°**♀**52'29 18.68035 AU retrograde min. Earth dist. opposition -12774 Jun 12 j 00:44 19° M 26'30 -0°13'43 direct -12768 Sep 18 j 05:13 11°**⊆**53'25 min. Earth dist. -12774 Jun 11 j 12:38 19° M 27'45 18.96675 AU evening set -12768 Dec 18 j 17:52 14°**♀**58'08 direct -12774 Aug 25 j 15:33 17° **m** 28'59 evening set -12774 Nov 23 j 18:59 20° m 28'14 conjunction -12767 Jan 04 j 11:13 15°**⊆**55'22 -0°45'08 minimum elong -12767 Jan 04 j 11:13 15°**⊆**55'22 0°45'22 conjunction -12774 Dec 10 j 07:45 21° m/24'02 -0°15'04 max. Earth dist. -12767 Jan 04 j 06:44 15°**2**54'44 20.64990 AU minimum elong -12774 Dec 10 j 07:45 21° m 24'02 0°14'55 morning rise -12767 Jan 21 j 06:21 16° **2**52'53 behind sun begin -12774 Dec 10 j 05:28 21° m 23'43 retrograde -12767 Apr 25 j 04:16 20° **2**02'27 behind sun end -12774 Dec 10 j 10:01 21° m 24'20 opposition -12767 Jul 09 j 19:25 18° **2**02'03 -0°52'30 max. Earth dist. -12774 Dec 10 j 19:21 21° m 25'40 20.94805 AU min. Earth dist. -12767 Jul 10 j 00:22 18°**2**01'31 18.61864 AU morning rise -12774 Dec 26 j 23:58 22° m 20'18 direct -12767 Sep 22 j 12:46 16° \(\Omega\)02'24 retrograde -12773 Mar 31 j 12:51 25° m 27'33 evening set -12767 Dec 23 j 08:32 19° **2**08'13 opposition -12773 Jun 16 j 05:49 23° m 27'28 -0°19'36 min. Earth dist. -12773 Jun 15 j 20:38 23° Mp 28'25 18.92855 AU -12766 Jan 09 j 02:33 20° **2**05'42 -0°49'34 conjunction -12773 Aug 29 j 19:46 21° m 29'44 -12766 Jan 09 j 02:33 20° **2**05'42 0°49'50 direct minimum elong evening set -12773 Nov 28 j 04:41 24° m 29'43 max. Earth dist. -12766 Jan 08 j 19:44 20°**2**04'43 20.58654 AU -12766 Jan 25 j 21:53 21°**♀**03'26 morning rise -12773 Dec 14 j 18:28 25° m 25'45 -0°20'21 -12766 Apr 29 j 17:27 24° **2**13'27 retrograde conjunction -12773 Dec 14 j 18:28 25° m 25'45 0°20'17 -12766 Jul 14 j 03:07 22°**2**12'54 -0°57'18 minimum elong opposition -12773 Dec 15 j 04:39 25° m 27'11 20.90815 AU min. Earth dist. -12766 Jul 14 j 09:29 22°**2**12'14 18.55373 AU max. Earth dist. -12773 Dec 31 j 11:13 26° Mp 22'12 -12766 Sep 26 j 22:50 20° **2**12'49 morning rise direct -12772 Apr 03 j 22:42 29° m 29'46 -12766 Dec 28 j 00:11 23°**♀**19'46 retrograde evening set -12772 Jun 19 j 10:55 27° m 29'41 -0°25'25 opposition -12772 Jun 19 j 02:53 27° m 30'31 18.88679 AU -12765 Jan 13 j 18:35 24°**2**17'31 -0°53'45 min. Earth dist. conjunction -12772 Sep 02 j 01:51 25° mp 31'42 -12765 Jan 13 j 18:34 24°**2**17'31 0°54'06 direct minimum elong evening set -12772 Dec 01 j 15:18 28° m/32'31 max. Earth dist. -12765 Jan 13 j 08:29 24° **2**16'04 20.52021 AU morning rise -12765 Jan 30 j 14:04 25°**♀**15'28 -12772 Dec 18 j 05:47 29° mg 28'46 -0°25'34 conjunction retrograde -12765 May 04 j 05:26 28°**♀**25'57 minimum elong -12772 Dec 18 j 05:47 29° m 28'46 0°25'33 opposition -12765 Jul 18 j 11:38 26°**2**25'15 -1°01'49 max. Earth dist. -12772 Dec 18 j 12:39 29° m 29'44 20.86457 AU min. Earth dist. -12765 Jul 18 j 21:13 26°**2**24'14 18.48637 AU -12772 Dec 27 j 09:46 0°**♀** direct -12765 Oct 01 j 07:45 24° **2**24'43 morning rise -12771 Jan 03 j 23:15 0°**2**25'26 -12764 Jan 01 j 16:23 27°**♀**32'51 evening set -12771 Apr 08 j 07:52 3°**♀**33'21 retrograde -12771 Jun 23 j 16:35 1°**2**33'15 -0°31'09 -12764 Jan 18 j 11:13 28° **△** 30'53 -0°57'40 opposition conjunction -12771 Jun 23 j 11:46 1°**2**33'45 18.84138 AU -12764 Jan 18 j 11:12 28° **2**30'53 0°58'04 min. Earth dist. minimum elong -12764 Jan 17 j 22:55 28° \(\Omega\)29'06 20.45191 AU -12771 Aug 05 i 18:43 30°R MD max. Earth dist. -12764 Feb 04 i 06:43 29°**2**29'03 direct -12771 Sep 06 i 06:48 29° m 35'01 morning rise -12771 Oct 07 j 10:51 0°₽ -12764 Feb 13 i 13:07 0°M -12771 Dec 06 j 02:33 2°**2**36'43 retrograde -12764 May 07 i 19:37 2°M40'02 evening set opposition -12764 Jul 21 j 20:32 0°M39'11 -1°06'02 conjunction -12771 Dec 22 j 18:00 3°**2**33'13 -0°30'40 min. Earth dist. -12764 Jul 22 j 07:12 0°MJ38'03 18.41736 AU -12771 Dec 22 j 18:00 3°**2**33'13 0°30'44 -12764 Aug 06 j 12:22 30°R₽ minimum elong max. Earth dist. -12771 Dec 22 j 23:02 3°**£**33'55 20.81723 AU direct -12764 Oct 04 j 19:21 28°**♀**38'12 4°**£**30′05 morning rise -12770 Jan 08 j 11:56 -12764 Dec 01 j 12:30 0°M -12770 Apr 12 j 19:08 retrograde 7°**≏**38'23 evening set -12763 Jan 05 j 09:31 1°M47'34 -12770 Jun 27 j 22:31 5°**2**38'14 -0°36'45 opposition -12770 Jun 27 j 19:09 5°**♀**38'35 18.79192 AU conjunction -12763 Jan 22 j 04:36 2°M45'51 -1°01'18 min. Earth dist. -12770 Sep 10 j 14:17 3°**△**39'43 minimum elong -12763 Jan 22 j 04:36 2°M45'51 1°01'45 direct -12770 Dec 10 j 14:58 -12763 Jan 21 j 13:37 evening set 6°**£**42′23 max. Earth dist. 2°M43'40 20.38223 AU morning rise -12763 Feb 08 j 00:04 3°M44'15 conjunction -12770 Dec 27 j 07:01 7°**£**39'07 -0°35'40 retrograde -12763 May 12 j 08:28 6°M55'46 minimum elong -12770 Dec 27 j 07:01 7°**2**39'07 0°35'46 opposition -12763 Jul 26 j 06:11 4°M54'47 -1°09'55 max. Earth dist. -12770 Dec 27 j 08:21 7°**♀**39'19 20.76560 AU min. Earth dist. -12763 Jul 26 j 19:48 4°ጤ53'20 18.34744 AU -12769 Jan 13 j 01:29 8°**£**36'12 -12763 Oct 09 j 05:17 2°M53'21 morning rise direct retrograde -12769 Apr 17 j 04:59 11°**2**44'54 -12762 Jan 10 j 03:26 6°ML04'00 evening set

	omena of Uranus fro						page 12
Attention, astronom	ical year style is used: The	e year -12762	in astronomical co	ounting style is the year	ar 12763 BCE in historica	I counting sty	le.
conjunction	-12762 Jan 26 j 22:48	7° ™ 02'34	-1°04'38	conjunction	-12756 Feb 24 j 04:47	3° ∡ ¹25'15	-1°16'39
minimum elong	-12762 Jan 26 j 22:48	7°M02'34	1°05'08	minimum elong	-12756 Feb 24 j 04:47	3° ∡ ¹25'15	1°17'23
max. Earth dist.	-12762 Jan 26 j 05:34	7°M00'02	20.31207 AU	morning rise	-12756 Mar 11 j 21:44	4° ∡ °25′08	
morning rise	-12762 Feb 12 j 18:13	8°M01'11		retrograde	-12756 Jun 12 j 07:16	7° ∡ ¹41'02	
retrograde	-12762 May 17 j 00:19	11°ML13'15		opposition	-12756 Aug 25 j 00:10	5° ∡ ³39'42	-1°25'38
opposition	-12762 Jul 30 j 16:28	9°M12'09	-1°13'27	min. Earth dist.	-12756 Aug 26 j 01:26	5° ∡ ¹36'58	17.86536 AU
min. Earth dist.	-12762 Jul 31 j 07:01	9° ™ 10'36	18.27718 AU	direct	-12756 Nov 08 j 13:19	3° ∡ ³35'43	
direct	-12762 Oct 13 j 18:38	7° M 10'17		evening set	-12755 Feb 11 j 10:00	6° ∡ 756′12	
evening set	-12761 Jan 14 j 22:21	10°M22'17		max. Earth dist.	-12755 Feb 26 j 21:26	7° ∡ 751′51	19.83115 AU
conjunction	-12761 Jan 31 j 17:50	11° M 21'07	1°07'37	conjunction	-12755 Feb 28 j 04:38	7° ∡ ¹56'34	1017'08
minimum elong	-12761 Jan 31 j 17:50			minimum elong	-12755 Feb 28 j 04:38		
max. Earth dist.	-12761 Jan 30 j 22:20			morning rise	-12755 Mar 16 j 20:43		1 1/34
	-12761 Feb 17 j 12:56		20.24100 AU	-			
morning rise	·			retrograde	-12755 Jun 17 j 01:17		1025157
rotro ara do	-12761 Apr 16 j 02:58			opposition	-12755 Aug 29 j 16:40		
retrograde	-12761 May 21 j 14:19			min. Earth dist.	-12755 Aug 30 j 20:07		17.79873 AU
•,•	-12761 Jun 26 j 09:42		101712	direct	-12755 Nov 13 j 07:32		
opposition	-12761 Aug 04 j 03:38			evening set	-12754 Feb 16 j 10:59		10 56501 177
min. Earth dist.	-12761 Aug 04 j 20:54		18.20702 AU	max. Earth dist.	-12754 Mar 03 j 19:01	12° × '24'40	19.76501 AU
direct	-12761 Oct 18 j 05:56						
evening set	-12760 Jan 19 j 18:04			conjunction	-12754 Mar 05 j 05:02		
	-12760 Jan 24 j 18:33	15°M		minimum elong	-12754 Mar 05 j 05:02		1°17'54
				morning rise	-12754 Mar 21 j 20:33		
conjunction	-12760 Feb 05 j 13:36	15°M41'39	-1°10'14	retrograde	-12754 Jun 21 j 21:46		
minimum elong	-12760 Feb 05 j 13:36	15°M41'39	1°10'50	opposition	-12754 Sep 03 j 10:08	14° ∡ °45'45	-1°25'42
max. Earth dist.	-12760 Feb 04 j 15:48	15°M38'26	20.17174 AU	min. Earth dist.	-12754 Sep 04 j 14:35	14° ∡ ¹42'40	17.73324 AU
morning rise	-12760 Feb 22 j 08:30	16° M $40'42$		direct	-12754 Nov 18 j 04:48	12° ∡ ¹41'02	
retrograde	-12760 May 25 j 07:49	19°M54'00		evening set	-12753 Feb 21 j 12:24	16° ₹ 04'11	
opposition	-12760 Aug 07 j 15:29	17°M52'45	-1°19'20	max. Earth dist.	-12753 Mar 08 j 19:44	16° ₹ ¹59'43	19.70011 AU
min. Earth dist.	-12760 Aug 08 j 09:34	17°M50'48	18.13745 AU				
direct	-12760 Oct 21 j 20:51	15°M50'07		conjunction	-12753 Mar 10 j 06:05	17° ∡ ¹04'58	-1°16'38
evening set	-12759 Jan 23 j 14:32	19°M04'53		minimum elong	-12753 Mar 10 j 06:05	17° ∡ ¹04'58	1°17'26
max. Earth dist.	-12759 Feb 08 j 10:35	20°M00'46	20.10237 AU	morning rise	-12753 Mar 26 j 20:35	18° ∡ ¹05'21	
				retrograde	-12753 Jun 26 j 17:31	21° ×7 23'03	
conjunction	-12759 Feb 09 j 10:07	20°M04'16	-1°12'29	opposition	-12753 Sep 08 j 04:33	19° ∡ ¹21'31	-1°24'55
minimum elong	-12759 Feb 09 j 10:06			min. Earth dist.	-12753 Sep 09 j 10:29		
morning rise	-12759 Feb 26 j 04:33			direct	-12753 Nov 23 j 01:55		
retrograde	-12759 May 29 j 23:26			evening set	-12752 Feb 26 j 14:32		
opposition	-12759 Aug 12 j 04:21		-1°21'38	max. Earth dist.	-12752 Mar 12 j 18:48		19 63733 AU
min. Earth dist.	-12759 Aug 13 j 01:02			max. Bartii dist.	12/32 Mai 12 j 10.10	21 7 30 10	17.03733710
direct	-12759 Oct 26 j 09:49		10.00040710	conjunction	-12752 Mar 14 j 07:26	21° √ 41'47	-1°15'38
evening set	-12758 Jan 28 j 12:09			minimum elong	-12752 Mar 14 j 07:26		
max. Earth dist.	-12758 Feb 13 j 05:28		20 02276 ATT	morning rise	-12752 Mar 30 j 21:14		1 10 20
max. Earth dist.	-12/36 FC0 13 J 03.26	24 11623 10	20.03370 AU	retrograde	-12752 Jun 30 j 14:37		
conjunction	12750 Eab 14:07:22	249M 20102	1914!10	opposition			1022125
,	-12758 Feb 14 j 07:33			• •	-12752 Sep 11 j 23:43		
minimum elong	-12758 Feb 14 j 07:33		1-14-39	min. Earth dist.	-12752 Sep 13 j 06:26		17.00794 AU
morning rise	-12758 Mar 03 j 01:40			direct	-12752 Nov 27 j 00:26		
retrograde	-12758 Jun 03 j 18:21		1022120	evening set	-12751 Mar 02 j 16:51		10.57746 ATT
opposition	-12758 Aug 16 j 17:51			max. Earth dist.	-12751 Mar 17 j 21:04	20° X'14'30	19.57746 AU
min. Earth dist.	-12758 Aug 17 j 15:35		18.00024 AU		10751 34 10:00 17	260 720111	1014110
direct	-12758 Oct 31 j 02:46			conjunction	-12751 Mar 19 j 09:17		
evening set	-12757 Feb 02 j 10:40			minimum elong	-12751 Mar 19 j 09:17		1°14'59
max. Earth dist.	-12757 Feb 18 j 02:27	28°11L51'57	19.96565 AU	morning rise	-12751 Apr 04 j 22:03		
					-12751 May 28 j 12:01		
conjunction	-12757 Feb 19 j 05:57			retrograde	-12751 Jul 05 j 12:14		
minimum elong	-12757 Feb 19 j 05:56		1°16'25		-12751 Aug 13 j 07:06		
morning rise	-12757 Mar 07 j 23:21	29°M55'45		opposition	-12751 Sep 16 j 19:49	28° ∡ ³37′52	-1°21'41
	-12757 Mar 09 j 04:31	0° ∡ ¹		min. Earth dist.	-12751 Sep 18 j 03:13		17.54973 AU
retrograde	-12757 Jun 08 j 11:16	3° ∡ 10′59		direct	-12751 Dec 01 j 23:17	26° ∡ ³32'04	
opposition	-12757 Aug 21 j 08:36	1° ∡ 09'41	-1°24'49	evening set	-12750 Mar 07 j 19:53		
min. Earth dist.	-12757 Aug 22 j 08:50	1° ∡ ¹07'04	17.93249 AU		-12750 Mar 08 j 04:13	0°ರ	
	-12757 Sep 18 j 23:12	30°RM		max. Earth dist.	-12750 Mar 22 j 21:33	0° る 54'10	19.52120 AU
direct	-12757 Nov 04 j 18:02				-		
	-12757 Dec 20 j 22:40	0° ∡ ¹		conjunction	-12750 Mar 24 j 11:23	1°₹00'01	-1°12'11
evening set	-12756 Feb 07 j 09:56	2° ∡ °25′08		minimum elong	-12750 Mar 24 j 11:23	1°₹00'01	
max. Earth dist.	-12756 Feb 22 j 22:35	3° х 20′42	19.89816 AU	morning rise	-12750 Apr 09 j 23:17	2° ට 00'48	
	, , , , , , , , , , , , , , , , , , ,			retrograde	-12750 Jul 10 j 10:18		
				-	,		

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12750 in astronomical counting style is the year 12751 BCE in historical counting style. -12750 Sep 21 j 16:42 3°정18'13 -1°19'15 max. Earth dist. -12743 Apr 25 j 22:13 4°≈07'16 19.27782 AU opposition min. Earth dist. -12750 Sep 23 j 00:42 3°정14'44 17.49569 AU -12750 Dec 06 j 22:47 1°る12'06 conjunction -12743 Apr 27 j 07:09 4°≈12'29 -0°45'37 direct -12749 Mar 12 j 23:04 4°る39'49 -12743 Apr 27 j 07:09 minimum elong 4°≈12'29 0°46'18 evening set -12749 Mar 28 j 01:03 5°중35'30 19.46944 AU -12743 May 13 j 11:16 max. Earth dist. morning rise 5°≈13'28 8°≈35'23 retrograde -12743 Aug 12 j 10:31 -12749 Mar 29 j 13:53 5°**⋜**41'13 -1°09'44 conjunction opposition -12743 Oct 24 j 17:47 6°≈33'36 -0°48'05 -12749 Mar 29 j 13:53 minimum elong 5°**ප්**41'13 1°10'32 min. Earth dist. -12743 Oct 25 j 21:50 6°≈30'33 17.27172 AU -12749 Apr 15 j 00:39 6°**정**42'05 4°**≈**26'51 morning rise direct -12742 Jan 09 j 14:37 retrograde -12749 Jul 15 j 09:33 10°**궁**01'47 evening set -12742 Apr 16 j 02:40 7°≈59'07 opposition -12749 Sep 26 j 14:34 7°중59'53 -1°16'17 max. Earth dist. -12742 May 01 j 02:50 8°≈55'45 19.26560 AU -12749 Sep 27 j 22:17 7°중56'26 17.44637 AU min. Earth dist. -12749 Dec 11 j 22:52 5°₹53'31 9°**≈**00'42 -0°40'15 direct conjunction -12742 May 02 j 10:03 evening set -12748 Mar 17 j 02:31 9°**る**22'10 minimum elong -12742 May 02 j 10:04 9°≈00'42 0°40'53 max. Earth dist. -12748 Apr 01 j 02:48 10°정17'50 19.42279 AU morning rise -12742 May 18 j 12:50 10°≈01'38 retrograde -12742 Aug 17 j 10:35 13°≈23'46 conjunction -12748 Apr 02 j 16:18 10°₹23'40 -1°06'48 opposition -12742 Oct 29 j 20:53 11°≈22'02 -0°41'56 minimum elong -12748 Apr 02 j 16:19 10°**5**23'40 1°07'37 min. Earth dist. -12742 Oct 31 j 00:54 11°≈19'00 17.26204 AU morning rise -12748 Apr 19 j 02:05 11°る24'37 direct -12741 Jan 14 j 18:52 9°≈15'22 retrograde -12748 Jul 19 j 08:32 14°る44'46 evening set -12741 Apr 21 j 06:36 12°≈47'47 opposition -12748 Sep 30 j 13:13 12° ₹ 42'49 -1°12'47 max. Earth dist. -12741 May 06 j 06:12 13°≈44'26 19.25858 AU min. Earth dist. -12748 Oct 01 j 21:15 12°る39'19 17.40258 AU direct -12748 Dec 15 j 23:25 10°る36'14 conjunction -12741 May 07 j 12:39 13°≈49'17 -0°34'36 evening set -12747 Mar 22 j 06:14 14°**⋜**05'45 minimum elong -12741 May 07 j 12:40 13°≈49'17 0°35'11 max. Earth dist. -12747 Apr 06 j 06:53 15°る01'39 19.38191 AU morning rise -12741 May 23 j 14:24 14°≈50'08 -12741 May 26 i 06:17 15°≈ -12747 Apr 07 j 19:10 15°る07'20 -1°03'25 -12741 Aug 22 j 12:21 18°≈12'26 conjunction retrograde -12747 Apr 07 j 19:10 15°**⋜**07'20 1°04'12 -12741 Nov 04 j 00:16 16°≈10'42 -0°35'29 minimum elong opposition -12747 Apr 24 j 03:49 16°**⋜**08'20 min. Earth dist. -12741 Nov 05 j 02:01 16°≈07'56 17.25744 AU morning rise -12747 Jul 24 j 08:33 19°る28'53 -12741 Dec 02 j 23:23 15°R≈ retrograde -12747 Oct 05 j 12:29 17°₹26'55 -1°08'46 -12740 Jan 20 j 01:06 14°≈04'07 opposition direct -12740 Mar 06 j 14:57 15°≈ -12747 Oct 06 j 19:33 17°**중**23'32 17.36453 AU min. Earth dist. -12747 Dec 21 j 01:01 15°**♂**20'12 -12740 Apr 25 j 09:56 17°≈36'32 evening set direct -12746 Mar 27 j 10:18 18°**궁**50'30 max. Earth dist. -12740 May 10 j 10:56 18°≈33'29 19.25650 AU evening set -12746 Apr 11 j 10:00 19°정46'28 19.34693 AU max. Earth dist. -12740 May 11 j 14:55 18°≈37'56 -0°28'43 conjunction -12746 Apr 12 j 22:10 19°る52'08 -0°59'34 -12740 May 11 j 14:55 18°≈37'56 0°29'16 conjunction minimum elong minimum elong -12746 Apr 12 j 22:10 19°る52'08 1°00'21 morning rise -12740 May 27 j 15:22 19°≈38'41 morning rise -12746 Apr 29 j 05:41 20°る53'10 retrograde -12740 Aug 26 j 12:21 23°≈01'05 retrograde -12746 Jul 29 j 08:07 24°정14'07 opposition -12740 Nov 08 j 04:08 20°≈59'23 -0°28'47 opposition -12746 Oct 10 j 12:48 22°중12'10 -1°04'16 min. Earth dist. -12740 Nov 09 j 05:24 20°≈56'39 17.25779 AU min. Earth dist. -12739 Jan 24 j 05:39 18°≈52'53 direct -12746 Dec 26 j 02:46 20°る05'22 -12739 Apr 30 j 13:06 22°≈25'10 direct evening set -12745 Apr 01 j 14:18 23°₹36'20 evening set max. Earth dist. -12745 Apr 16 j 14:14 24°중32'31 19.31813 AU conjunction -12739 May 16 j 16:41 23°≈26'25 -0°22'38 minimum elong -12739 May 16 j 16:42 23°≈26'25 0°23'07 -12745 Apr 18 j 01:06 24°る38'00 -0°55'19 conjunction max. Earth dist. -12739 May 15 j 13:32 23°≈22'06 19.25954 AU minimum elong -12745 Apr 18 j 01:06 24°る38'00 0°56'05 morning rise -12739 Jun 01 j 16:10 24°≈27'03 -12745 May 04 i 07:30 25°る39'02 morning rise retrograde -12739 Aug 31 i 14:06 27°≈49'29 retrograde -12745 Aug 03 i 09:07 29°중00'21 opposition -12739 Nov 13 i 08:02 25°≈47'46 -0°21'54 opposition -12745 Oct 15 j 13:47 26°る58'27 -0°59'18 min. Earth dist. -12739 Nov 14 j 06:50 25°≈45'19 17.26336 AU min. Earth dist. -12745 Oct 16 j 19:29 26°る55'13 17.30664 AU direct -12738 Jan 29 j 11:46 23°≈41'22 direct -12745 Dec 31 j 06:29 24°**⋜**51'39 -12738 May 05 j 15:36 27°≈13'24 evening set evening set -12744 Apr 05 j 18:28 28°る23'10 max. Earth dist. -12744 Apr 20 j 18:18 29°중19'30 19.29512 AU conjunction -12738 May 21 j 18:06 28°≈14'30 -0°16'24 minimum elong -12738 May 21 j 18:06 28°≈14'30 0°16'50 -12738 May 20 j 18:08 28°≈10'41 19.26784 AU conjunction -12744 Apr 22 j 04:11 29°る24'50 -0°50'39 max. Earth dist. -12744 Apr 22 j 04:11 29°♂24'51 0°51'22 -12738 Jun 06 j 16:18 29°≈15'00 minimum elong morning rise -12744 May 01 j 11:12 -12738 Jun 19 j 01:14 0°**米** 0°**≈** morning rise -12744 May 08 j 09:22 0°≈25'52 retrograde -12738 Sep 05 j 14:14 2°**)** 37'23 retrograde -12744 Aug 07 j 08:54 3°**≈**47'30 opposition -12738 Nov 18 j 12:23 0°**)** 35'41 -0°14'53 opposition -12744 Oct 19 j 15:28 1°≈45'40 -0°53'53 min. Earth dist. -12738 Nov 19 j 09:58 0°**★**33'22 17.27429 AU min. Earth dist. -12744 Oct 20 j 21:24 1°≈42'25 17.28651 AU -12738 Dec 02 j 13:14 30°R≈ -12744 Dec 06 j 16:47 30°R♂ direct -12737 Feb 03 j 16:03 28°≈29'25 direct -12743 Jan 04 j 09:20 29°♂38'52 -12737 Apr 04 j 16:15 0°**)**€ -12743 Feb 01 j 18:54 -12737 May 10 j 17:27 2°**米**01'02 evening set

-12743 Apr 10 j 22:37 3°≈10'50

evening set

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12737 in astronomical counting style is the year 12738 BCE in historical counting style. -12737 May 26 j 18:33 3° \(\frac{1}{2}\)01'56 -0°10'05 -12732 Nov 24 j 01:54 30°R € conjunction -12737 May 26 j 18:33 3°**₭**01'56 0°10'28 -12732 Dec 17 j 12:22 29°\tag{02'58} 0°27'12 minimum elong opposition -12737 May 26 j 13:20 3°**₩**01'07 min. Earth dist. -12732 Dec 17 j 17:52 29°\(\mathbf{H}\)02'24 17.46581 AU behind sun begin -12737 May 26 j 23:46 -12731 Mar 04 j 18:55 26° **€** 58'24 behind sun end 3°**)**€02'45 direct -12731 May 31 j 14:45 $0^{\circ}\Upsilon$ -12737 May 25 j 19:53 2°**升**58'19 19.28173 AU max. Earth dist. -12737 Jun 11 j 15:51 -12731 Jun 07 j 13:06 0°Y25'20 morning rise 4°**₩**02'16 evening set -12737 Sep 10 j 15:44 retrograde 7°**)**€24'35 1°**Υ**24'44 0°27'26 -12737 Nov 23 j 16:40 -12731 Jun 23 j 07:21 opposition 5°**升**22'51 -0°07'46 conjunction 1°**Υ**24'44 0°27'27 min. Earth dist. -12737 Nov 24 j 11:35 5°**∺**20'49 17.29105 AU minimum elong -12731 Jun 23 j 07:21 3°**)** 16'44 1°**Y**23'56 19.49113 AU direct -12736 Feb 08 j 21:24 max. Earth dist. -12731 Jun 23 j 02:15 2°**Y**23'45 evening set -12736 May 14 j 18:34 6°**)** 47′49 morning rise -12731 Jul 08 j 23:07 -12731 Oct 08 j 10:51 5°**Y**44'46 retrograde 3°**Y**43′20 conjunction -12736 May 30 j 18:36 7°**)** 48'32 -0°03'44 opposition -12731 Dec 22 j 15:37 0°33'45 minimum elong -12736 May 30 j 18:37 7°**)** 48'32 0°04'03 min. Earth dist. -12731 Dec 22 j 19:02 3°**Y**42'58 17.51752 AU behind sun begin -12736 May 30 j 12:05 7°**)**(47'31 direct -12730 Mar 09 j 20:47 1°Y39'11 behind sun end -12736 May 31 j 01:08 7°**)** 49'32 evening set -12730 Jun 12 j 09:38 5°Y05'03 max. Earth dist. -12736 May 29 j 23:38 7°**¥**45'30 19.30147 AU morning rise -12736 Jun 15 j 14:43 8°**)** 48'40 conjunction -12730 Jun 28 j 02:57 6°**Y**′04′09 0°33'11 retrograde -12736 Sep 14 j 15:43 12° ¥ 10'51 minimum elong -12730 Jun 28 j 02:57 6°**Y**04′08 0°33'16 opposition -12736 Nov 27 j 20:50 10° **★**09'07 -0°00'38 max. Earth dist. -12730 Jun 28 j 01:05 6°Υ03'51 19.54504 AU min. Earth dist. -12736 Nov 28 j 13:45 10°\mathcal{H}07'18 17.31370 AU morning rise -12730 Jul 13 j 17:59 7°**Y**′02'54 asc. node -12736 Dec 29 j 16:33 8° **\(\)** 53'08 retrograde $-12730 \text{ Oct } 13 \text{ j } 09:32 \ 10^{\circ} \text{ Y} 23'35$ direct -12735 Feb 13 i 01:36 8° \(\)03'12 opposition -12730 Dec 27 j 18:28 8°Y22'16 0°40'02 evening set -12735 May 19 j 19:07 11°**)** 33'39 min. Earth dist. -12730 Dec 27 j 18:23 8°**Υ**22'16 17.57329 AU direct -12729 Mar 14 j 23:55 6°**Y**18'35 -12735 Jun 04 j 17:48 12° **★** 34'07 0°02'47 evening set -12729 Jun 17 j 05:20 9°**Y**43′17 conjunction -12735 Jun 04 j 17:48 12° **)** 34'07 minimum elong -12735 Jun 04 j 11:12 12° **€** 33'05 -12729 Jul 02 j 21:42 10° Υ 42'04 0° 38'42 behind sun begin conjunction -12735 Jun 05 j 00:24 12° **∺**35'08 -12729 Jul 02 j 21:42 10° Υ 42'04 0° 38'52 behind sun end minimum elong -12735 Jun 04 j 00:30 12° **€** 31'22 19.32727 AU -12729 Jul 02 j 22:27 10°**Υ**'42'11 19.60250 AU max. Earth dist. max. Earth dist. -12735 Jun 20 j 13:03 13°**)** 34'03 -12729 Jul 18 j 12:09 11°**Υ**'40'35 morning rise morning rise -12729 Oct 18 j 05:55 15°**Υ**00'53 -12735 Sep 19 j 16:09 16° **★** 56'05 retrograde retrograde -12735 Dec 03 j 01:01 14° **€** 54'20 0°06'28 -12728 Jan 01 j 20:57 12°**Υ**'59'41 0°46'02 opposition opposition -12735 Dec 03 j 15:11 14° ¥ 52'49 17.34264 AU min. Earth dist. -12728 Jan 01 j 19:13 12°**Υ**59'51 17.63241 AU min. Earth dist. -12734 Feb 18 j 06:14 12° **★** 48'40 -12728 Mar 18 j 23:59 10° **Y** 56'25 direct direct -12734 May 24 j 18:42 16° **∺** 18'22 -12728 Jun 21 j 00:17 14°**Υ**19'55 evening set evening set conjunction -12734 Jun 09 j 16:18 17° **★** 18'35 0°09'06 conjunction -12728 Jul 06 j 15:49 15°**Υ**18'24 0°43'57 minimum elong -12734 Jun 09 j 16:18 17°**米** 18'35 0°08'55 minimum elong -12728 Jul 06 j 15:49 15° Υ 18'24 0°44'09 behind sun begin -12734 Jun 09 j 10:38 17°**米** 17'42 max. Earth dist. -12728 Jul 06 j 19:06 15° Υ 18'55 19.66294 AU behind sun end -12734 Jun 09 j 21:59 17°**米** 19'28 morning rise -12728 Jul 22 j 05:44 16°**Υ**16'39 max. Earth dist. -12734 Jun 09 j 02:56 17°**米** 16'28 19.35936 AU retrograde -12728 Oct 22 j 03:49 19°**Υ**36'30 morning rise -12734 Jun 25 j 10:28 18°**升** 18'18 opposition -12727 Jan 05 j 22:33 17°**Y**35'24 0°51'41 retrograde -12734 Sep 24 j 15:43 21° **∺**40'08 min. Earth dist. -12727 Jan 05 j 17:22 17°**Y**°35'56 17.69399 AU -12734 Dec 08 j 05:07 19° **¥** 38'25 0°13'31 -12727 Mar 24 j 01:21 15°**Y**32'34 opposition direct -12734 Dec 08 j 16:24 19° \(\)37'13 17.37772 AU -12727 Jun 25 j 18:23 18° Υ 54'49 min. Earth dist. evening set direct -12733 Feb 23 i 11:04 17° + 33'05 -12733 May 29 j 17:42 21°**米**01'56 -12727 Jul 11 j 09:09 19° Υ 52'59 0°48'52 evening set conjunction -12727 Jul 11 j 09:09 19°**Υ** 52'59 minimum elong -12733 Jun 14 i 14:03 22° \times 01'53 0°15'20 max. Earth dist. -12727 Jul 11 i 15:08 19° Υ 53'55 19.72547 AU conjunction morning rise -12733 Jun 14 i 14:03 22° \times 01'53 0°15'12 -12727 Jul 26 j 22:34 20° Υ 50'58 minimum elong behind sun begin -12733 Jun 14 j 11:41 22° **)** €01'31 retrograde $-12727 \text{ Oct } 26 \text{ j } 23:15 \quad 24^{\circ} \Upsilon 10'21$ behind sun end -12733 Jun 14 j 16:26 22° ¥ 02'15 -12726 Jan 10 j 23:54 22°**Y**′09'20 0°56'58 opposition -12733 Jun 14 j 02:50 22° ¥00'06 19.39760 AU -12726 Jan 10 j 17:19 22°**Y**°10'01 17.75752 AU max. Earth dist. min. Earth dist. morning rise -12726 Mar 29 j 00:10 20°**Υ**06'55 -12733 Jun 30 j 07:25 23° **₭** 01'23 direct retrograde -12733 Sep 29 j 14:26 26°**米**22'58 evening set -12726 Jun 30 j 11:29 23°**Υ**27'51 -12733 Dec 13 j 08:54 24°**∺**21'19 0°20'26 opposition -12726 Jul 16 j 01:32 24° Υ 25'42 0°53'27 min. Earth dist. -12733 Dec 13 j 17:39 24° **€**20'23 17.41905 AU conjunction -12732 Feb 28 j 14:37 22° **₭** 16'20 -12726 Jul 16 j 01:31 24° Υ 25'42 0°53'46 direct minimum elong -12732 Jun 02 j 15:43 25°**)** 44'16 -12726 Jul 16 j 09:39 24°**Y**′26'58 19.78977 AU evening set max. Earth dist. -12726 Jul 31 j 14:39 25°**Y**23'26 morning rise conjunction -12732 Jun 18 j 11:07 26° ★43'57 0°21'28 retrograde -12726 Oct 31 j 19:59 28° Υ 42'18 minimum elong -12732 Jun 18 j 11:07 26° **★** 43'57 0°21'25 opposition -12725 Jan 16 j 00:24 26° Υ 41'21 1°01'51 max. Earth dist. -12732 Jun 18 j 03:34 26° ¥42'46 19.44183 AU min. Earth dist. -12725 Jan 15 j 14:18 26°**Y**42'23 17.82250 AU morning rise -12732 Jul 04 j 03:36 27° **★**43'13 direct -12725 Apr 02 j 23:58 24°**Υ**39'20 -12732 Aug 15 j 12:45 $0^{\circ}\Upsilon$ -12725 Jul 05 j 03:41 27°**Y**58'53 evening set retrograde -12732 Oct 03 j 13:34 1°Y04'31

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12725 in astronomical counting style is the year 12726 BCE in historical counting style. $-12725 \text{ Jul} \quad 20 \text{ j } 17:13 \quad 28^{\circ} \Upsilon 56'27 \quad 0^{\circ} 57'39$ minimum elong -12719 Aug 14 j 21:25 25°**8**17'15 1°15'10 conjunction minimum elong -12725 Jul 20 j 17:13 28°**Υ**56'27 0°58'02 max. Earth dist. -12719 Aug 15 j 22:39 25°**8**21'04 20.27141 AU max. Earth dist. -12725 Jul 21 j 04:15 28°**Υ**58'09 19.85527 AU -12719 Aug 30 j 10:32 26°**8**13'19 morning rise -12719 Dec 01 j 16:58 29°**8**28'06 -12725 Aug 05 j 06:01 29°**Y**53'55 morning rise retrograde -12718 Feb 16 j 02:52 27°\(\begin{align*} \delta 30'07 & 18.30804 \text{ AU} \end{align*} \] -12725 Aug 06 j 22:15 0°8 min. Earth dist. -12725 Nov 05 j 14:01 -12718 Feb 17 j 04:02 27°**8**27'34 1°23'30 retrograde 3°**8**12'14 opposition -12724 Jan 21 j 00:06 opposition 1°**8**11'20 1°06'19 direct -12718 May 04 j 15:29 25°**8**28'16 -12724 Jan 20 j 12:45 1°8 12'30 17.88867 AU min. Earth dist. evening set -12718 Aug 03 j 19:31 28°**8**38'20 -12724 Feb 20 j 19:02 30°R**Y** -12724 Apr 06 j 21:27 29°**Y**09'41 direct conjunction -12718 Aug 19 j 07:29 29°**8**33'59 1°15'50 0° 8 -12724 May 21 j 04:35 minimum elong -12718 Aug 19 j 07:29 29°**8**33'59 1°16'31 -12724 Jul 08 j 18:57 -12718 Aug 20 j 09:42 29°**8**37'56 20.34347 AU evening set 2°**8**27'52 max. Earth dist. -12718 Aug 26 j 12:20 0°**П** conjunction -12724 Jul 24 j 07:57 3°**8**25'07 1°01'29 morning rise -12718 Sep 03 j 21:08 0°**Ⅲ**29'52 minimum elong -12724 Jul 24 j 07:57 3°**8**25'07 1°01'56 retrograde -12718 Dec 06 j 08:41 3°**Ⅱ**44′05 max. Earth dist. -12724 Jul 24 j 20:43 3°**8**27'06 19.92197 AU opposition -12717 Feb 21 j 21:40 1°**Д**43'40 1°24'43 morning rise -12724 Aug 08 j 20:41 4°**8**22'21 min. Earth dist. -12717 Feb 20 j 18:15 1°**Д**46'27 18.38000 AU retrograde -12724 Nov 09 j 09:17 7°**8**40'05 -12717 Apr 14 j 13:34 30°R8 opposition -12723 Jan 24 j 22:53 5°**8**39'12 1°10'20 direct -12717 May 09 j 06:42 29°844'47 min. Earth dist. -12723 Jan 24 j 08:11 5°**8**40'43 17.95590 AU -12717 Jun 02 j 10:27 $0^{\circ}\Pi$ direct -12723 Apr 11 j 19:09 3°**8**37'56 evening set -12717 Aug 08 j 04:59 2°II53'37 evening set -12723 Jul 13 i 09:06 6°**8**54'42 conjunction -12717 Aug 23 j 17:16 3°II49'04 1°16'44 conjunction -12723 Jul 28 j 21:46 7°\(251'40\) 1°04'55 minimum elong -12717 Aug 23 j 17:16 3°**Ⅱ**49'04 1°17'29 minimum elong -12723 Jul 28 j 21:45 7°**엉**51'40 1°05'24 max. Earth dist. -12717 Aug 24 j 22:15 3°**Д**53'25 20.41492 AU max. Earth dist. -12723 Jul 29 j 13:42 7°854'08 19.98959 AU morning rise -12717 Sep 08 j 07:14 4°**Д**44'46 -12723 Aug 13 j 10:18 8°**8**48'38 retrograde -12717 Dec 10 j 20:48 7° **II** 58'24 morning rise -12723 Nov 14 j 01:33 12°**8**05'48 -12716 Feb 25 j 09:53 6°Д01'01 18.45089 AU retrograde min. Earth dist. -12722 Jan 29 j 21:00 10°**8**04'56 1°13'54 -12716 Feb 26 j 14:17 5°**Ц**58'09 1°25'28 opposition opposition -12722 Jan 29 j 04:52 10°**8**06'36 18.02418 AU direct -12716 May 12 j 21:19 3°**Д**59'41 min. Earth dist. -12722 Apr 16 j 15:30 8°**8**04'03 -12716 Aug 11 j 13:58 7°**Д**07'20 direct evening set -12722 Jul 17 j 22:30 11°**8**19'25 evening set -12716 Aug 27 j 02:21 8°**Д**02'33 1°17'14 conjunction -12716 Aug 27 j 02:21 8°**Д**02'33 1°17'58 -12722 Aug 02 j 10:45 12°**8**16'05 1°07'56 conjunction minimum elong -12722 Aug 02 j 10:45 12°**8**16'05 1°08'29 max. Earth dist. -12716 Aug 28 j 07:45 8°**Д**06'56 20.48504 AU minimum elong -12722 Aug 03 j 04:20 12°**8**18'47 20.05847 AU -12716 Sep 11 j 17:01 8°**Д**58'05 max. Earth dist. morning rise -12722 Aug 17 j 23:26 13°**8**12'49 -12716 Dec 14 j 11:06 12° **I** 11'10 morning rise retrograde -12722 Sep 19 j 19:48 15°8 min. Earth dist. -12715 Mar 01 j 00:21 10° **I**I 14'04 18.52015 AU retrograde -12722 Nov 18 j 19:38 16°**8**29'23 opposition -12715 Mar 02 j 06:14 10°**Ⅲ**11'03 1°25'44 -12721 Jan 21 j 19:16 15°R്8 direct -12715 May 17 j 10:24 8°**Д**12'58 opposition -12721 Feb 03 j 18:04 14°**8**28'33 1°17'00 evening set -12715 Aug 15 j 22:09 11°**Ⅱ**19'27 min. Earth dist. -12721 Feb 02 j 22:40 14°**8**30'32 18.09376 AU direct -12721 Apr 21 j 10:55 12°828'01 conjunction -12715 Aug 31 j 11:01 12°**Ⅱ**14'30 1°17'17 -12721 Jul 10 j 09:29 15°8 minimum elong -12715 Aug 31 j 11:01 12°**Ⅱ**14'30 1°18'04 -12721 Jul 22 j 10:53 15°**8**42'01 max. Earth dist. -12715 Sep 01 j 18:46 12°**Д**19'13 20.55301 AU evening set -12715 Sep 16 j 02:07 13°**Д**09'52 morning rise -12721 Aug 06 j 23:02 16°\(\begin{align*} \begin{a -12715 Dec 18 j 22:26 16° II 22'25 conjunction retrograde -12721 Aug 06 j 23:02 16°\(\begin{align*} \begin{a minimum elong opposition -12714 Mar 06 j 21:26 14° **Π**22'25 1°25'33 -12721 Aug 07 j 19:52 16°841'36 20.12848 AU max. Earth dist. min. Earth dist. -12714 Mar 05 j 14:45 14°**I**I25'30 18.58680 AU morning rise -12721 Aug 22 j 11:42 17°**8**34'55 direct -12714 May 21 j 23:34 12°**Д**24'41 retrograde -12721 Nov 23 i 10:34 20°850'52 evening set -12714 Aug 20 j 06:07 15°**Ⅲ**30'04 opposition -12720 Feb 08 j 14:19 18°\(250'07\) 1°19'39 min. Earth dist. conjunction -12714 Sep 04 j 19:16 16° II 24'55 1°16'56 -12714 Sep 04 j 19:16 16°**Д**24'55 1°17'44 direct -12720 Apr 25 j 05:33 16°849'59 minimum elong -12714 Sep 06 j 02:54 16°**Ц**29'36 20.61817 AU evening set -12720 Jul 25 j 22:36 20°**8**02'38 max. Earth dist. -12714 Sep 20 j 11:13 17°**Д**20'10 morning rise conjunction -12720 Aug 10 j 10:30 20°858'46 1°12'44 retrograde -12714 Dec 23 j 11:02 20°**Д**32'09 -12720 Aug 10 j 10:30 20°**8**58'46 1°13'21 min. Earth dist. -12713 Mar 10 j 04:16 18°**Д**35'24 18.65043 AU minimum elong -12720 Aug 11 j 08:37 21°**8**02'08 20.19959 AU opposition -12713 Mar 11 j 11:44 18°**Ⅲ**32'15 1°24'54 max. Earth dist. -12720 Aug 25 j 23:28 21°**8**55'03 direct -12713 May 26 j 10:32 16°**Ⅲ**34'49 morning rise -12720 Nov 27 j 03:18 25°**8**10'25 evening set -12713 Aug 24 j 13:25 19°**Ⅲ**39'07 retrograde min. Earth dist. -12719 Feb 11 j 09:43 23°**8**12'10 18.23601 AU -12713 Sep 09 j 03:16 20°**Ⅲ**33'50 1°16'11 opposition -12719 Feb 12 j 09:30 23°**8**09'44 1°21'48 conjunction direct -12719 Apr 29 j 22:52 21°**8**10'01 minimum elong -12713 Sep 09 j 03:16 20°**I**33'50 1°16'59 evening set -12719 Jul 30 j 09:24 24°**8**21'22 max. Earth dist. -12713 Sep 10 j 12:42 20°**I**I38'45 20.67987 AU -12713 Sep 24 j 19:49 21°**Д**28'56 morning rise -12719 Aug 14 j 21:25 25°**8**17'15 1°14'29 retrograde -12713 Dec 27 j 21:53 24°**Ц**40'22 conjunction

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12712 in astronomical counting style is the year 12713 BCE in historical counting style. -12712 Mar 13 j 17:12 22° **II** 43'45 18.71016 AU min. Earth dist. conjunction -12706 Oct 07 i 00:06 18°55'58 1°00'49 minimum elong -12712 Mar 15 j 01:11 22° **II** 40'32 1°23'49 -12706 Oct 07 j 00:06 18°\$55'58 1°01'36 opposition direct -12712 May 29 j 22:31 20°**Ⅲ**43'22 -12706 Oct 08 j 10:39 19°500'56 21.00499 AU max. Earth dist. -12712 Aug 27 j 20:21 23°**Д**46'39 -12706 Oct 22 j 23:39 19°550'38 evening set morning rise -12705 Jan 25 j 16:07 22°\$58'41 retrograde -12712 Sep 12 j 10:37 24° **I**I41'12 1°15'02 -12705 Apr 12 j 16:37 21°502'14 19.02265 AU conjunction min. Earth dist. -12712 Sep 12 j 10:37 24°**Д**41'12 1°15'51 minimum elong opposition -12705 Apr 14 j 01:08 20°558'58 1°05'23 -12712 Sep 13 j 19:29 24°**Ц**46'02 20.73762 AU max. Earth dist. direct -12705 Jun 28 j 06:38 19°502'49 -12712 Sep 28 j 04:08 25°**Ц**36'13 -12705 Sep 25 j 09:24 22°500'41 morning rise evening set -12712 Dec 31 j 08:54 28°**Д**47'05 retrograde min. Earth dist. -12711 Mar 18 j 05:36 26°**Д**50'32 18.76595 AU conjunction -12705 Oct 11 j 05:51 22°554'46 0°57'22 -12711 Mar 19 j 13:52 26°**Ⅲ**47'18 1°22'18 -12705 Oct 11 j 05:52 22°554'47 0°58'08 opposition minimum elong -12711 Jun 03 j 07:52 24°**Д**50'20 -12705 Oct 12 j 17:19 22°559'51 21.03761 AU direct max. Earth dist. evening set -12711 Sep 01 j 02:38 27°**II**52'38 morning rise -12705 Oct 27 j 06:21 23°549'26 retrograde -12704 Jan 30 j 00:51 26°557'09 conjunction -12711 Sep 16 j 17:44 28°**Д**47'04 1°13'31 min. Earth dist. -12704 Apr 16 j 00:07 25°\$00'48 19.05329 AU minimum elong -12711 Sep 16 j 17:45 28°**Ⅲ**47'04 1°14'20 opposition -12704 Apr 17 j 08:45 24°557'31 1°01'24 max. Earth dist. -12711 Sep 18 j 04:11 28°**Д**52'06 20.79134 AU direct -12704 Jul 01 j 12:53 23°501'30 morning rise -12711 Oct 02 j 11:59 29° **II**41'58 evening set -12704 Sep 28 j 13:58 25°558'55 -12711 Oct 07 j 19:41 retrograde -12710 Jan 04 j 18:52 2°952'18 conjunction -12704 Oct 14 j 11:16 26°553'01 0°53'39 min. Earth dist. -12710 Mar 22 i 16:55 0°555'49 18.81760 AU minimum elong -12704 Oct 14 j 11:17 26°\$53'01 0°54'23 opposition -12710 Mar 24 i 01:39 0°552'31 1°20'24 max. Earth dist. -12704 Oct 15 j 21:19 26°557'52 21.06637 AU -12710 Apr 15 i 16:06 30°RII morning rise -12704 Oct 30 j 13:04 27°5547'42 direct -12710 Jun 07 j 18:22 28° **I** 55'45 -12704 Dec 15 i 17:55 $0^{\circ}\Omega$ -12710 Jul 28 j 08:32 0°ഇ -12703 Feb 02 j 08:44 $0^{\circ}\Omega$ 55'10 retrograde -12710 Sep 05 j 08:33 1°957'05 -12703 Mar 24 j 10:05 30°RS evening set -12703 Apr 20 j 08:34 28°558'44 19.08000 AU min. Earth dist. -12710 Sep 21 j 00:17 2°551'25 1°11'38 -12703 Apr 21 j 16:01 28°955'35 0°57'08 conjunction opposition -12710 Sep 21 j 00:17 -12703 Jul 05 j 16:56 26°559'40 minimum elong 2°951'25 1°12'27 direct -12710 Sep 22 j 10:02 2°556'20 20.84109 AU -12703 Oct 02 j 18:31 29°556'45 evening set max. Earth dist. -12703 Oct 03 j 17:55 0°**Ω** -12710 Oct 06 j 19:40 3°546'15 morning rise -12709 Jan 09 j 04:55 6°956'03 retrograde -12703 Oct 18 j 17:05 $0^{\circ}\Omega$ 50'52 $0^{\circ}49'41$ -12709 Mar 27 j 04:04 4°\$59'32 18.86548 AU min. Earth dist. conjunction -12709 Mar 28 j 12:42 4°556'16 1°18'06 -12703 Oct 18 j 17:05 $0^{\circ}\Omega$ 50'52 0° 50'24 opposition minimum elong -12709 Jun 12 j 02:39 -12703 Oct 20 j 03:38 0° **Ω**55'47 21.09095 AU direct 2°959'37 max. Earth dist. -12709 Sep 09 j 14:03 -12703 Nov 03 j 19:51 1°**Ω**45'35 evening set 6°900'06 morning rise retrograde -12702 Feb 06 j 17:41 $4^{\circ}\Omega$ 52'48 conjunction -12709 Sep 25 j 06:44 6°554'21 1°09'25 opposition -12702 Apr 25 j 22:41 2°**Ω**53'18 0°52'35 minimum elong -12709 Sep 25 j 06:44 6°554'21 1°10'12 min. Earth dist. -12702 Apr 24 j 15:32 2°**Ω**56'26 19.10217 AU max. Earth dist. -12709 Sep 26 j 17:53 6°\$59'27 20.88706 AU direct -12702 Jul 09 j 22:48 0°**Ω**57'29 -12709 Oct 11 j 02:55 7°549'06 -12702 Oct 06 j 23:23 3° **Ω**54'17 morning rise evening set retrograde -12708 Jan 13 j 13:51 10°558'23 -12708 Mar 31 j 22:41 8°958'36 1°15'26 -12702 Oct 22 j 22:54 $4^{\circ}\Omega 48'27$ $0^{\circ}45'28$ opposition conjunction -12708 Mar 30 j 13:36 9°501'55 18.90965 AU -12702 Oct 22 j 22:54 $4^{\circ}\Omega 48'27$ $0^{\circ}46'08$ min. Earth dist. minimum elong -12702 Oct 24 j 07:27 $4^{\circ}\Omega$ 53'05 21.11077 AU direct -12708 Jun 15 j 11:12 7°502'05 max. Earth dist. -12702 Nov 08 j 03:00 $5^{\circ}\Omega$ 43'13 evening set -12708 Sep 12 j 19:17 10°501'47 morning rise retrograde -12701 Feb 11 i 01:21 $8^{\circ}\Omega$ 50'15 -12708 Sep 28 j 12:39 10°\$55'57 1°06'51 conjunction min. Earth dist. -12701 Apr 28 j 23:48 6° Ω53'46 19.11941 AU opposition minimum elong -12708 Sep 28 i 12:39 10°55'57 1°07'39 -12701 Apr 30 i 05:09 $6^{\circ}\Omega$ 50'48 $0^{\circ}47'49$ max. Earth dist. -12708 Sep 29 j 22:59 11°500'55 20.92960 AU direct -12701 Jul 14 j 02:00 $4^{\circ}\Omega$ 55'02 -12708 Oct 14 j 10:01 11°\$50'40 evening set -12701 Oct 11 j 04:19 7° **Ω**51'39 morning rise -12707 Jan 16 j 23:00 14°559'30 retrograde min. Earth dist. -12707 Apr 03 j 23:23 13°503'00 18.95061 AU conjunction -12701 Oct 27 j 05:05 8°**Ω**45'52 0°41'03 opposition -12707 Apr 05 j 08:12 12°559'43 1°12'24 minimum elong -12701 Oct 27 j 05:06 8° Ω45'52 0°41'41 direct -12707 Jun 19 j 18:08 11°503'18 max. Earth dist. -12701 Oct 28 j 13:32 8°**Ω**50'28 21.12531 AU -12701 Nov 12 j 10:08 9° Ω 40'42 evening set -12707 Sep 17 j 00:00 14°502'18 morning rise -12700 Feb 15 j 09:57 12° Ω 47'33 retrograde -12707 Oct 02 j 18:27 14°556'26 1°03'59 -12700 May 02 j 06:22 $10^{\circ}\Omega$ 51'02 19.13105 AU conjunction min. Earth dist. -12707 Oct 02 j 18:27 14°556'26 1°04'46 -12700 May 03 j 11:02 10°**Ω**48'09 0°42'48 minimum elong opposition -12707 Oct 04 j 06:06 15°501'34 20.96892 AU -12700 Jul 17 j 07:45 8° **Ω** 52'24 max. Earth dist. direct -12700 Oct 14 j 09:33 11° **Ω**48'53 morning rise -12707 Oct 18 j 16:43 15°551'07 evening set retrograde -12706 Jan 21 j 07:39 18°559'31 min. Earth dist. -12706 Apr 08 j 07:44 17°503'06 18.98825 AU conjunction -12700 Oct 30 j 11:17 12° Ω43'10 0°36'26 opposition -12706 Apr 09 j 16:59 16°559'46 1°09'03 minimum elong -12700 Oct 30 j 11:17 12° Ω43'10 0°37'02 -12706 Jun 24 j 01:14 15°503'30 max. Earth dist. -12700 Oct 31 j 17:13 12° Ω 47'25 21.13416 AU direct -12706 Sep 21 j 04:50 18°501'53 -12700 Nov 15 j 17:38 13° **Ω**38'05 evening set morning rise

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Earth dist. -12693 May 31 j 05:33 19.05929 AU -12699 Oct 04 j 06:40 15°**Ω** direct -12693 Aug 14 j 12:47 6° Mp 32'17 -12699 Oct 18 j 14:44 15° **Ω**46'01 evening set evening set -12693 Nov 12 j 04:37 9° m 29'50 conjunction -12699 Nov 03 j 17:48 16° **Ω**40'24 0°31'39 conjunction -12693 Nov 28 j 14:25 10° M 25'02 0°00'43 minimum elong -12699 Nov 03 j 17:49 16° **Ω**40'24 0°32'13 minimum elong -12693 Nov 28 j 14:25 10° m 25'02 0°00'59 -12699 Nov 04 j 23:16 $16^{\circ}\Omega$ 44'34 21.13714 AU -12693 Nov 28 j 07:43 10° m 24'07 max. Earth dist. behind sun begin -12699 Nov 20 j 01:09 17°**Ω**35'24 -12693 Nov 28 j 21:07 10° m 25'57 morning rise behind sun end retrograde -12698 Feb 23 j 01:37 $20^{\circ}\Omega$ 42'00 max. Earth dist. -12693 Nov 29 j 09:28 10° m 27'43 21.04573 AU morning rise opposition -12698 May 11 j 22:19 $18^{\circ}\Omega$ 42'34 $0^{\circ}32'14$ -12693 Dec 15 j 03:56 11° Mp 20'47 min. Earth dist. -12698 May 10 j 20:39 $18^{\circ}\Omega$ 45'10 19.13679 AU desc. node -12692 Jan 16 j 20:24 12° M 59'29 direct -12698 Jul 25 j 16:26 16°**Ω**46'41 retrograde -12692 Mar 18 j 23:11 14° **m** 27'25 evening set -12698 Oct 22 j 20:27 19°**Ω**43'06 min. Earth dist. -12692 Jun 03 j 10:52 12° m 29'05 19.03157 AU opposition -12692 Jun 04 j 02:45 12° m 27'28 -0°02'14 conjunction -12698 Nov 08 j 00:31 20° Ω 37'35 0°26'43 direct -12692 Aug 17 j 17:45 10° m 30'25 minimum elong -12698 Nov 08 j 00:32 $20^{\circ}\Omega$ 37'35 $0^{\circ}27'15$ evening set -12692 Nov 15 j 12:29 13° m 28'26 max. Earth dist. -12698 Nov 09 j 03:08 $20^{\circ}\Omega41'21$ 21.13414 AU morning rise $-12698 \text{ Nov } 24 \text{ j } 09:10 \quad 21^{\circ} \Omega 32'41$ conjunction -12692 Dec 01 j 23:08 14° m 23'49 -0°04'44 retrograde -12697 Feb 27 i 09:24 $24^{\circ}\Omega$ 39'12 minimum elong -12692 Dec 01 j 23:08 14° m 23'49 0°04'30 min. Earth dist. -12697 May 15 j 04:13 22° Ω 42'03 19.13089 AU behind sun begin -12692 Dec 01 j 16:33 14° m 22'55 opposition -12697 May 16 j 03:29 $22^{\circ}\Omega$ 39'41 $0^{\circ}26'43$ -12692 Dec 02 j 05:43 14° m 24'44 behind sun end -12697 Jul 29 j 19:49 $20^{\circ} \Omega 43'39$ max. Earth dist. -12692 Dec 02 j 15:12 14° m 26'05 21.01635 AU direct -12697 Oct 27 j 02:12 23°**Ω**40'08 -12692 Dec 18 j 13:42 15° mp 19'45 evening set morning rise -12691 Mar 23 j 06:24 18° M 26'33 retrograde -12697 Nov 12 j 07:36 24°**Ω**34'44 0°21'41 -12691 Jun 08 j 07:28 16° M 26'33 -0°08'09 conjunction opposition -12697 Nov 12 j 07:36 24° **Ω**34'44 0°22'09 -12691 Jun 07 j 18:12 16° M 27'54 19.00048 AU min. Earth dist. minimum elong -12691 Aug 21 j 21:05 14° **m** 29'16 -12697 Nov 13 j 09:36 $24^{\circ}\Omega$ 38'25 21.12556 AU max. Earth dist. direct -12697 Nov 28 j 17:10 $25^{\circ}\Omega$ 29'57 -12691 Nov 19 j 20:44 17° m 27'52 morning rise evening set -12696 Mar 02 j 16:38 28°**Ω**36'23 retrograde -12691 Dec $06 \text{ j } 08:37 \ 18^{\circ}\text{ Mp} 23'28 \ -0^{\circ}10'03$ -12696 May 18 j 09:57 $26^{\circ}\Omega$ 39'04 19.11957 AU min. Earth dist. conjunction -12696 May 19 j 08:22 $26^{\circ}\Omega$ 36'47 $0^{\circ}21'04$ -12691 Dec 06 j 08:36 18° Mp 23'28 0°09'53 opposition minimum elong -12696 Aug 02 j 00:48 24° Ω 40'35 -12691 Dec 06 j 03:11 18° m 22'43 direct behind sun begin evening set -12696 Oct 30 j 08:12 $27^{\circ}\Omega 37'12$ behind sun end -12691 Dec 06 j 14:02 18° Mp 24'13 max. Earth dist. -12691 Dec 06 j 23:39 18° m 25'35 20.98356 AU conjunction -12696 Nov 15 j 14:33 28° Ω 31'55 0°16'32 morning rise -12691 Dec 22 j 23:52 19° m 19'33 minimum elong -12696 Nov 15 j 14:33 28° Ω 31'55 0°16'58 retrograde -12690 Mar 27 j 16:05 22° m 26'35 max. Earth dist. -12696 Nov 16 j 13:49 $28^{\circ}\Omega$ 35'12 21.11188 AU -12690 Jun 12 j 12:13 20° m 26'33 -0°14'03 opposition -12696 Dec 02 j 01:20 29°**Ω**27'15 min. Earth dist. -12690 Jun 12 j 00:04 20° m 27'48 18.96577 AU morning rise -12696 Dec 12 j 04:01 0° Mp -12690 Aug 26 j 02:54 18° Mp 29'04 direct retrograde -12695 Mar 07 j 00:03 2° m 33'41 -12690 Nov 24 j 06:02 21° My 28'20 evening set opposition -12695 May 23 j 13:12 0° m 33'58 0°15'20 -12695 May 22 j 17:09 0° m 36'01 19.10359 AU -12690 Dec 10 j 18:41 22° m 24'08 -0°15'21 min. Earth dist. conjunction -12690 Dec 10 j 18:41 22° m 24'08 0°15'15 -12695 Jun 06 j 15:35 30°RΩ minimum elong -12690 Dec 10 i 16:53 22° m 23'53 direct -12695 Aug 06 j 04:28 $28^{\circ}\Omega$ 37'34 behind sun begin -12695 Oct 03 j 08:42 0° Mg behind sun end -12690 Dec 10 j 20:29 22° m 24'23 -12695 Nov 03 j 14:32 max. Earth dist. -12690 Dec 11 j 06:23 22° m 25'47 20.94705 AU evening set 1° Mp 34'23 morning rise -12690 Dec 27 j 10:50 23° m 20'25 -12695 Nov 19 j 22:10 2° m 29'16 0°11'20 -12689 Mar 31 j 23:58 26° m 27'43 conjunction retrograde 2°Mp29'16 0°11'42 minimum elong -12695 Nov 19 j 22:11 opposition -12689 Jun 16 j 17:16 24° m 27'39 -0°19'54 behind sun begin -12695 Nov 19 j 17:30 2° m/28'38 min. Earth dist. -12689 Jun 16 j 08:05 24° m 28'36 18.92740 AU -12689 Aug 30 j 06:36 22° % 29° 56 behind sun end -12695 Nov 20 j 02:52 2° m 29'55 direct max. Earth dist. -12695 Nov 20 j 20:52 2° Mg 32'28 21.09376 AU evening set -12689 Nov 28 j 15:52 25° m 29'57 -12695 Dec 06 j 09:49 3° m 24'43 morning rise 6° m 31'10 -12689 Dec 15 j 05:35 26° m 25'59 -0°20'37 retrograde -12694 Mar 11 j 07:35 conjunction -12694 May 27 j 17:40 -12689 Dec 15 j 05:34 26° m 25'59 0°20'33 opposition 4° Mp 31'22 0°09'32 minimum elong -12689 Dec 15 j 15:51 26° m 27'26 20.90676 AU min. Earth dist. -12694 May 26 j 22:27 4° m 33'19 19.08333 AU max. Earth dist. direct -12694 Aug 10 j 09:08 2° m 34'44 morning rise -12689 Dec 31 j 22:15 27° m 22'27 evening set -12694 Nov 07 j 21:28 5° m 31'53 -12688 Feb 29 j 06:46 0∘**⊽** retrograde -12688 Apr 04 j 10:37 0°**£**30'04 conjunction -12694 Nov 24 j 06:03 6° To 26'55 $0^{\circ}06'04$ -12688 May 09 j 20:51 30°R M -12694 Nov 24 j 06:03 6° m 26'55 0°06'24 -12688 Jun 19 j 22:34 28° m 29'59 -0°25'42

opposition

min. Earth dist.

-12688 Jun 19 j 14:41 28° Mp 30'48 18.88503 AU

minimum elong

behind sun begin

-12694 Nov 23 j 23:44

 6° Mp 26'03

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Earth dist. -12687 Jan 04 j 10:20 -12680 Jan 18 j 22:25 29°**2**30'55 -0°57'39 morning rise 1°**£**25'47 conjunction -12680 Jan 18 j 22:24 29°**△**30'55 0°58'03 retrograde -12687 Apr 08 j 19:34 4°**△**33'47 minimum elong 2°**£**33'39 -0°31'24 opposition -12687 Jun 24 j 04:23 max. Earth dist. -12680 Jan 18 j 10:32 29°**≙**29'11 20.44181 AU min. Earth dist. -12687 Jun 23 j 23:44 2°**2**34'08 18.83846 AU -12680 Jan 27 j 06:42 0°M -12687 Sep 06 j 18:07 -12680 Feb 04 j 17:55 0°M29'06 direct 0°**£**35'25 morning rise -12687 Dec 06 j 13:57 evening set 3°**₽**37'08 retrograde -12680 May 08 j 06:55 3°M40'12 opposition -12680 Jul 22 j 08:21 1°M39'16 -1°06'00 conjunction -12687 Dec 23 j 05:20 4°**2**33'38 -0°30'53 min. Earth dist. -12680 Jul 22 j 18:43 1°M38'10 18.40752 AU minimum elong -12687 Dec 23 j 05:20 4°**2**33'38 0°30'56 -12680 Sep 06 j 02:05 30°R <u>Ω</u> max. Earth dist. -12687 Dec 23 j 10:07 4°**2**34'18 20.81352 AU direct -12680 Oct 05 j 07:09 29°**೨**38'14 morning rise -12686 Jan 08 j 23:12 5°**♀**30'30 -12680 Nov 03 j 05:43 retrograde -12686 Apr 13 j 07:01 8°**£**38'52 evening set -12679 Jan 05 j 20:35 2°M47'40 opposition -12686 Jun 28 j 10:20 6°**£**38'41 -0°36'58 min. Earth dist. -12686 Jun 28 j 07:14 6°**2**39'01 18.78737 AU conjunction -12679 Jan 22 j 15:41 3°ML45'59 -1°01'15 direct -12686 Sep 11 i 01:49 4°**₽**40'08 minimum elong -12679 Jan 22 i 15:40 3°M45'58 1°01'41 evening set -12686 Dec 11 j 02:26 7°**-**42'48 max. Earth dist. -12679 Jan 22 j 01:00 3°ML43'50 20.37271 AU morning rise -12679 Feb 08 i 11:12 4° ML44'24 conjunction -12686 Dec 27 j 18:25 8° **2**39'33 -0°35'51 retrograde -12679 May 12 j 19:55 7°M56'03 -12686 Dec 27 i 18:25 8° \alpha 39'33 0°35'57 opposition -12679 Jul 26 j 18:06 5°ML55'01 -1°09'51 minimum elong max. Earth dist. -12686 Dec 27 j 19:16 8°**2**39'40 20.76016 AU min. Earth dist. -12679 Jul 27 j 07:23 5°M53'36 18.33831 AU -12685 Jan 13 j 12:52 9°**£**36'38 -12679 Oct 09 j 17:16 3°M53'33 morning rise direct -12685 Apr 17 j 16:55 12° **△**45'24 -12678 Jan 10 j 14:33 7°ML04'17 retrograde evening set -12685 Jul 02 j 17:00 10°**£**45'07 -0°42'23 opposition -12685 Jul 02 j 17:15 10°**2**45'06 18.73187 AU -12678 Jan 27 j 09:57 8°ML02'53 -1°04'32 min. Earth dist. conjunction -12678 Jan 27 j 09:56 8°ML02'53 1°05'01 -12685 Sep 15 j 08:11 8°**♀**46'13 minimum elong direct -12685 Dec 15 j 15:21 11°**♀**49'53 -12678 Jan 26 j 17:16 8°ML00'26 20.30338 AU max. Earth dist. evening set -12678 Feb 13 j 05:22 9°M01'32 morning rise -12684 Jan 01 j 08:10 12°**2**46'52 -0°40'38 -12678 May 17 j 11:46 12° ML 13'45 conjunction retrograde -12684 Jan 01 j 08:09 12°**2**46'52 0°40'48 -12678 Jul 31 j 04:19 10°ML12'38 -1°13'20 minimum elong opposition -12684 Jan 01 j 07:00 12°**-**246'42 20.70256 AU -12678 Jul 31 j 18:30 10°M 11'07 18.26897 AU max. Earth dist. min. Earth dist. morning rise -12684 Jan 18 j 02:53 13°**♀**44'10 direct -12678 Oct 14 j 05:48 8°ML10'47 retrograde -12684 Apr 21 j 04:57 16° **2**53'21 evening set -12677 Jan 15 j 09:31 11°M22'52 opposition -12684 Jul 05 j 23:51 14°**£**52'58 -0°47'36 max. Earth dist. -12677 Jan 31 j 09:54 12°ML18'56 20.23400 AU min. Earth dist. -12684 Jul 06 j 01:32 14°**£**52'47 18.67225 AU -12684 Sep 18 j 17:08 12°**♀**53'40 conjunction -12677 Feb 01 j 05:01 12°M21'44 -1°07'29 direct -12684 Dec 19 j 05:16 15°**♀**58'23 minimum elong -12677 Feb 01 j 05:01 12°M21'44 1°08'02 evening set -12677 Feb 18 j 00:12 13°M20'37 morning rise conjunction -12683 Jan 04 j 22:34 16° **2**55'37 -0°45'14 -12677 Mar 21 j 09:14 15°M -12683 Jan 04 j 22:34 16° **2**55'37 0°45'27 -12677 May 22 i 02:43 16° M33'27 minimum elong retrograde -12683 Jan 04 j 17:47 16° **2**54'56 20.64113 AU -12677 Jul 24 j 18:10 15°RML max. Earth dist. -12683 Jan 21 i 17:42 17°**£**53'09 morning rise opposition -12677 Aug 04 j 15:38 14°M232'16 -1°16'27 -12683 Apr 25 j 15:33 21°**£**02'46 retrograde min. Earth dist. -12677 Aug 05 j 08:35 14°M 30'27 18.19985 AU opposition -12683 Jul 10 i 07:14 19° \(\Omega\) 02'14 -0°52'36 direct -12677 Oct 18 i 17:38 12°M 30'02 min. Earth dist. -12683 Jul 10 j 12:14 19°**2**01'43 18.60930 AU -12676 Jan 07 i 06:34 15°M direct -12683 Sep 23 j 00:43 17°**2**02'31 evening set -12676 Jan 20 j 05:08 15°ML43'31 evening set -12683 Dec 23 j 19:51 20° **2**08'19 max. Earth dist. -12676 Feb 05 j 03:32 16°M 39'31 20.16507 AU -12682 Jan 09 j 13:51 21°**೨**05'50 -0°49'37 -12676 Feb 06 j 00:43 16°ML42'39 -1°10'05 conjunction conjunction -12682 Jan 09 j 13:51 21°**2**05'50 0°49'55 minimum elong minimum elong -12676 Feb 06 j 00:42 16°ML42'39 1°10'40 max. Earth dist. -12682 Jan 09 j 07:05 21°**♀**04'52 20.57677 AU morning rise -12676 Feb 22 j 19:40 17°M41'45 -12682 Jan 26 j 09:10 22°**♀**03'35 retrograde -12676 May 25 j 19:48 20° \$\mathbb{N}\$.55'13 morning rise -12682 Apr 30 j 04:48 25° **2**13'40 -12676 Aug 08 j 03:32 18°M 54'00 -1°19'09 retrograde opposition -12682 Jul 14 j 15:00 23°**2**12'59 -0°57'20 min. Earth dist. -12676 Aug 08 j 21:20 18°M 52'05 18.13114 AU opposition -12682 Jul 14 j 21:17 23°**2**12'20 18.54366 AU -12676 Oct 22 j 07:48 16°M 51'25 min. Earth dist. direct direct -12682 Sep 27 j 11:05 21° \omega 12'50 evening set -12675 Jan 24 j 01:53 20°M 06'19 evening set -12682 Dec 28 j 11:24 24°**△**19'48 conjunction -12675 Feb 09 j 21:28 21°ML05'43 -1°12'17 conjunction -12681 Jan 14 j 05:45 25°**2**17'34 -0°53'46 minimum elong -12675 Feb 09 j 21:28 21°ML05'43 1°12'55 minimum elong -12681 Jan 14 j 05:44 25°**2**17'34 0°54'06 max. Earth dist. -12675 Feb 08 j 22:15 21°ML02'16 20.09641 AU max. Earth dist. -12681 Jan 13 j 19:43 25°**2**16'07 20.50998 AU -12675 Feb 26 j 15:58 22°M05'02 morning rise

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	nical year style is used: The						
retrograde	-12675 May 30 j 12:08	-		conjunction	-12668 Mar 14 j 19:22		
opposition	-12675 Aug 12 j 16:23		-1°21'25	minimum elong	-12668 Mar 14 j 19:22		
min. Earth dist.	-12675 Aug 13 j 13:00			morning rise	-12668 Mar 31 j 09:18		1 1001
direct	• •		18.002// AU	-	•		
	-12675 Oct 26 j 21:35			retrograde	-12668 Jul 01 j 03:01		1022107
evening set	-12674 Jan 28 j 23:41	24°IIL31'1/		opposition	-12668 Sep 12 j 12:10		
				min. Earth dist.	-12668 Sep 13 j 18:29		17.60218 AU
conjunction	-12674 Feb 14 j 19:07			direct	-12668 Nov 27 j 12:46		
minimum elong	-12674 Feb 14 j 19:06			evening set	-12667 Mar 03 j 04:45		
max. Earth dist.	-12674 Feb 13 j 17:24	25°M27'07	20.02817 AU	max. Earth dist.	-12667 Mar 18 j 09:23	27° ҂ 16'36	19.57220 AU
morning rise	-12674 Mar 03 j 13:17	26°M30'29					
retrograde	-12674 Jun 04 j 06:26	29°M45'14		conjunction	-12667 Mar 19 j 21:16	27° ₹ 22'08	-1°13'43
opposition	-12674 Aug 17 j 06:08	27° M 43'57	-1°23'12	minimum elong	-12667 Mar 19 j 21:16	27° ҂ ¹22'08	1°14'31
min. Earth dist.	-12674 Aug 18 j 03:44	27°M41'38	17.99467 AU	morning rise	-12667 Apr 05 j 10:08	28° ∡ ¹22'48	
direct	-12674 Oct 31 j 14:08	25°M40'40			-12667 May 04 j 12:05	0°₹	
evening set	-12673 Feb 02 j 22:17			retrograde	-12667 Jul 06 j 00:15		
e venning see	120/31 0 0 02 j 22:1/	20 1100020		renograde	-12667 Sep 09 j 13:01		
conjunction	-12673 Feb 19 j 17:34	20°M 58'21	1015'27	opposition	-12667 Sep 17 j 08:09		102111
·	•			**			
minimum elong	-12673 Feb 19 j 17:34		1°16'09	min. Earth dist.	-12667 Sep 18 j 15:17		17.34304 AU
max. Earth dist.	-12673 Feb 18 j 14:08		19.9599 / AU	direct	-12667 Dec 02 j 11:19		
	-12673 Feb 20 j 04:38	0° ∡ 7			-12666 Feb 18 j 22:46	0° 궁	
morning rise	-12673 Mar 08 j 11:01	0° ≯ 58'03		evening set	-12666 Mar 08 j 07:48		
retrograde	-12673 Jun 09 j 00:04	4° ҂ 13'27		max. Earth dist.	-12666 Mar 23 j 09:54	1° る 55'57	19.51718 AU
opposition	-12673 Aug 21 j 21:00	2° ҂ 12′08	-1°24'30				
min. Earth dist.	-12673 Aug 22 j 21:12	2° ҂ ′09'31	17.92667 AU	conjunction	-12666 Mar 24 j 23:23	2° る 01'45	-1°11'44
direct	-12673 Nov 05 j 06:29	0° ≯ 08'30		minimum elong	-12666 Mar 24 j 23:23	2° る 01'45	1°12'31
evening set	-12672 Feb 07 j 21:48	3° ∡ ¹27'39		morning rise	-12666 Apr 10 j 11:24	3° る 02'32	
max. Earth dist.	-12672 Feb 23 j 10:34	4° ∡ ¹23'15	19.89211 AU	retrograde	-12666 Jul 10 j 22:18	6° ප 21'47	
				opposition	-12666 Sep 22 j 05:05	4° ට 19'52	-1°18'44
conjunction	-12672 Feb 24 j 16:42	4° ∡ ¹27'48	-1°16'21	min. Earth dist.	-12666 Sep 23 j 12:34		17.49237 AU
minimum elong	-12672 Feb 24 j 16:42	4°×727'48		direct	-12666 Dec 07 j 11:04		17.47237710
· ·	,		1 1/03				
morning rise	-12672 Mar 12 j 09:42	5°×727'42		evening set	-12665 Mar 13 j 10:52	5°₹41'23	10.46605.444
retrograde	-12672 Jun 12 j 19:05	8° × 43'43		max. Earth dist.	-12665 Mar 28 j 13:24	6°63/09	19.46685 AU
opposition	-12672 Aug 25 j 12:35	6° ∡ ¹42'20				_	
min. Earth dist.	-12672 Aug 26 j 13:43		17.85909 AU	conjunction	-12665 Mar 30 j 01:46		
direct	-12672 Nov 09 j 01:25	4° ∡ ³38'18		minimum elong	-12665 Mar 30 j 01:46		1°10'04
evening set	-12671 Feb 11 j 21:55	7° ₰ 758'49		morning rise	-12665 Apr 15 j 12:37		
max. Earth dist.	-12671 Feb 27 j 09:18	8° ₰ 54'28	19.82467 AU	retrograde	-12665 Jul 15 j 21:30	11° る 03'24	
				opposition	-12665 Sep 27 j 02:56	9° る 01'28	-1°15'44
conjunction	-12671 Feb 28 j 16:38	8° ₹ ¹59'12	-1°16'48	min. Earth dist.	-12665 Sep 28 j 10:17	8° ප 58'03	17.44453 AU
minimum elong	-12671 Feb 28 j 16:37	8° × 759'12	1°17'32	direct	-12665 Dec 12 j 11:27		
morning rise	-12671 Mar 17 j 08:49			evening set	-12664 Mar 17 j 14:31		
retrograde	-12671 Jun 17 j 13:55			max. Earth dist.	-12664 Apr 01 j 15:10		19 42174 AII
opposition	-12671 Aug 30 j 05:15		-1°25'33	max. Earth dist.	1200 1 1p1 01 j 15.10	11 01727	19.12171110
min. Earth dist.	-12671 Aug 31 j 08:37			conjunction	-12664 Apr 03 j 04:23	110至25'15	1°06'10
direct			17.79207 AU	minimum elong	-12664 Apr 03 j 04:23		
	-12671 Nov 13 j 20:02			_			1 0700
evening set	-12670 Feb 16 j 22:57		10.55004.433	morning rise	-12664 Apr 19 j 14:16		
max. Earth dist.	-12670 Mar 04 j 07:08	13°×'2/1/	19.75824 AU	retrograde	-12664 Jul 19 j 20:20		
				opposition	-12664 Oct 01 j 01:27		
conjunction	-12670 Mar 05 j 17:04			min. Earth dist.	-12664 Oct 02 j 09:03		17.40225 AU
minimum elong	-12670 Mar 05 j 17:04		1°17'32	direct	-12664 Dec 16 j 11:14		
morning rise	-12670 Mar 22 j 08:40	14° ₹ 32'42		evening set	-12663 Mar 22 j 18:17	15° る 07'28	
retrograde	-12670 Jun 22 j 09:59	17° ∡ ¹49'52		max. Earth dist.	-12663 Apr 06 j 19:26	16° る 03'27	19.38228 AU
opposition	-12670 Sep 03 j 22:36	15° ∡ ¹48'18	-1°25'17				
min. Earth dist.	-12670 Sep 05 j 02:48	15° ∡ ⁴45'14	17.72643 AU	conjunction	-12663 Apr 08 j 07:21	16° る 09'05	-1°02'54
direct	-12670 Nov 18 j 17:22			minimum elong	-12663 Apr 08 j 07:21		
evening set	-12669 Feb 22 j 00:25			morning rise	-12663 Apr 24 j 16:06		
max. Earth dist.	-12669 Mar 09 j 07:55		19 69344 ATT	retrograde	-12663 Jul 24 j 21:39		
Durtii dist.	1200) Iriai 0) j 07.33	.0 7. 02 11	-7.075 17 110	opposition	-12663 Oct 06 j 00:54		_1°08'11
conjunction	12660 Mar 10: 10:11	100.70707	1016114		-		
conjunction	-12669 Mar 10 j 18:11			min. Earth dist.	-12663 Oct 07 j 07:46		17.30343 AU
minimum elong	-12669 Mar 10 j 18:11		1~1/01	direct	-12663 Dec 21 j 13:26		
morning rise	-12669 Mar 27 j 08:48			evening set	-12662 Mar 27 j 22:26		
retrograde	-12669 Jun 27 j 05:53			max. Earth dist.	-12662 Apr 11 j 22:22	20° ♂ 48'33	19.34833 AU
opposition	-12669 Sep 08 j 17:03						
min. Earth dist.	-12669 Sep 09 j 22:47		17.66281 AU	conjunction	-12662 Apr 13 j 10:23	20°る54'12	-0°59'03
direct					10((0 4 10:10.00	200754112	0050140
	-12669 Nov 23 j 13:52	18° ≯ 18'41		minimum elong	-12662 Apr 13 j 10:23	20-634-12	0-3949
evening set	-12669 Nov 23 j 13:52 -12668 Feb 27 j 02:22			minimum elong morning rise	-12662 Apr 13 j 10:23 -12662 Apr 29 j 18:01		0-3949
		21° х 43'01	19.63121 AU			21° る 55'15	0°39'49

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12662 in astronomical counting style is the year 12663 BCE in historical counting style. -12662 Oct 11 j 01:14 23°る14'27 -1°03'40 evening set -12655 May 01 j 02:03 23°≈29'36 opposition min. Earth dist. -12662 Oct 12 j 08:21 23°る11'04 17.33433 AU max. Earth dist. -12655 May 16 j 02:31 24°≈26'32 19.25677 AU -12662 Dec 26 j 14:04 21°る07'45 direct -12661 Apr 02 j 02:38 24°₹38'49 -12655 May 17 j 05:45 24°≈30'52 -0°22'05 conjunction evening set -12661 Apr 17 j 02:52 25° 중35'03 19.32003 AU -12655 May 17 j 05:45 24°≈30'52 0°22'35 max. Earth dist. minimum elong -12655 Jun 02 j 05:19 25°≈31'32 morning rise -12661 Apr 18 j 13:33 25°**⋜**40'31 -0°54'46 -12655 Sep 01 j 03:06 28°≈53'57 conjunction retrograde -12661 Apr 18 j 13:34 25°정40'31 0°55'30 minimum elong opposition -12655 Nov 13 j 20:52 26°≈52'13 -0°21'19 -12661 May 04 j 20:03 26°**정**41'35 morning rise min. Earth dist. -12655 Nov 14 j 19:49 26°≈49'45 17.26036 AU -12661 Jul 24 j 15:33 0°**≈** direct -12654 Jan 30 j 00:38 24°≈45'46 retrograde -12661 Aug 03 j 23:05 0°**≈**03'00 evening set -12654 May 06 j 04:27 28°≈17'49 -12661 Aug 14 j 04:47 30°R 궁 -12654 May 21 j 07:05 29°≈15'07 19.26475 AU max. Earth dist. -12661 Oct 16 j 02:17 28°중01'12 -0°58'41 opposition min. Earth dist. -12661 Oct 17 j 08:06 27°중57'58 17.30858 AU conjunction -12654 May 22 j 07:03 29°≈18'56 -0°15'53 direct -12661 Dec 31 j 18:13 25°₹54'31 minimum elong -12654 May 22 j 07:03 29°≈18'56 0°16'18 evening set -12660 Apr 06 j 06:51 29°₹26'08 -12654 Jun 02 j 01:24 0°**)**€ -12660 Apr 15 j 08:13 morning rise -12654 Jun 07 j 05:19 0°¥19'25 max. Earth dist. -12660 Apr 21 j 06:37 0°≈22'28 19.29691 AU retrograde -12654 Sep 06 j 03:03 3°**)** 41'49 opposition -12654 Nov 19 j 01:13 1°**)** 40′03 -0°14′19 conjunction -12660 Apr 22 j 16:40 0°≈27'50 -0°50'06 min. Earth dist. -12654 Nov 19 j 22:56 1° **H** 37'43 17.27124 AU minimum elong -12660 Apr 22 j 16:41 0°≈27'50 0°50'48 -12653 Jan 02 j 22:13 30°R≈ morning rise -12660 May 08 j 21:59 1°≈28'54 direct -12653 Feb 04 i 05:09 29°≈33'44 retrograde -12660 Aug 07 j 22:18 4°≈50'38 -12653 Mar 07 i 21:21 0°**)**€ opposition -12660 Oct 20 j 04:10 2°≈48'54 -0°53'16 evening set -12653 May 11 i 06:26 3°**)**€05'21 min. Earth dist. -12660 Oct 21 i 10:14 2°≈45'38 17.28803 AU max. Earth dist. -12653 May 26 j 09:03 4°**)**€02'40 19.27883 AU -12659 Jan 04 j 20:33 0°≈42'13 direct -12659 Apr 11 j 11:12 4°≈14'17 -12653 May 27 j 07:37 4°\06'16 -0°09'36 evening set conjunction max. Earth dist. -12659 Apr 26 j 10:45 5°≈10'43 19.27891 AU -12653 May 27 j 07:37 4°¥06'16 0°09'57 minimum elong -12653 May 27 j 02:14 4°**米**05′25 behind sun begin 5°≈15'57 -0°45'03 -12653 May 27 j 13:00 4° **米** 07'06 -12659 Apr 27 j 19:49 behind sun end conjunction -12659 Apr 27 j 19:49 -12653 Jun 12 j 04:59 5°**米**06'36 minimum elong 5°≈15'57 0°45'42 morning rise -12659 May 14 j 00:01 -12653 Sep 11 j 04:27 8°**∺**28'54 morning rise 6°≈16'58 retrograde -12659 Aug 13 j 00:25 9°≈38'58 -12653 Nov 24 j 05:22 6°**米**27'06 -0°07'14 retrograde opposition -12659 Oct 25 j 06:29 7°≈37'16 -0°47'27 min. Earth dist. -12653 Nov 25 j 00:09 6°**米**25'06 17.28846 AU opposition -12659 Oct 26 j 10:49 7°≈34'12 17.27233 AU -12652 Feb 09 j 10:15 4°**∺** 20'56 min. Earth dist. direct -12658 Jan 10 j 03:01 5°≈30'37 -12652 May 15 j 07:31 7° **★** 52'01 direct evening set -12658 Apr 16 j 15:25 9°≈02'58 evening set conjunction -12652 May 31 j 07:39 8° **★** 52'44 -0°03'16 conjunction -12658 May 02 j 22:54 10°≈04'35 -0°39'41 minimum elong -12652 May 31 j 07:39 8°**米** 52'44 0°03'34 minimum elong -12658 May 02 j 22:54 10°≈04'35 0°40'18 behind sun begin -12652 May 31 j 01:05 8°**米**51'43 max. Earth dist. -12658 May 01 j 15:17 9°≈59'34 19.26569 AU behind sun end -12652 May 31 j 14:12 8°**米**53'45 -12658 May 19 j 01:47 11°≈05'32 max. Earth dist. -12652 May 30 j 12:52 8° **米** 49'44 19.29924 AU morning rise -12658 Aug 17 j 23:36 14°≈27'45 morning rise -12652 Jun 16 j 03:49 9°**米** 52'53 retrograde -12658 Oct 30 j 09:42 12°≈26'04 -0°41'18 retrograde -12652 Sep 15 j 04:17 13°**米**15'02 opposition min. Earth dist. -12658 Oct 31 j 13:59 12°≈23'00 17.26158 AU -12652 Nov 28 j 09:40 11°**光** 13'15 -0°00'08 opposition -12652 Nov 29 j 02:28 11°\dagger 11'27 17.31198 AU direct -12657 Jan 15 i 06:45 10°≈19'26 min. Earth dist. -12652 Dec 04 j 17:41 10°\ 57'02 evening set -12657 Apr 21 j 19:18 13°≈51'56 asc. node max. Earth dist. -12657 May 06 j 18:51 14°≈48'35 19.25755 AU direct -12651 Feb 13 i 14:56 9° **\(\)** 07'18 evening set -12651 May 20 j 08:06 12° ¥ 37'44 -12657 May 08 j 01:28 14°≈53'27 -0°34'02 conjunction -12657 May 08 j 01:28 14°≈53'27 0°34'38 conjunction -12651 Jun 05 i 06:50 13° ¥38'13 0°03'14 minimum elong -12657 May 09 i 18:43 15°≈ minimum elong -12651 Jun 05 i 06:50 13° \(\frac{1}{3} \) 38'13 0°03'00 -12657 May 24 j 03:19 15°≈54'19 -12651 Jun 05 j 00:15 13° **€** 37'12 morning rise behind sun begin retrograde -12657 Aug 23 j 01:45 19°≈16'41 behind sun end -12651 Jun 05 j 13:24 13°**米** 39'14 opposition -12657 Nov 04 j 13:07 17°≈14'59 -0°34'52 max. Earth dist. -12651 Jun 04 j 13:45 13° ¥ 35'30 19.32610 AU min. Earth dist. -12657 Nov 05 j 15:08 17°≈12'11 17.25583 AU morning rise -12651 Jun 21 j 02:07 14°**米**38'10 direct -12656 Jan 20 j 13:58 15°≈08'24 retrograde -12651 Sep 20 j 04:45 18°**米**00'10 -12656 Apr 25 j 22:50 18°≈40'53 opposition -12651 Dec 03 j 13:50 15° ¥ 58'24 0°06'58 evening set -12656 May 10 j 23:39 19°≈37'48 19.25443 AU min. Earth dist. -12651 Dec 04 j 03:39 15° ¥ 56'56 17.34209 AU max. Earth dist. -12650 Feb 18 j 19:18 13° **★** 52'44 direct -12656 May 12 j 03:55 19°≈42'18 -0°28'10 -12650 May 25 j 07:50 17°**米**22'27 conjunction evening set minimum elong -12656 May 12 j 03:55 19°≈42'18 0°28'41 -12650 Jun 10 j 05:32 18° **H** 22'40 0° 09'31 morning rise -12656 May 28 j 04:28 20°≈43'04 conjunction retrograde -12656 Aug 27 j 01:14 24°≈05'29 minimum elong -12650 Jun 10 j 05:32 18° **★**22'40 0°09'20 opposition -12656 Nov 08 j 16:52 22°≈03'47 -0°28'11 behind sun begin -12650 Jun 09 j 23:58 18° **∺**21'48 min. Earth dist. -12656 Nov 09 j 18:27 22°≈01'02 17.25531 AU behind sun end -12650 Jun 10 j 11:06 18°**∺**23'32 -12655 Jan 24 j 18:20 19°≈57'16 max. Earth dist. -12650 Jun 09 j 16:25 18°¥20'36 19.35947 AU direct

DI DI	CAT	12000	1 1 1000	10 (TIT) A 1	C 10 F 1 2025	1.4.22	21
•	omena of Uranus fro		-				page 21
morning rise	ical year style is used: The -12650 Jun 25 j 23:43	-	in astronomical co	ounting style is the year	ar 12651 BCE in historica -12643 Jan 06 j 11:44		
retrograde	-12650 Sep 25 j 04:24			min. Earth dist.	-12643 Jan 06 j 06:53		
opposition	-12650 Dec 08 j 17:59		0°13'59	direct	-12643 Mar 24 j 15:19		17.09440 AC
min. Earth dist.	-12650 Dec 09 j 05:08			evening set	-12643 Jun 26 j 08:05		
direct	-12649 Feb 23 j 23:52						
evening set	-12649 May 30 j 06:50			conjunction	-12643 Jul 11 j 22:52	20° Y 58′05	0°49'02
	, ,			minimum elong	-12643 Jul 11 j 22:51	20° Y 58′05	0°49'18
conjunction	-12649 Jun 15 j 03:16	23° ∺ 06′02	0°15'44	max. Earth dist.	-12643 Jul 12 j 04:22		19.72545 AU
minimum elong	-12649 Jun 15 j 03:16		0°15'38	morning rise	-12643 Jul 27 j 12:18		
behind sun begin	-12649 Jun 15 j 01:27			retrograde	-12643 Oct 27 j 12:24		
behind sun end	-12649 Jun 15 j 05:05		10.20002 411	opposition	-12642 Jan 11 j 13:05		
max. Earth dist. morning rise	-12649 Jun 14 j 16:11 -12649 Jun 30 j 20:43		19.39893 AU	min. Earth dist. direct	-12642 Jan 11 j 06:43 -12642 Mar 29 j 13:34		17.75706 AU
retrograde	-12649 Sep 30 j 03:59			evening set	-12642 Jul 01 j 01:12		
opposition	-12649 Dec 13 j 21:51		0°20'52	evening set	-120 4 2 Jul - 01 J 01.12	24 32 37	
min. Earth dist.	-12649 Dec 14 j 06:24			conjunction	-12642 Jul 16 j 15:18	25° Ƴ 30'48	0°53'33
direct	-12648 Feb 29 j 03:06			minimum elong	-12642 Jul 16 j 15:17		0°53'53
evening set	-12648 Jun 03 j 05:04	26°) €48'34		max. Earth dist.	-12642 Jul 16 j 23:08	25° Ƴ 32'02	19.78894 AU
				morning rise	-12642 Aug 01 j 04:25	26° Y 28'32	
conjunction	-12648 Jun 19 j 00:31			retrograde	-12642 Nov 01 j 09:09		
minimum elong	-12648 Jun 19 j 00:30		0°21'48	opposition	-12641 Jan 16 j 13:25		1°01'57
max. Earth dist.	-12648 Jun 18 j 17:05		19.44395 AU	min. Earth dist.	-12641 Jan 16 j 03:35		17.82137 AU
morning rise	-12648 Jul 04 j 17:01			direct	-12641 Apr 03 j 13:48		
retrograde	-12648 Jul 25 j 05:11 -12648 Oct 04 j 02:50	0°Υ 2°Υ08'50		evening set	-12641 Jul 05 j 17:14 -12641 Jul 20 j 21:19		
opposition	-12648 Dec 18 j 01:19	0° Υ 07'22	0°27'36		-12041 Jul 20 j 21.19	0.0	
min. Earth dist.	-12648 Dec 18 j 06:56		17.46814 AU	conjunction	-12641 Jul 21 j 06:48	0° 8 01'28	0°57'43
	-12648 Dec 20 j 23:06			minimum elong	-12641 Jul 21 j 06:47	0° 8 01'28	0°58'07
direct	-12647 Mar 05 j 07:28			max. Earth dist.	-12641 Jul 21 j 17:28	0° 8 03'07	19.85394 AU
	-12647 May 13 j 03:46	$0^{\circ}\Upsilon$		morning rise	-12641 Aug 05 j 19:38	0° 8 58'57	
evening set	-12647 Jun 08 j 02:39	1° Y 29'50		retrograde	-12641 Nov 06 j 02:40		
				opposition	-12640 Jan 21 j 13:08		1°06'21
conjunction	-12647 Jun 23 j 20:56	2° Υ 29'14		min. Earth dist.	-12640 Jan 21 j 01:55		17.88724 AU
minimum elong max. Earth dist.	-12647 Jun 23 j 20:55 -12647 Jun 23 j 15:39	2° Y 29'14	0°27'48 19.49361 AU	direct evening set	-12640 Apr 07 j 10:14 -12640 Jul 09 j 08:22		
morning rise	-12647 Jul 23 j 13:39 -12647 Jul 09 j 12:44	3°Υ28'16	19.49301 AU	evening set	-12040 Jul 09 J 08.22	3 03243	
retrograde	-12647 Oct 09 j 01:10			conjunction	-12640 Jul 24 j 21:22	4°₩30'00	1°01'29
opposition	-12647 Dec 23 j 04:43	4° Ƴ 47'55	0°34'07	minimum elong	-12640 Jul 24 j 21:22	4° 8 30'00	
min. Earth dist.	-12647 Dec 23 j 08:10	4° Ƴ 47'33	17.52000 AU	max. Earth dist.	-12640 Jul 25 j 10:06	4° 8 31'58	19.92059 AU
direct	-12646 Mar 10 j 09:29	2° Y 43'50		morning rise	-12640 Aug 09 j 10:04	5° 8 27'13	
evening set	-12646 Jun 12 j 23:12	6° Ƴ 09'45		retrograde	-12640 Nov 09 j 22:05		
		• •		opposition	-12639 Jan 25 j 11:44	_	
conjunction	-12646 Jun 28 j 16:33	7° Υ 08'51	0°33'30	min. Earth dist.	-12639 Jan 24 j 21:01		17.95472 AU
minimum elong max. Earth dist.	-12646 Jun 28 j 16:33	7° ℃ 08'51	0°33'36 19.54737 AU	direct	-12639 Apr 12 j 08:52 -12639 Jul 13 j 22:30		
max. Earth dist.	-12646 Jun 28 j 14:34 -12646 Jul 14 j 07:36	8° Υ 07'37	19.54/3/ AU	evening set	-12039 Jul 13 J 22:30	7-039/24	
retrograde	-12646 Oct 13 j 23:18			conjunction	-12639 Jul 29 j 11:09	8° 8 56'21	1°04'52
opposition	-12646 Dec 28 j 07:39	9° Υ 27'03	0°40'22	minimum elong	-12639 Jul 29 j 11:08		1°05'23
min. Earth dist.	-12646 Dec 28 j 07:50		17.57540 AU	max. Earth dist.	-12639 Jul 30 j 03:03	8° 8 58'48	
direct	-12645 Mar 15 j 13:03	7° Y 23'25		morning rise	-12639 Aug 13 j 23:41	9° 8 53'19	
evening set	-12645 Jun 17 j 19:08	10° Ƴ 48'11		retrograde	-12639 Nov 14 j 14:24	13° 8 10'24	
				opposition	-12638 Jan 30 j 09:47		
conjunction	-12645 Jul 03 j 11:31		0°38'58	min. Earth dist.	-12638 Jan 29 j 17:34		18.02389 AU
minimum elong	-12645 Jul 03 j 11:30		0°39'07	direct	-12638 Apr 17 j 03:43		
max. Earth dist. morning rise	-12645 Jul 03 j 11:49 -12645 Jul 19 j 01:58		19.6042 / AU	evening set	-12638 Jul 18 j 11:42	12~ O 23'54	
retrograde	-12645 Oct 18 j 19:57			conjunction	-12638 Aug 02 j 23:58	13°\20'34	1°07'51
opposition	-12644 Jan 02 j 10:00		0°46'18	minimum elong	-12638 Aug 02 j 23:57		1°08'23
min. Earth dist.	-12644 Jan 02 j 08:31			max. Earth dist.	-12638 Aug 02 j 25.57		
direct	-12644 Mar 19 j 13:19		-	morning rise	-12638 Aug 18 j 12:37		-
evening set	-12644 Jun 21 j 14:05				-12638 Aug 30 j 17:30		
				retrograde	-12638 Nov 19 j 08:13		
conjunction	-12644 Jul 07 j 05:40		0°44'10	min. Earth dist.	-12637 Feb 03 j 11:08		
minimum elong	-12644 Jul 07 j 05:39		0°44'23	opposition	-12637 Feb 04 j 06:46		1°16'53
max. Earth dist.	-12644 Jul 07 j 08:37		19.66388 AU	T	-12637 Feb 17 j 20:40		
morning rise retrograde	-12644 Jul 22 j 19:34 -12644 Oct 22 j 17:16			direct	-12637 Apr 22 j 00:29 -12637 Jun 20 j 05:30		
renograde	-12044 OCt 22 J 17:16	20 [413]			-12037 Jun 20 J 05:30	15 0	

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 22 Attention, astronomical year style is used: The year -12637 in astronomical counting style is the year 12638 BCE in historical counting style.

Attention, astronom	ical year style is used: The	e year -12637	in astronomical co	ounting style is the year	r 12638 BCE in historical	counting sty	le.
evening set	-12637 Jul 23 j 00:06	16° 8 46'20		max. Earth dist.	-12631 Sep 02 j 07:30	13° Ⅲ 22'38	20.55850 AU
				morning rise	-12631 Sep 16 j 15:06	14° Ⅱ 13'19	
conjunction	-12637 Aug 07 j 12:14	17° 8 42'44	1°10'25	retrograde	-12631 Dec 19 j 11:12	17° Ⅱ 25'43	
minimum elong	-12637 Aug 07 j 12:14	17° 8 42'44	1°10'59	min. Earth dist.	-12630 Mar 06 j 03:33	15° Ⅱ 28'48	18.59200 AU
max. Earth dist.	-12637 Aug 08 j 09:11	17° 8 45'56	20.13021 AU	opposition	-12630 Mar 07 j 09:56	15° Ⅱ 25'44	1°25'07
morning rise	-12637 Aug 23 j 00:53	18° 8 39'13		direct	-12630 May 22 j 12:24	13° Ⅱ 27'59	
retrograde	-12637 Nov 23 j 23:20			evening set	-12630 Aug 20 j 19:07	16° Ⅲ 33'16	
min. Earth dist.	-12636 Feb 08 j 05:51						
opposition	-12636 Feb 09 j 02:48		1°19'28	conjunction	-12630 Sep 05 j 08:14		
direct	-12636 Apr 25 j 17:51			minimum elong	-12630 Sep 05 j 08:14		
evening set	-12636 Jul 26 j 11:43	21° 8 06'50		max. Earth dist.	-12630 Sep 06 j 15:30		20.62299 AU
				morning rise	-12630 Sep 21 j 00:07		
conjunction	-12636 Aug 10 j 23:39			retrograde	-12630 Dec 23 j 23:46		
minimum elong	-12636 Aug 10 j 23:38			min. Earth dist.	-12629 Mar 10 j 16:51		
max. Earth dist.	-12636 Aug 11 j 22:02		20.20287 AU	opposition	-12629 Mar 12 j 00:12		1°24'26
morning rise	-12636 Aug 26 j 12:35			direct	-12629 May 27 j 00:05		
retrograde	-12636 Nov 27 j 15:38			evening set	-12629 Aug 25 j 02:21	20° ∏ 41'59	
opposition	-12635 Feb 12 j 22:02					🗨	
min. Earth dist.	-12635 Feb 11 j 22:06		18.23995 AU	conjunction	-12629 Sep 09 j 16:08		
direct	-12635 Apr 30 j 11:54			minimum elong	-12629 Sep 09 j 16:08		
evening set	-12635 Jul 30 j 22:22	25° 8 25'27		max. Earth dist.	-12629 Sep 11 j 01:09		20.68386 AU
				morning rise	-12629 Sep 25 j 08:36		
conjunction	-12635 Aug 15 j 10:22			retrograde	-12629 Dec 28 j 10:02		
minimum elong	-12635 Aug 15 j 10:22			min. Earth dist.	-12628 Mar 14 j 05:44		
max. Earth dist.	-12635 Aug 16 j 11:49		20.27598 AU	opposition	-12628 Mar 15 j 13:25		1°23'19
morning rise	-12635 Aug 30 j 23:29			direct	-12628 May 30 j 11:31		
	-12635 Oct 27 j 13:53			evening set	-12628 Aug 28 j 09:08	24°Щ49'08	
retrograde	-12635 Dec 02 j 05:45				12/20 0 12:22 22	250T 42140	101.412.5
•,•	-12634 Jan 07 j 22:58		1000115	conjunction	-12628 Sep 12 j 23:22		
opposition	-12634 Feb 17 j 16:36			minimum elong	-12628 Sep 12 j 23:23		
min. Earth dist.	-12634 Feb 16 j 15:29		18.31311 AU	max. Earth dist.	-12628 Sep 14 j 07:58		20.74108 AU
direct	-12634 May 05 j 03:58			morning rise	-12628 Sep 28 j 16:50		
evening set	-12634 Aug 04 j 08:34			retrograde	-12628 Dec 31 j 21:25		10.76025 AII
	-12634 Aug 09 j 07:56	0,П		min. Earth dist.	-12627 Mar 18 j 17:44		
	12(24 A 10: 20-22	00Д27157	1015125	opposition	-12627 Mar 20 j 02:00		1°21′48
conjunction	-12634 Aug 19 j 20:32 -12634 Aug 19 j 20:31			direct	-12627 Jun 03 j 21:26		
minimum elong				evening set	-12627 Sep 01 j 15:08	28°Щ34'42	
max. Earth dist. morning rise	-12634 Aug 20 j 22:54 -12634 Sep 04 j 10:09		20.34890 AU	conjunction	-12627 Sep 17 j 06:12	200T/0100	1012102
retrograde		1°Щ33'49 4°Щ47'57		-			
min. Earth dist.	-12634 Dec 06 j 20:34 -12633 Feb 21 j 06:43		18.38578 AU	minimum elong max. Earth dist.	-12627 Sep 17 j 06:12 -12627 Sep 18 j 16:35		
	-12633 Feb 22 j 10:06	2° I I47'34	1°24'25	max. Earth dist.		0°9	20.79409 AU
opposition direct	-12633 Feb 22 j 10.06 -12633 May 09 j 19:23	2 П4734 0°П48'43	1 24 23	morning rise	-12627 Sep 20 j 08:34 -12627 Oct 03 j 00:24	0°9544'00	
evening set	-12633 May 09 j 19.23 -12633 Aug 08 j 18:01	3° П 57'30		retrograde	-12626 Jan 05 j 06:31	3°954'11	
evening set	-12033 Aug 06 J 16.01	э шэгэй		min. Earth dist.	-12626 Mar 23 j 05:00		18.82111 AU
conjunction	-12633 Aug 24 j 06:16	4° ∏ 52'55	1016'27	opposition	-12626 Mar 24 j 13:41	1°954'22	1°19'52
minimum elong	-12633 Aug 24 j 06:16	4° Π 52'55		opposition	-12626 May 29 j 11:18		1 1932
max. Earth dist.	-12633 Aug 25 j 11:12		20.42086 AU	direct	-12626 Jun 08 j 07:27		
morning rise	-12633 Sep 08 j 20:12	5°П48'36	20.42000 AC	direct	-12626 Jun 18 j 00:25	0°95	
retrograde	-12633 Dec 11 j 09:44	9° П 02'08		evening set	-12626 Sep 05 j 20:59	2° 9 58'48	
min. Earth dist.	-12632 Feb 25 j 22:41		18.45689 AU	evening set	-12020 Sep 03 j 20.37	2 30 40	
opposition	-12632 Feb 27 j 02:53	7° Ⅱ 01'55		conjunction	-12626 Sep 21 j 12:39	3°953'06	1°11'09
direct	-12632 May 13 j 09:54	5° П 03'27	1 25 07	minimum elong	-12626 Sep 21 j 12:39	3°953'06	1°11'56
evening set	-12632 Aug 12 j 02:57	8° I I11'02		max. Earth dist.	-12626 Sep 22 j 22:31		20.84498 AU
evening set	-12032 Aug 12 J 02.37	0 H1102		morning rise	-12626 Oct 07 j 07:57	4°9347'54	20.04470 AC
conjunction	-12632 Aug 27 j 15:17	9° Ⅱ 06'14	1°16'54	retrograde	-12625 Jan 09 j 16:33	7°957'34	
minimum elong	-12632 Aug 27 j 15:17	9° Ⅱ 06'14		min. Earth dist.	-12625 Mar 27 j 15:34		18.86990 AU
max. Earth dist.	-12632 Aug 28 j 20:34		20.49095 AU	opposition	-12625 Mar 29 j 00:27	5°957'46	1°17'33
morning rise	-12632 Sep 12 j 05:52		_0,0,0,110	direct	-12625 Jun 12 j 15:09	4°901'05	
retrograde	-12632 Dec 14 j 23:12			evening set	-12625 Sep 10 j 02:18	7°901'30	
opposition	-12631 Mar 02 j 18:47		1°25'21		-2020 Sep 10 J 02.10	, -0150	
min. Earth dist.	-12631 Mar 01 j 12:59			conjunction	-12625 Sep 25 j 18:54	7° © 55'43	1°08'55
direct	-12631 May 17 j 23:20	9° П 16'32	10.02070 110	minimum elong	-12625 Sep 25 j 18:55	7°955'43	1°09'43
evening set	-12631 Aug 16 j 11:16			max. Earth dist.	-12625 Sep 27 j 06:21		20.89216 AU
	12051 /145 10 J 11.10	12 22 2231		morning rise	-12625 Oct 11 j 15:01	8°950'27	20.07210 AU
conjunction	-12631 Sep 01 j 00:04	13°∏17'58	1°16'55	retrograde	-12624 Jan 14 j 01:08		
minimum elong	-12631 Sep 01 j 00:04			min. Earth dist.	-12624 Mar 31 j 01:11		18.91556 AU
	отросот	, 50		and	51 J VI.II	0512	2.2.2.2.2.2.110

•	omena of Uranus fro		•				page 23
opposition	-12624 Apr 01 j 10:29	-		conjunction	-12618 Oct 23 j 10:37		
direct	-12624 Jun 15 j 23:53		1 1.05	minimum elong	-12618 Oct 23 j 10:38	5° Ω 49'47	
evening set	-12624 Sep 13 j 07:18			max. Earth dist.	-12618 Oct 24 j 19:00		21.12507 AU
evening see	1202 (Sep 13) 07.10	11 30237		morning rise	-12618 Nov 08 j 14:36		21.12507 110
conjunction	-12624 Sep 29 j 00:35	110057108	1°06'22	retrograde	-12617 Feb 11 j 13:13	9° Ω 51'26	
minimum elong	-12624 Sep 29 j 00:35		1°07'08	min. Earth dist.	-12617 Apr 29 j 11:19		19.13354 AU
max. Earth dist.	-12624 Sep 30 j 11:20			opposition	-12617 Apr 20 j 16:40		
morning rise	-12624 Oct 14 j 21:52		20.73040 AO	direct	-12617 Jul 14 j 14:22		0 4/ 14
retrograde	-12623 Jan 17 j 10:21			evening set	-12617 Oct 11 j 16:05	8° Ω 52'55	
min. Earth dist.	-12623 Apr 04 j 10:40		10 05020 ATT	evening set	-12017 Oct 11 j 10.03	0 063233	
opposition	-12623 Apr 04 j 10:40 -12623 Apr 05 j 19:58			conjunction	-12617 Oct 27 j 16:46	9° Ω 47'05	0°40'32
direct	-12623 Jun 20 j 05:38		1 11 51	minimum elong	-12617 Oct 27 j 16:46		
	-12623 Sep 17 j 12:01			max. Earth dist.	-12617 Oct 27 j 10:40 -12617 Oct 29 j 00:58		21.13914 AU
evening set	-12023 Sep 17 J 12.01	13 3 20 3 20		morning rise	-12617 Nov 12 j 21:42		21.13914 AU
agniumation	12622 Oat 02:06:22	1506357122	1°03'29		-		
conjunction	-12623 Oct 03 j 06:23			retrograde	-12616 Feb 15 j 21:05 -12616 May 03 j 22:40		0942114
minimum elong	-12623 Oct 03 j 06:24 -12623 Oct 04 j 18:29			opposition	-12616 May 03 j 22:40 -12616 May 02 j 18:09		
max. Earth dist.			20.97767 AU	min. Earth dist.			19.1444 / AU
morning rise	-12623 Oct 19 j 04:34			direct	-12616 Jul 17 j 19:20		
retrograde	-12622 Jan 21 j 18:46		10.00700 ATT	evening set	-12616 Oct 14 j 21:05	12°8 (49'54	
min. Earth dist.	-12622 Apr 08 j 19:09				12(1(0) + 20:22 42	120 🖸 44100	0025157
opposition	-12622 Apr 10 j 04:38		1°08'29	conjunction	-12616 Oct 30 j 22:43		0°35'56
direct	-12622 Jun 24 j 13:13			minimum elong	-12616 Oct 30 j 22:44		
evening set	-12622 Sep 21 j 16:43	19°903'01		max. Earth dist.	-12616 Nov 01 j 04:25		21.14/13 AU
	10/00 0 . 07:11 55	100055105	1000110	morning rise	-12616 Nov 16 j 05:00		
conjunction	-12622 Oct 07 j 11:55		1°00'19	_	-12616 Nov 22 j 14:47		
minimum elong	-12622 Oct 07 j 11:56		1°01'05	retrograde	-12615 Feb 19 j 04:33		
max. Earth dist.	-12622 Oct 08 j 22:52		21.01567 AU	min. Earth dist.	-12615 May 07 j 01:59		
morning rise	-12622 Oct 23 j 11:24			opposition	-12615 May 08 j 04:30		0°37'03
retrograde	-12621 Jan 26 j 03:51				-12615 May 27 j 19:23		
min. Earth dist.	-12621 Apr 13 j 03:58			direct	-12615 Jul 21 j 23:19		
opposition	-12621 Apr 14 j 12:52		1°04'48		-12615 Sep 13 j 01:59		
direct	-12621 Jun 28 j 18:04			evening set	-12615 Oct 19 j 02:13	16° Ω 46'40	
evening set	-12621 Sep 25 j 21:13	23° © 01'54					
				conjunction	-12615 Nov 04 j 05:12		0°31'10
conjunction	-12621 Oct 11 j 17:33		0°56'52	minimum elong	-12615 Nov 04 j 05:12		
minimum elong	-12621 Oct 11 j 17:34			max. Earth dist.	-12615 Nov 05 j 10:30		21.14912 AU
max. Earth dist.	-12621 Oct 13 j 05:22		21.04990 AU	morning rise	-12615 Nov 20 j 12:27		
morning rise	-12621 Oct 27 j 17:56			retrograde	-12614 Feb 23 j 12:32		
retrograde	-12620 Jan 30 j 11:55			min. Earth dist.	-12614 May 11 j 08:13		
min. Earth dist.	-12620 Apr 16 j 11:37			opposition	-12614 May 12 j 09:44		0°31'42
opposition	-12620 Apr 17 j 20:22	25° 9 58'45	1°00'49	direct	-12614 Jul 26 j 04:24		
direct	-12620 Jul 02 j 00:15	24° © 02'52		evening set	-12614 Oct 23 j 07:43	20° Ω 43'15	
evening set	-12620 Sep 29 j 01:50	27° 5 00'14					
				conjunction	-12614 Nov 08 j 11:42		0°26'15
conjunction	-12620 Oct 14 j 23:02	27° 9 54'18	0°53'08	minimum elong	-12614 Nov 08 j 11:42		0°26'46
minimum elong	-12620 Oct 14 j 23:03	27° 9 54'18	0°53'51	max. Earth dist.	-12614 Nov 09 j 14:17	21° Ω 41'26	21.14542 AU
max. Earth dist.	-12620 Oct 16 j 09:15		21.07992 AU	morning rise	-12614 Nov 24 j 20:16	22° Ω 32'43	
morning rise	-12620 Oct 31 j 00:43	28° © 48'57		retrograde	-12613 Feb 27 j 19:09	25° Ω 39'02	
	-12620 Nov 22 j 11:59	0 \circ Ω		opposition	-12613 May 16 j 14:52		
retrograde	-12619 Feb 02 j 20:52	1° Ω 56′20		min. Earth dist.	-12613 May 15 j 15:32		19.14195 AU
	-12619 Apr 20 j 20:42	30° ℝ ∽		direct	-12613 Jul 30 j 07:37	21° Ω 43′28	
min. Earth dist.	-12619 Apr 20 j 19:59	0° Ω 00'04	19.09398 AU	evening set	-12613 Oct 27 j 13:14	24° Ω 39'44	
opposition	-12619 Apr 22 j 03:37	29° © 56'54	0°56'33				
direct	-12619 Jul 06 j 04:49	28° 5 01'07		conjunction	-12613 Nov 12 j 18:28		
	-12619 Sep 15 j 01:30	$0^{\circ}\Omega$		minimum elong	-12613 Nov 12 j 18:29	25° Ω 34'17	0°21'42
evening set	-12619 Oct 03 j 06:18	0° Ω 58′07		max. Earth dist.	-12613 Nov 13 j 20:40	25° Ω 37'58	21.13651 AU
				morning rise	-12613 Nov 29 j 03:55	26° Ω 29'25	
conjunction	-12619 Oct 19 j 04:46	1° Ω 52'12	0°49'10	retrograde	-12612 Mar 03 j 03:08	29° Ω 35'40	
minimum elong	-12619 Oct 19 j 04:46	1° Ω 52′12	0°49'50	opposition	-12612 May 19 j 19:33	27° Ω 36′03	0°20'36
max. Earth dist.	-12619 Oct 20 j 15:22	1° Ω 57′08	21.10519 AU	min. Earth dist.	-12612 May 18 j 21:08	27° Ω 38′20	19.13059 AU
morning rise	-12619 Nov 04 j 07:26	2° Ω 46′53		direct	-12612 Aug 02 j 12:42	25° Ω 39'51	
retrograde	-12618 Feb 07 j 04:49	5° Ω 54'01		evening set	-12612 Oct 30 j 19:10	28° Ω 36′15	
min. Earth dist.	-12618 Apr 25 j 03:16		19.11651 AU		-		
opposition	-12618 Apr 26 j 10:20			conjunction	-12612 Nov 16 j 01:23	29° Ω 30'56	0°16'07
direct	-12618 Jul 10 j 10:02	1° Ω 58'57		minimum elong	-12612 Nov 16 j 01:23	29° Ω 30'56	0°16'31
evening set	-12618 Oct 07 j 11:13	4° Ω 55'40		max. Earth dist.	-12612 Nov 17 j 00:52	29° Ω 34'14	21.12305 AU
	-				-12612 Nov 24 i 15:39		

-12612 Nov 24 j 15:39 0° Mp

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12612 in astronomical counting style is the year 12613 BCE in historical counting style. -12612 Dec 02 j 12:03 0° m 26'12 direct -12606 Aug 26 j 12:34 19° Mp 27'12 morning rise -12611 Mar 07 j 09:45 3° m 32'27 evening set -12606 Nov 24 j 16:33 22° m 26'24 retrograde 1° Mp 34'48 19.11506 AU min. Earth dist. -12611 May 23 j 03:57 -12611 May 24 j 00:12 1° m 32'44 0°14'53 -12606 Dec 11 j 05:05 23° m 22'10 -0°15'38 opposition conjunction -12611 Jul 06 j 21:01 30°RΩ -12606 Dec 11 j 05:05 23° m 22'10 0°15'32 minimum elong -12611 Aug 06 j 15:22 29° **Ω**36'19 -12606 Dec 11 j 03:49 23° m 21'59 direct behind sun begin -12611 Sep 06 j 01:11 0° M behind sun end -12606 Dec 11 j 06:20 23° M 22'20 evening set -12611 Nov 04 j 01:20 2° m 32'59 max. Earth dist. -12606 Dec 11 j 16:45 23° m 23'48 20.96100 AU morning rise -12606 Dec 27 j 21:09 24° Mp 18'25 conjunction -12611 Nov 20 j 08:51 3° m/27'48 0°10'56 retrograde -12605 Apr 01 j 11:52 27° m 25'42 minimum elong -12611 Nov 20 j 08:51 3° Mp 27'48 0°11'18 opposition -12605 Jun 17 j 04:12 25° Mp 25'46 -0°20'12 -12611 Nov 20 j 03:59 -12605 Jun 16 j 18:58 25° Mp 26'44 18.94102 AU behind sun begin 3°m/27'08 min. Earth dist. behind sun end -12611 Nov 20 j 13:43 3°m/28'28 direct -12605 Aug 30 j 17:12 23° m 28'13 max. Earth dist. -12611 Nov 21 j 07:49 3°My31'02 21.10552 AU evening set -12605 Nov 29 j 02:15 26° Mp 28'10 morning rise -12611 Dec 06 j 20:23 4° m 23'12 retrograde -12610 Mar 11 j 17:52 7°m/29'29 conjunction -12605 Dec 15 j 15:50 27° m/24'10 -0°20'52 min. Earth dist. -12610 May 27 j 09:19 5° m 31'41 19.09547 AU minimum elong -12605 Dec 15 j 15:50 27° m/24'09 0°20'50 opposition -12610 May 28 j 04:40 5° m 29'43 0°09'06 max. Earth dist. -12605 Dec 16 j 02:05 27° m 25'36 20.91988 AU direct -12610 Aug 10 j 20:23 3° m 33'08 morning rise -12604 Jan 01 j 08:25 28° m 20'36 evening set -12610 Nov 08 j 08:09 6° m 30'07 -12604 Feb 03 j 02:22 retrograde -12604 Apr 04 j 21:36 1°**≏**28'13 conjunction -12610 Nov 24 i 16:35 7° m 25'06 0°05'42 -12604 Jun 07 j 11:04 30°R Mp minimum elong -12610 Nov 24 i 16:35 7° m 25'06 0°06'00 opposition -12604 Jun 20 j 09:30 29° m 28'15 -0°25'58 behind sun begin -12610 Nov 24 j 10:13 7° m 24'13 min. Earth dist. -12604 Jun 20 j 01:47 29° m 29'03 18.89753 AU behind sun end -12610 Nov 24 j 22:58 7° m 25'58 direct -12604 Sep 02 j 23:19 27° m 30'27 max. Earth dist. -12610 Nov 25 j 12:36 7° mp 27'55 21.08411 AU -12604 Nov 22 j 23:26 0°**♀** -12610 Dec 11 j 05:15 8° m 20'39 -12604 Dec 02 j 12:59 0°**₽**31'12 morning rise evening set -12609 Mar 16 j 01:24 11° mp 27'02 retrograde -12609 Jun 01 j 09:08 9° m 27'12 0°03'16 -12604 Dec 19 j 03:17 1°**2**27'25 -0°26'02 opposition conjunction -12604 Dec 19 j 03:17 1°**2**27'25 0°26'01 -12609 May 31 j 16:05 9° m 28'56 19.07221 AU minimum elong min. Earth dist. -12609 Aug 14 j 23:12 7° m 30'26 -12604 Dec 19 j 09:41 1° **2**28'19 20.87407 AU max. Earth dist. direct -12609 Nov 12 j 15:14 10° M 27'50 morning rise -12603 Jan 04 j 20:39 2°**2**24'04 evening set -12603 Apr 09 j 06:47 5°**♀**32'02 retrograde -12609 Nov 29 j 00:57 11° Mp 23'00 0°00'21 -12603 Jun 24 j 15:14 3°**2**32'00 -0°31'38 conjunction opposition -12609 Nov 29 j 00:55 11° m 23'00 0°00'37 -12603 Jun 24 j 10:46 3°**⊆**32'27 18.84940 AU minimum elong min. Earth dist. -12609 Nov 28 j 18:14 11° m 22'05 -12603 Sep 07 j 04:49 1°**△**33'52 behind sun begin direct -12609 Nov 29 j 07:37 11° m 23'55 -12603 Dec 07 j 00:21 4°**△**35'30 behind sun end evening set max. Earth dist. -12609 Nov 29 j 20:13 11° m/25'43 21.05905 AU morning rise -12609 Dec 15 j 14:20 12° Mp 18'43 conjunction -12603 Dec 23 j 15:40 5°**2**31'58 -0°31'04 desc. node -12609 Dec 22 j 22:17 12° Mp 42'35 minimum elong -12603 Dec 23 j 15:40 5°**△**31'58 0°31'09 retrograde -12608 Mar 19 j 09:38 15° m 25'14 max. Earth dist. -12603 Dec 23 j 20:14 5°**△**32'37 20.82354 AU -12608 Jun 04 j 13:37 13° m 25'23 -0°02'37 morning rise -12602 Jan 09 j 09:28 6°**♀**28'48 opposition min. Earth dist. -12608 Jun 03 j 21:33 13° Mp 27'02 19.04522 AU retrograde -12602 Apr 13 j 17:40 9°**♀**37'08 -12608 Aug 18 j 03:57 11° Mp 28'27 -12602 Jun 28 j 21:15 7°**△**37'00 -0°37'09 direct opposition -12608 Nov 15 j 22:54 14° m 26'21 min. Earth dist. -12602 Jun 28 j 18:25 7°**2**37'18 18.79644 AU evening set direct -12602 Sep 11 i 12:35 5° **△**38'31 -12608 Dec 02 j 09:29 15° m 21'42 -0°05'04 conjunction evening set -12602 Dec 11 i 12:39 8°**₽**41'04 -12608 Dec 02 j 09:28 15° m 21'42 0°04'51 minimum elong -12608 Dec 02 j 02:56 15° m 20'48 -12602 Dec 28 i 04:32 9°**2**37'47 -0°35'59 behind sun begin conjunction behind sun end -12608 Dec 02 i 16:01 15° m 22'36 minimum elong -12602 Dec 28 i 04:32 9° \(\Omega\) 37'47 0°36'06 max. Earth dist. -12608 Dec 03 j 01:42 15° mp 23'59 21.03030 AU max. Earth dist. -12602 Dec 28 j 05:09 9°**2**37'52 20.76833 AU morning rise -12608 Dec 18 j 23:58 16° mp 17'35 -12601 Jan 13 j 22:55 10° **△**34'50 morning rise -12607 Mar 23 j 18:10 19° m 24'20 -12601 Apr 18 j 03:07 13°**2**43'32 retrograde retrograde -12601 Jul 03 j 03:42 11°**2**43'17 -0°42'31 -12607 Jun 08 j 18:23 17° m 24'26 -0°08'30 opposition opposition -12601 Jul 03 j 04:08 11° **2**43'14 18.73919 AU min. Earth dist. -12607 Jun 08 j 04:51 17° m 25'50 19.01457 AU min. Earth dist. direct -12607 Aug 22 j 07:32 15° **m** 27'19 direct -12601 Sep 15 j 18:57 9°**2**44'24 evening set -12607 Nov 20 j 07:16 18° m 25'49 evening set -12601 Dec 16 j 01:28 12°**2**47'56 -12607 Dec 06 j 19:01 19° m 21'23 -0°10'21 conjunction -12600 Jan 01 j 18:13 13°**2**44'53 -0°40'44 conjunction -12607 Dec 06 j 19:01 19° m 21'23 0°10'12 -12600 Jan 01 j 18:12 13°**2**44'53 0°40'55 minimum elong minimum elong -12607 Dec 06 j 13:43 19° M 20'39 -12600 Jan 01 j 17:02 13°**2**44'43 20.70918 AU behind sun begin max. Earth dist. behind sun end -12607 Dec 07 j 00:20 19° m 22'07 morning rise -12600 Jan 18 j 12:53 14°**△**42'09 max. Earth dist. -12607 Dec 07 j 10:11 19° m 23'31 20.99773 AU retrograde -12600 Apr 21 j 14:58 17° **2**51'15 morning rise -12607 Dec 23 j 10:11 20° m 17'26 opposition -12600 Jul 06 j 10:25 15°**2**50'50 -0°47'41 retrograde -12606 Mar 28 j 02:54 23° m 24'25 min. Earth dist. -12600 Jul 06 j 12:16 15°**⊆**50'39 18.67826 AU -12606 Jun 12 j 23:02 21° m 24'32 -0°14'22 -12600 Sep 19 j 03:58 13° **2**51'33 opposition direct

evening set

-12600 Dec 19 j 15:06 16° **2**56'05

min. Earth dist.

-12606 Jun 12 j 10:51 21° Mp 25'47 18.97988 AU

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12599 in astronomical counting style is the year 12600 BCE in historical counting style. -12599 Jan 05 i 08:21 17°**2**53'18 -0°45'17 -12593 Mar 03 j 11:24 15°M conjunction minimum elong -12599 Jan 05 j 08:20 17° **2**53'18 0°45'32 retrograde -12593 May 22 j 11:24 17° ML 28'55 opposition -12599 Jan 05 j 03:31 17°**2**52'37 20.64667 AU -12593 Aug 05 j 01:35 15°M27'44 -1°16'15 max. Earth dist. -12599 Jan 22 j 03:29 18°**♀**50'48 min. Earth dist. -12593 Aug 05 j 18:22 15°M25'56 18.20501 AU morning rise -12599 Apr 26 j 01:17 22°**♀**00'20 -12593 Aug 15 j 22:41 15°RML retrograde -12593 Oct 19 j 03:21 13°M25'33 -12599 Jul 10 j 17:43 19°**2**59'45 -0°52'38 opposition direct -12599 Jul 10 j 22:43 19°**♀**59'13 18.61444 AU -12593 Dec 20 j 10:09 15°M min. Earth dist. -12592 Jan 20 j 14:17 16°M38'56 direct -12599 Sep 23 j 11:25 18°**♀**00'00 evening set -12599 Dec 24 j 05:31 21°**♀**05'38 evening set conjunction -12592 Feb 06 j 09:52 17°M 38'02 -1°09'53 conjunction -12598 Jan 09 j 23:29 22°**♀**03'07 -0°49'38 minimum elong -12592 Feb 06 j 09:51 17°M 38'02 1°10'29 -12598 Jan 09 j 23:28 22°**♀**03'07 0°49'55 -12592 Feb 05 j 12:53 17°M34'56 20.17000 AU minimum elong max. Earth dist. -12598 Jan 09 j 16:55 22°**2**02'10 20.58163 AU max. Earth dist. morning rise -12592 Feb 23 j 04:49 18°M237'07 morning rise -12598 Jan 26 j 18:46 23° **2**00'49 retrograde -12592 May 26 j 05:28 21°M50'35 retrograde -12598 Apr 30 j 14:11 26° **2**10'48 opposition -12592 Aug 08 j 13:24 19°M 49'22 -1°18'55 opposition -12598 Jul 15 j 01:17 24°**£**10'05 -0°57'20 min. Earth dist. -12592 Aug 09 j 07:11 19°M47'28 18.13570 AU min. Earth dist. -12598 Jul 15 j 07:30 24°**♀**09'25 18.54838 AU direct -12592 Oct 22 j 18:12 17°M46'50 direct -12598 Sep 27 j 21:28 22°**♀**09'53 evening set -12591 Jan 24 j 11:05 21° ML01'39 evening set -12598 Dec 28 j 20:53 25° **2**16'41 max. Earth dist. -12591 Feb 09 j 07:13 21°M 57'34 20.10046 AU conjunction -12597 Jan 14 j 15:11 26° **2**14'25 -0°53'44 conjunction -12591 Feb 10 j 06:40 22° ML01'02 -1°12'04 minimum elong -12597 Jan 14 j 15:10 26° **2**14'25 0° 54'05 minimum elong -12591 Feb 10 i 06:40 22° ML01'02 1°12'41 max. Earth dist. -12597 Jan 14 i 05:15 26° \(\Omega\) 12'59 20.51466 AU morning rise -12591 Feb 27 i 01:14 23° ML00'21 morning rise -12597 Jan 31 i 10:41 27° **2**12'21 retrograde -12591 May 30 j 21:14 26°ML14'27 -12597 Apr 05 i 04:07 0°M opposition -12591 Aug 13 j 02:24 24°ML13'14 -1°21'08 -12597 May 05 j 01:50 0°M22'50 min. Earth dist. -12591 Aug 13 j 23:08 24°ML11'00 18.06614 AU retrograde -12597 Jun 04 j 05:43 30°R ₽ -12591 Oct 27 j 07:26 22° ML10'20 direct -12597 Jul 19 j 09:41 28° 221'57 -1°01'46 -12590 Jan 29 j 08:54 25° ML26'36opposition evening set -12597 Jul 19 j 18:49 28°**2**20'59 18.48087 AU max. Earth dist. -12590 Feb 14 j 02:31 26°M22'23 20.03072 AU min. Earth dist. -12597 Oct 02 j 06:02 26°**£**21'20 direct -12596 Jan 02 j 12:43 29° **2**29'19 -12590 Feb 15 j 04:21 26°M26'15 -1°13'49 evening set conjunction -12596 Jan 11 j 11:06 0° M ⊾ -12590 Feb 15 j 04:21 26°M26'15 1°14'29 minimum elong -12590 Mar 03 j 22:32 27° M25'46 morning rise -12596 Jan 19 j 07:32 0°M27'20 -0°57'35 -12590 Apr 26 j 07:54 0° ₹ conjunction -12596 Jan 19 j 07:31 0°M27'20 0°57'58 -12590 Jun 04 j 16:34 0° ₹ 40'32 minimum elong retrograde -12596 Jan 18 j 20:02 0° M25'40 20.44658 AU -12590 Jul 14 j 10:34 30°RM max. Earth dist. -12596 Feb 05 j 03:02 1°M25'30 -12590 Aug 17 j 16:06 28°M 39'15 -1°22'53 morning rise opposition retrograde -12596 May 08 j 16:09 4°M36'31 min. Earth dist. -12590 Aug 18 j 13:51 28°M 36'55 17.99632 AU opposition -12596 Jul 22 j 18:32 2°M 35'31 -1°05'54 direct -12590 Nov 01 j 00:21 26°M35'59 min. Earth dist. -12596 Jul 23 j 04:36 2°M 34'27 18.41240 AU evening set -12589 Feb 03 j 07:34 29°M 53'41 direct -12596 Oct 05 j 17:23 0°M34'28 -12589 Feb 05 j 02:44 0° **尽** -12595 Jan 06 j 05:46 3°M43'44 max. Earth dist. -12589 Feb 18 j 23:00 0° **₹** 49'25 19.96068 AU evening set max. Earth dist. -12595 Jan 22 j 10:15 4°M 39'54 20.37773 AU -12589 Feb 20 j 02:52 0° ₹ 53'36 -1°15'09 conjunction -12595 Jan 23 j 00:48 4°M 42'01 -1°01'09 -12589 Feb 20 j 02:52 0° ₹ 53'36 1°15'50 conjunction minimum elong -12595 Jan 23 j 00:48 4°ML42'01 1°01'35 -12589 Mar 08 i 20:25 1° ₹ 53'19 minimum elong morning rise -12595 Feb 08 j 20:20 5°ML40'25 -12589 Jun 09 i 09:34 5° ₹08'43 morning rise retrograde retrograde -12595 May 13 j 05:01 8°M52'00 opposition -12589 Aug 22 i 06:58 3° ₹07'23 -1°24'09 opposition -12595 Jul 27 j 04:06 6° ML50'55 -1°09'43 min. Earth dist. -12589 Aug 23 i 07:26 3° ₹04'45 17.92641 AU min. Earth dist. -12595 Jul 27 i 17:04 6°ML49'32 18.34346 AU direct -12589 Nov 05 i 15:56 1°**₹**03'44 direct -12595 Oct 10 i 03:04 4°ML49'27 evening set -12588 Feb 08 i 06:51 4°×22'50 -12594 Jan 10 j 23:39 8°ML00'03 max. Earth dist. -12588 Feb 23 j 19:34 5° ₹ 18'25 19.89089 AU evening set conjunction -12594 Jan 27 j 19:02 8°ML58'37 -1°04'24 conjunction -12588 Feb 25 j 01:51 5° ₹22'59 -1°16'02 -12594 Jan 27 j 19:02 8°M58'37 1°04'54 minimum elong minimum elong -12588 Feb 25 j 01:51 5°**₹**22'59 1°16'44 -12594 Jan 27 j 02:42 -12588 Mar 12 j 18:57 6°**х** 22′54 max. Earth dist. 8°M56'13 20.30864 AU morning rise 9°**х** 38′56 morning rise -12594 Feb 13 j 14:27 9°**ጤ**57'14 retrograde -12588 Jun 13 j 05:39 -12594 May 17 j 21:15 13°ML09'25 -12588 Aug 25 j 22:31 7°**∡**'37'30 -1°24'55 retrograde opposition -12594 Jul 31 j 14:22 11°ML08'16 -1°13'10 7°**∡**34'46 17.85688 AU opposition min. Earth dist. -12588 Aug 26 j 23:48 -12594 Aug 01 j 04:16 11°ML06'47 18.27427 AU direct -12588 Nov 09 j 11:01 5°**х** 33′27 min. Earth dist. -12594 Oct 14 j 16:11 9° ML06'27 8°**х** 53′55 direct evening set -12587 Feb 12 j 07:01 -12593 Jan 15 j 18:32 12°ML18'25 evening set max. Earth dist. -12587 Feb 27 j 18:12 9°**х** 49'33 19.82165 AU conjunction -12593 Feb 01 j 13:59 13°ML17'15 -1°07'20 conjunction -12587 Mar 01 j 01:47 9° ₹ 54'19 -1°16'27 minimum elong -12593 Feb 01 j 13:58 13°ML17'15 1°07'52 minimum elong -12587 Mar 01 j 01:47 9°**₹**54'19 1°17'12 max. Earth dist. -12593 Jan 31 j 18:58 13°ML14'27 20.23928 AU -12587 Mar 17 j 18:04 10° ₹ 54'25 morning rise

retrograde

-12587 Jun 17 j 23:27 14° **₹**11'02

-12593 Feb 18 j 09:10 14°ML16'06

morning rise

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Earth dist. -12580 Oct 02 j 18:06 14°중36'34 17.40139 AU -12586 Mar 22 j 17:53 15°**尽**27'45 morning rise direct -12580 Dec 16 j 20:44 12°₹33'28 retrograde -12586 Jun 22 j 20:00 18° ₹ 44'57 evening set -12579 Mar 23 j 03:17 16°**궁**03'04 opposition -12586 Sep 04 j 08:17 16° ₹ 43'19 -1°24'51 max. Earth dist. -12579 Apr 07 j 04:59 16°중59'08 19.38197 AU -12586 Sep 05 j 12:29 16° ₹ 40'16 17.72162 AU min. Earth dist. -12586 Nov 19 j 02:15 14° ₹38'28 -12579 Apr 08 j 16:29 17°**⋜**04'42 -1°02'28 direct conjunction evening set -12585 Feb 22 j 09:12 18° ₹ 01'34 minimum elong -12579 Apr 08 j 16:29 17°る04'42 1°03'13 max. Earth dist. -12585 Mar 09 j 16:55 18°**尽** 57'10 19.68832 AU morning rise -12579 Apr 25 j 01:22 18°る05'44 retrograde -12579 Jul 25 j 06:41 21°**♂**26'25 conjunction -12585 Mar 11 j 03:02 19°**尽** 02'23 -1°15'51 opposition -12579 Oct 06 j 10:26 19°₹24'34 -1°07'42 minimum elong -12585 Mar 11 j 03:02 19° ₹ 02'23 1°16'38 min. Earth dist. -12579 Oct 07 j 17:08 19°₹21'13 17.36555 AU morning rise -12585 Mar 27 j 17:46 20° ₹02'48 direct -12579 Dec 21 j 22:02 17°る17'59 retrograde -12585 Jun 27 j 15:17 23° ₹20'34 evening set -12578 Mar 28 j 07:38 20°る48'22 opposition -12585 Sep 09 j 02:37 21° ₹ 18'50 -1°24'01 max. Earth dist. -12578 Apr 12 j 07:47 21°る44'25 19.34879 AU min. Earth dist. -12585 Sep 10 j 08:23 21° ₹ 15'36 17.65752 AU direct -12585 Nov 23 j 23:11 19° ₹ 13'36 conjunction -12578 Apr 13 j 19:42 21°る50'03 -0°58'36 evening set -12584 Feb 27 j 11:11 22° ₹37'56 minimum elong -12578 Apr 13 j 19:42 21°る50'03 0°59'20 max. Earth dist. -12584 Mar 13 j 16:15 23°**₹** 33'25 19.62590 AU morning rise -12578 Apr 30 j 03:30 22°る51'08 -12578 Jul 30 j 07:12 26°る12'13 retrograde -12584 Mar 15 j 04:17 23° ₹38'56 -1°14'49 conjunction opposition -12584 Mar 15 j 04:17 23°**х** 38'56 1°15'36 min. Earth dist. -12578 Oct 12 j 17:47 24°**중**07'02 17.33496 AU minimum elong -12584 Mar 31 j 18:21 24° **₹** 39'31 -12578 Dec 27 j 00:01 22°る03'45 morning rise direct -12584 Jul 01 j 12:18 27° ₹ 57'49 -12577 Apr 02 j 11:51 25°**♂**34'50 retrograde evening set -12584 Sep 12 j 21:33 25° ₹ 55'59 -1°22'39 opposition -12584 Sep 14 j 03:37 25°**尽** 52'42 17.59700 AU -12577 Apr 18 j 22:56 26°ਰ36'32 -0°54'19 min. Earth dist. conjunction -12584 Nov 27 j 21:43 23°**尽** 50'23 -12577 Apr 18 j 22:56 26° 36'32 0°55'02 minimum elong direct -12583 Mar 03 j 13:34 27°**尽** 15'55 max. Earth dist. -12577 Apr 17 j 12:23 26° 중31'06 19.32068 AU evening set -12583 Mar 18 j 18:37 28° ₹ 11'37 19.56727 AU -12577 May 05 j 05:34 27°♂37'37 max. Earth dist. morning rise -12577 Jun 18 j 23:25 0°≈ -12583 Mar 20 j 06:11 28° ₹ 17'05 -1°13'19 -12577 Aug 04 j 08:16 0°≈59'04 conjunction retrograde minimum elong -12583 Mar 20 j 06:11 28° ₹ 17'05 1°14'06 -12577 Sep 21 j 05:56 30°R♂ morning rise -12583 Apr 05 j 19:10 29° ₹ 17'47 opposition -12577 Oct 16 j 12:04 28° 중57'18 -0°58'10 -12583 Apr 17 j 18:50 0°る min. Earth dist. -12577 Oct 17 j 17:54 28°중54'03 17.30911 AU retrograde -12583 Jul 06 j 09:24 2°**궁**36'36 direct -12576 Jan 01 j 03:36 26°**궁**50'37 -12583 Sep 17 j 17:38 0°₹34'43 -1°20'44 -12576 Mar 31 j 14:15 0°≈ opposition min. Earth dist. -12583 Sep 19 j 00:33 0°중31'20 17.54051 AU evening set -12576 Apr 06 j 16:23 0°≈22'15 -12583 Oct 01 j 04:09 30°R ✓ max. Earth dist. -12576 Apr 21 j 15:59 1°≈18'32 19.29721 AU direct -12583 Dec 02 j 20:28 28° ₹28'49 -12582 Feb 01 i 10:17 0°る conjunction -12576 Apr 23 j 02:18 1°≈23'57 -0°49'39 evening set -12582 Mar 08 j 16:32 1°る55'28 minimum elong -12576 Apr 23 i 02:19 1°≈23'57 0°50'19 max. Earth dist. -12582 Mar 23 j 19:11 2°る51'03 19.51312 AU morning rise -12576 May 09 i 07:45 2°≈25'01 retrograde -12576 Aug 08 i 08:29 5°≈46'46 conjunction -12582 Mar 25 i 08:13 2°ਰ56'47 -1°11'19 opposition -12576 Oct 20 j 13:51 3°≈45'01 -0°52'45 -12582 Mar 25 i 08:13 2°ਰ56'47 1°12'07 min. Earth dist. -12576 Oct 21 j 19:58 3°≈41'45 17.28800 AU minimum elong -12582 Apr 10 j 20:21 3°る57'36 direct -12575 Jan 05 i 06:42 1°≈38'19 morning rise -12582 Jul 11 j 07:47 7°る16'55 retrograde evening set -12575 Apr 11 j 20:53 5°≈10'22 opposition -12582 Sep 22 j 14:30 5°정14'59 -1°18'16 max. Earth dist. -12575 Apr 26 j 20:26 6°≈06'47 19.27847 AU min. Earth dist. -12582 Sep 23 j 21:28 5°る11'36 17.48889 AU 6°≈12'03 -0°44'36 direct -12582 Dec 07 j 20:17 3°**⋜**08'49 conjunction -12575 Apr 28 j 05:39 evening set -12581 Mar 13 j 19:44 6°**る**36'32 minimum elong -12575 Apr 28 j 05:39 6°≈12'03 0°45'15 max. Earth dist. -12581 Mar 28 j 22:52 7°중32'24 19.46403 AU morning rise -12575 May 14 j 09:57 7°≈13'05 -12575 Aug 13 j 10:06 10°≈35'04 retrograde -12581 Mar 30 j 10:46 7°る37'59 -1°08'50 conjunction opposition -12575 Oct 25 j 16:20 8°≈33'20 -0°46'57 7°る37'59 1°09'37 minimum elong -12581 Mar 30 j 10:46 min. Earth dist. -12575 Oct 26 j 20:48 8°≈30'15 17.27144 AU morning rise -12581 Apr 15 j 21:45 8°**る**38'53 direct -12574 Jan 10 j 12:14 6°≈26'38 retrograde -12581 Jul 16 j 06:41 11°**궁**58'41 evening set -12574 Apr 17 j 01:06 9°≈58'58 opposition -12581 Sep 27 j 12:21 9°**る**56'45 -1°15'16 max. Earth dist. -12574 May 02 j 00:41 10°≈55'30 19.26432 AU min. Earth dist. -12581 Sep 28 j 19:23 9°る53'22 17.44240 AU -12581 Dec 12 j 20:01 7°る50'24 -12574 May 03 j 08:41 11°≈00'35 -0°39'15 direct conjunction -12580 Mar 17 j 23:21 11°**♂**19'05 -12574 May 03 j 08:41 11°≈00'35 0°39'52 evening set minimum elong

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Earth dist. -12574 Oct 31 j 23:54 13°≈18'55 17.25974 AU asc. node -12573 Jan 15 j 16:35 11°≈15'19 -12568 Nov 28 j 19:08 12°\\$09'05 0°00'11 direct opposition -12568 Nov 29 j 11:56 12°**米**07'18 17.31050 AU evening set -12573 Apr 22 j 05:06 14°≈47'47 min. Earth dist. -12573 Apr 25 j 11:41 15°≈ direct -12567 Feb 13 j 23:57 10°**米**03'11 max. Earth dist. -12573 May 07 j 04:36 15°≈44'25 19.25529 AU evening set -12567 May 20 j 18:05 13° **★** 33'45 -12573 May 08 j 11:25 15°≈49'19 -0°33'37 -12567 Jun 05 j 16:54 14° **€** 34'15 0°03'30 conjunction conjunction -12567 Jun 05 j 16:54 14°**)** 34'15 minimum elong -12573 May 08 j 11:25 15°≈49'19 0°34'11 minimum elong 0°03'16 morning rise -12573 May 24 j 13:23 16°≈50'12 behind sun begin -12567 Jun 05 j 10:20 14°¥33'14 retrograde -12573 Aug 23 j 11:37 20°≈12'31 behind sun end -12567 Jun 05 j 23:28 14° **∺** 35'17 opposition -12573 Nov 04 j 22:43 18°≈10'45 -0°34'24 max. Earth dist. -12567 Jun 04 j 23:49 14° **★** 31'33 19.32516 AU min. Earth dist. -12573 Nov 06 j 00:54 18°≈07'56 17.25320 AU morning rise -12567 Jun 21 j 12:17 15°**)** 34'14 direct -12572 Jan 20 j 23:06 16°≈04'06 retrograde -12567 Sep 20 j 15:03 18° **ਮ** 56'19 evening set -12572 Apr 26 j 08:35 19°≈36'34 opposition -12567 Dec 03 j 23:25 16° \(\frac{1}{2} \) 54'39 0°07'15 max. Earth dist. -12572 May 11 j 09:11 20°≈33'27 19.25149 AU min. Earth dist. -12567 Dec 04 j 13:04 16° \(\)53'12 17.34160 AU direct -12566 Feb 19 j 04:10 14° **\(\)** 49'04 conjunction -12572 May 12 j 13:48 20°≈38'00 -0°27'46 evening set -12566 May 25 j 17:50 18° ¥ 18'55 minimum elong -12572 May 12 j 13:48 20°≈38'00 0°28'17 morning rise -12572 May 28 j 14:30 21°≈38'47 conjunction -12566 Jun 10 j 15:39 19°**)** € 19'11 retrograde -12572 Aug 27 j 11:19 25°≈01'11 minimum elong -12566 Jun 10 j 15:39 19°**)** 19'11 -12572 Nov 09 j 02:32 22°≈59'24 -0°27'45 behind sun begin -12566 Jun 10 j 10:10 19° ¥ 18'20 opposition min. Earth dist. -12572 Nov 10 j 04:14 22°≈56'38 17.25214 AU behind sun end -12566 Jun 10 j 21:07 19° **€** 20'02 -12571 Jan 25 j 03:50 20°≈52'49 max. Earth dist. -12566 Jun 10 j 02:34 19°\tag{17'07} 19.35942 AU direct -12571 May 01 j 11:43 24°≈25'09 -12566 Jun 26 j 09:55 20° **光** 18'57 evening set morning rise -12566 Sep 25 j 15:16 23°¥40'51 retrograde -12571 May 17 j 15:33 25°≈26'26 -0°21'43 -12566 Dec 09 j 03:40 21°\dagger339'17 0°14'15 conjunction opposition -12571 May 17 j 15:33 25°≈26'26 0°22'10 -12566 Dec 09 j 15:00 21°₩38'05 17.37869 AU minimum elong min. Earth dist. -12571 May 16 j 12:14 25°≈22'05 19.25345 AU -12565 Feb 24 j 08:33 19°**米**34'04 max. Earth dist. direct -12571 Jun 02 j 15:14 26°≈27'06 -12565 May 30 j 17:08 23°**米**03'07 morning rise evening set -12571 Sep 01 j 12:50 29°≈49'31 retrograde -12571 Nov 14 j 06:26 27°≈47'43 -0°20'55 -12565 Jun 15 j 13:38 24° **★** 03'07 0°15'58 opposition conjunction -12571 Nov 15 j 05:21 27°≈45'15 17.25701 AU -12565 Jun 15 j 13:38 24° **★** 03'07 0°15'52 min. Earth dist. minimum elong direct -12570 Jan 30 j 10:31 25°≈41'13 behind sun begin -12565 Jun 15 j 12:13 24°**米**02'54 -12570 May 06 j 14:12 29°≈13'18 behind sun end -12565 Jun 15 j 15:02 24°**₭**03'20 evening set -12570 May 18 j 22:24 0°**米** max. Earth dist. -12565 Jun 15 j 02:22 24°**米**01′20 19.39940 AU morning rise -12565 Jul 01 j 07:09 25°**米**02'39 -12570 May 22 j 16:54 0°**米** 14'25 -0°15'33 retrograde -12565 Sep 30 j 14:43 28° **∺**24'20 conjunction -12570 May 22 j 16:55 0° **光** 14'25 0°15'57 opposition -12565 Dec 14 j 07:30 26° ¥22'53 0°21'07 minimum elong -12570 May 22 j 15:56 0°**米** 14'16 min. Earth dist. -12565 Dec 14 j 16:11 26° **€**21'57 17.42133 AU behind sun begin behind sun end -12570 May 22 j 17:53 0°**)** 14'34 -12564 Feb 29 j 12:01 24° **∺** 18'03 direct -12570 May 21 j 16:50 0° ¥ 10'35 19.26148 AU max. Earth dist. evening set -12564 Jun 03 j 15:31 27° **)** 46'12 morning rise -12564 Jun 19 j 11:04 28° \ 45'55 0°22'03 retrograde -12570 Sep 06 j 12:32 4° + 37'20 conjunction -12564 Jun 19 j 11:04 28° \ 45'55 0°22'02 opposition -12570 Nov 19 i 10:44 2° ★35'32 -0°13'57 minimum elong min. Earth dist. -12570 Nov 20 i 08:26 2° # 33'12 17.26820 AU max. Earth dist. -12564 Jun 19 i 03:30 28° ¥44'44 19.44444 AU direct -12569 Feb 04 i 14:47 0°**₩**29'11 morning rise -12564 Jul 05 i 03:37 29° ¥45'13 evening set -12569 May 11 j 16:05 4° **★**00'51 -12564 Jul 09 j 03:52 0°**Υ** retrograde -12564 Oct 04 j 14:19 3°Y06'38 5°\dagger01'47 -0°09'17 1°**Y**05'17 0°27'50 conjunction -12569 May 27 j 17:23 opposition -12564 Dec 18 j 11:17 5°**₭**01'47 0°09'37 -12564 Dec 18 j 17:19 1°**Υ**'04'39 17.46848 AU minimum elong -12569 May 27 j 17:23 min. Earth dist. 5°**)**€00'56 behind sun begin -12569 May 27 j 11:54 -12563 Jan 14 j 15:20 30°R ₩ behind sun end -12569 May 27 j 22:53 5°**₩**02'38 direct -12563 Mar 05 j 16:39 29°**米**00'52 $0^{\circ}\Upsilon$ -12569 May 26 j 18:52 4°**¥**58'12 19.27607 AU -12563 Apr 22 j 16:39 max. Earth dist. -12569 Jun 12 j 14:52 6°**)**€02'09 -12563 Jun 08 j 13:14 2°Y28'01 morning rise evening set -12569 Sep 11 j 14:00 retrograde 9°**)** 24'29 -12563 Jun 24 j 07:34 3°**Υ**27'26 0°27'58 opposition -12569 Nov 24 j 14:55 7°****22'41 -0°06'54 conjunction min. Earth dist. -12569 Nov 25 j 09:30 7°**¥**20'42 17.28606 AU minimum elong -12563 Jun 24 j 07:33 3°**Y**27′26 0°28'01 direct -12568 Feb 09 j 20:07 5°**H** 16'31 max. Earth dist. -12563 Jun 24 j 01:56 3°**Y**26'33 19.49364 AU evening set -12568 May 15 j 17:20 8°**){**47'42 morning rise -12563 Jul 09 j 23:25 4°**Y**26′29 retrograde -12563 Oct 09 j 11:57 7°**Y**47'36 -12568 May 31 j 17:33 9°\(\)48'26 -0°02'59 -12563 Dec 23 j 14:51 5°Υ46'20 0°34'18 conjunction opposition

-12568 May 31 j 17:33

minimum elong

9°**)**48'26 0°03'15

min. Earth dist.

-12563 Dec 23 j 18:38

5°**Υ**45'56 17.51967 AU

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Attention, astronom	ical year style is used: The	e year -12562	in astronomical co	ounting style is the year	ar 12563 BCE in historical	counting sty	le.
direct	-12562 Mar 10 j 19:18	3° Y 42'19		minimum elong	-12556 Jul 25 j 08:34	5° 8 28'32	1°01'52
evening set	-12562 Jun 13 j 10:04	7° Υ 08'22		max. Earth dist.	-12556 Jul 25 j 21:25	5° 8 30'31	19.91550 AU
				morning rise	-12556 Aug 09 j 21:16	6° 8 25'45	
conjunction	-12562 Jun 29 j 03:31	8° Ƴ 07'29	0°33'39	retrograde	-12556 Nov 10 j 08:08	9° 8 43'23	
minimum elong	-12562 Jun 29 j 03:30	8° Ƴ 07'29	0°33'45	opposition	-12555 Jan 25 j 22:12	7° 8 42'23	1°10'13
max. Earth dist.	-12562 Jun 29 j 01:13	8° Ƴ 07'08	19.54653 AU	min. Earth dist.	-12555 Jan 25 j 07:27	7° 8 43'54	17.95000 AU
morning rise	-12562 Jul 14 j 18:34	9° Ƴ 06'17		direct	-12555 Apr 12 j 19:50	5° 8 40'57	
retrograde	-12562 Oct 14 j 10:30			evening set	-12555 Jul 14 j 09:35	8° 8 57'44	
opposition	-12562 Dec 28 j 17:51		0°40'31				
min. Earth dist.	-12562 Dec 28 j 18:36			conjunction	-12555 Jul 29 j 22:13	9° 8 54'42	1°04'45
direct	-12561 Mar 15 j 23:02	8° Υ 22'13	17.57400710	minimum elong	-12555 Jul 29 j 22:13	9° 8 54'42	1°05'14
evening set	-12561 Jun 18 j 06:05			max. Earth dist.	-12555 Jul 30 j 14:09	_	19.98453 AU
evening set	-12301 Juli 16 J 00.03	11 14/03		morning rise	-12555 Aug 14 j 10:46	_	19.96433 AU
agniumation	-12561 Jul 03 j 22:31	1200015151	0°39'06	=	-12555 Nov 15 j 00:14		
conjunction				retrograde			1012141
minimum elong	-12561 Jul 03 j 22:31		0°39'16	opposition	-12554 Jan 30 j 20:16		
max. Earth dist.	-12561 Jul 03 j 22:16		19.60231 AU	min. Earth dist.	-12554 Jan 30 j 03:57		18.02021 AU
morning rise	-12561 Jul 19 j 13:02			direct	-12554 Apr 17 j 15:18		
retrograde	-12561 Oct 19 j 06:45			evening set	-12554 Jul 18 j 22:54	13° 8 22'10	
opposition	-12560 Jan 02 j 20:24		0°46'25				
min. Earth dist.	-12560 Jan 02 j 19:21		17.63124 AU	conjunction	-12554 Aug 03 j 11:11		1°07'42
direct	-12560 Mar 19 j 23:46	13° Y 00′22		minimum elong	-12554 Aug 03 j 11:11	14° 8 18'50	1°08'14
evening set	-12560 Jun 22 j 01:08	16° Y 24′01		max. Earth dist.	-12554 Aug 04 j 05:08	14° 8 21'36	20.05571 AU
					-12554 Aug 14 j 16:27	15° 8	
conjunction	-12560 Jul 07 j 16:46	17° Y 22'31	0°44'15	morning rise	-12554 Aug 18 j 23:48	15° 8 15'34	
minimum elong	-12560 Jul 07 j 16:46		0°44'28	retrograde	-12554 Nov 19 j 18:42		
max. Earth dist.	-12560 Jul 07 j 19:24		19.66066 AU	opposition	-12553 Feb 04 j 17:08		1°16'42
morning rise	-12560 Jul 23 j 06:40			min. Earth dist.	-12553 Feb 03 j 21:20		
retrograde	-12560 Oct 23 j 04:10			mm. zarm uiou	-12553 Mar 18 j 18:24		10.09200110
opposition	-12559 Jan 06 j 22:12		0°51'59	direct	-12553 Apr 22 j 10:39		
min. Earth dist.	-12559 Jan 06 j 17:50			direct	-12553 May 26 j 03:38		
direct	-12559 Mar 25 j 01:46		17.09004 AU	avanina aat	• •		
	-12559 Jun 26 j 19:17			evening set	-12553 Jul 23 j 11:17	1/ 044 39	
evening set	-12559 Jun 26 J 19:17	20° 1 39'00			12552 4 07:22.25	100 41102	1010114
	10550 X 1 10:10.05	2100055111	0040105	conjunction	-12553 Aug 07 j 23:25		
conjunction	-12559 Jul 12 j 10:07		0°49'05	minimum elong	-12553 Aug 07 j 23:25		
minimum elong	-12559 Jul 12 j 10:06		0°49'22	max. Earth dist.	-12553 Aug 08 j 20:19		20.12840 AU
max. Earth dist.	-12559 Jul 12 j 15:08		19.72114 AU	morning rise	-12553 Aug 23 j 12:04		
morning rise	-12559 Jul 27 j 23:36			retrograde	-12553 Nov 24 j 09:31		
retrograde	-12559 Oct 27 j 23:13	26° Ƴ 14'31		opposition	-12552 Feb 09 j 13:22		
opposition	-12558 Jan 11 j 23:34	24° Ƴ 13′28	0°57'09	min. Earth dist.	-12552 Feb 08 j 16:19	20° 8 54'52	18.16562 AU
min. Earth dist.	-12558 Jan 11 j 17:33	24° Ƴ 14′05	17.75232 AU	direct	-12552 Apr 26 j 04:18	18° 8 52'35	
direct	-12558 Mar 30 j 00:52	22° Y 10′56		evening set	-12552 Jul 26 j 22:52	22° 8 05'18	
evening set	-12558 Jul 01 j 12:17	25° Ƴ 31'54					
				conjunction	-12552 Aug 11 j 10:47	23° 8 01'26	1°12'20
conjunction	-12558 Jul 17 j 02:28	26° Ƴ 29'47	0°53'34	minimum elong	-12552 Aug 11 j 10:46	23° 8 01'26	1°12'58
minimum elong	-12558 Jul 17 j 02:27			max. Earth dist.	-12552 Aug 12 j 09:14		
max. Earth dist.	-12558 Jul 17 j 10:09			morning rise	-12552 Aug 26 j 23:41		
morning rise	-12558 Aug 01 j 15:36		17.70307110	retrograde	-12552 Nov 28 j 03:01		
morning noe	-12558 Sep 20 j 19:35			min. Earth dist.	-12551 Feb 12 j 08:35		18 23954 ATI
retrograde	-12558 Nov 01 j 19:31			opposition	-12551 Feb 13 j 08:40		
retrograde	-12558 Dec 15 j 13:55			direct	-12551 Apr 30 j 22:04		1 21 20
opposition	-12557 Jan 16 j 23:57		1001156	evening set	-12551 Jul 31 j 09:44		
• •	_			evening set	-12331 Jul 31 J 09.44	20 02411	
min. Earth dist.	-12557 Jan 16 j 14:24		17.81003 AU		10551 4 15:01 40	270	1014102
direct	-12557 Apr 04 j 00:52			conjunction	-12551 Aug 15 j 21:42		
	-12557 Jul 05 j 10:43			minimum elong	-12551 Aug 15 j 21:42		
evening set	-12557 Jul 06 j 04:24	0° 8 02'40		max. Earth dist.	-12551 Aug 16 j 22:57		20.27590 AU
				morning rise	-12551 Aug 31 j 10:47		
conjunction	-12557 Jul 21 j 17:59				-12551 Oct 02 j 14:33		
minimum elong	-12557 Jul 21 j 17:59	1° 8 00'14		retrograde	-12551 Dec 02 j 16:40		
max. Earth dist.	-12557 Jul 22 j 04:26		19.84855 AU		-12550 Feb 05 j 21:03		
morning rise	-12557 Aug 06 j 06:51	1° 8 57'43		min. Earth dist.	-12550 Feb 17 j 02:16	29° 8 32'59	18.31324 AU
retrograde	-12557 Nov 06 j 13:00	5° 8 15'56		opposition	-12550 Feb 18 j 03:14	29° 8 30'27	1°22'57
opposition	-12556 Jan 21 j 23:29	3° 8 14'54	1°06'17	direct	-12550 May 05 j 13:58	27° 8 31'14	
min. Earth dist.	-12556 Jan 21 j 12:27		17.88193 AU		-12550 Jul 23 j 19:15		
direct	-12556 Apr 07 j 22:05	1° 8 13'05		evening set	-12550 Aug 04 j 19:56		
evening set	-12556 Jul 09 j 19:31	4° 8 31'17		-			
Ç	, ·			conjunction	-12550 Aug 20 j 07:53	1° I I37'00	1°15'17
conjunction	-12556 Jul 25 j 08:34	5° 8 28'32	1°01'25	minimum elong	-12550 Aug 20 j 07:53		
J			-				

•			•		nst AG 18-Feb-2025 14:23, page 29
		-			ar 12551 BCE in historical counting style.
max. Earth dist.	-12550 Aug 21 j 10:06		20.34917 AU	direct	-12543 Jun 04 j 08:50 26° I 51'47
morning rise	-12550 Sep 04 j 21:27	2° I I32'52		evening set	-12543 Sep 02 j 02:15 29° I 53'56
retrograde	-12550 Dec 07 j 08:46	5° Ⅱ 47'02			-12543 Sep 03 j 20:41 0°5
opposition	-12549 Feb 22 j 20:51	3° Ⅱ 46'45			
min. Earth dist.	-12549 Feb 21 j 17:34		18.38594 AU	conjunction	-12543 Sep 17 j 17:15 0°548'20 1°12'35
direct	-12549 May 10 j 06:07	1° Ⅱ 47'57		minimum elong	-12543 Sep 17 j 17:15 0°548'20 1°13'22
evening set	-12549 Aug 09 j 05:32	4° Ⅱ 56'50		max. Earth dist.	-12543 Sep 19 j 03:42 0°553'22 20.79211 A
. ,.	10540 4 04:15.40	50 T 50 11 6	1017100	morning rise	-12543 Oct 03 j 11:24 1°543'12
conjunction	-12549 Aug 24 j 17:43	5° Ⅱ 52'16		retrograde	-12542 Jan 05 j 16:49 4°553'18
minimum elong	-12549 Aug 24 j 17:43	5° Ⅱ 52'15	20.42087 AU	min. Earth dist.	-12542 Mar 23 j 15:33 2°556'41 18.81900 A
max. Earth dist.	-12549 Aug 25 j 22:18	5°Щ36'33 6°Щ47'57	20.42087 AU	opposition direct	-12542 Mar 25 j 00:12 2°\$53'24 1°19'21 -12542 Jun 08 j 18:29 0°\$56'29
morning rise	-12549 Sep 09 j 07:35 -12549 Dec 11 j 20:50				3
retrograde min. Earth dist.	-12548 Feb 26 j 09:47		18.45669 AU	evening set	-12542 Sep 06 j 07:57 3°\$57'41
opposition	-12548 Feb 26 j 09.47 -12548 Feb 27 j 13:35	8° П 0411	1°24'44	conjunction	-12542 Sep 21 j 23:34 4°951'59 1°10'41
direct	-12548 May 13 j 20:28	6° П 02'57	1 24 44	minimum elong	-12542 Sep 21 j 23:34 4 951 59 1 1041 -12542 Sep 21 j 23:34 4 951 59 1 11 28
evening set	-12548 Aug 12 j 14:34	9° П 10'38		max. Earth dist.	-12542 Sep 23 j 09:35 4°956'56 20.84341 A
evening set	-12546 Aug 12 j 14.54	у 110 36		morning rise	-12542 Oct 07 j 18:47 5°\$46'46
conjunction	-12548 Aug 28 j 02:53	100π05!50	1016'22	retrograde	-12541 Jan 10 j 02:43 8°\$56'20
minimum elong	-12548 Aug 28 j 02:52			min. Earth dist.	-12541 Mar 28 j 01:45 6° 59'48 18.86901 A
max. Earth dist.	-12548 Aug 29 j 07:50			opposition	-12541 Mar 29 j 11:00 6°\$56'28 1°17'02
morning rise	-12548 Sep 12 j 17:22		20.47047 AC	direct	-12541 Jun 13 j 02:46 4°\$59'42
retrograde	-12548 Dec 15 j 11:13			evening set	-12541 Sep 10 j 13:08 8°\$00'04
min. Earth dist.	-12547 Mar 02 j 00:02		18 52505 ATT	evening set	-12341 Sep 10 J 13.08 8 300 04
opposition	-12547 Mar 03 j 05:34		1°24'56	conjunction	-12541 Sep 26 j 05:39 8°\$54'17 1°08'27
direct	-12547 May 18 j 10:36		1 24 30	minimum elong	-12541 Sep 26 j 05:39 8°954'17 1°09'12
evening set	-12547 Aug 16 j 22:47			max. Earth dist.	-12541 Sep 27 j 17:17 8°\$59'27 20.89197 A
evening set	12347 Mug 10 J 22.47	13 1122 42		morning rise	-12541 Oct 12 j 01:40 9°\$48'59
conjunction	-12547 Sep 01 j 11:34	14°∏17'44	1°16'32	retrograde	-12540 Jan 14 j 11:17 12°958'04
minimum elong	-12547 Sep 01 j 11:34			min. Earth dist.	-12540 Mar 31 j 11:25 11°\$01'37 18.91618 A
max. Earth dist.	-12547 Sep 02 j 18:36			opposition	-12540 Apr 01 j 20:57 10°958'15 1°14'21
morning rise	-12547 Sep 17 j 02:33		20.55721110	direct	-12540 Jun 16 j 10:32 9°501'42
retrograde	-12547 Dec 19 j 22:17			evening set	-12540 Sep 13 j 18:08 12°\$01'18
opposition	-12546 Mar 07 j 20:46		1°24'40	evening sec	125 to 50p 15 j 10.00 12 001 to
min. Earth dist.	-12546 Mar 06 j 14:52			conjunction	-12540 Sep 29 j 11:22 12°955'25 1°05'53
direct	-12546 May 22 j 23:34			minimum elong	-12540 Sep 29 j 11:22 12°S55'25 1°06'39
evening set	-12546 Aug 21 j 06:38			max. Earth dist.	-12540 Sep 30 j 22:19 13°500'28 20.93785 A
8				morning rise	-12540 Oct 15 j 08:33 13°550'05
conjunction	-12546 Sep 05 j 19:45	18° Ⅱ 27'55	1°16'07	retrograde	-12539 Jan 17 j 20:49 16°\$58'45
minimum elong	-12546 Sep 05 j 19:45			min. Earth dist.	-12539 Apr 04 j 20:39 15°502'22 18.96061 A
max. Earth dist.	-12546 Sep 07 j 02:42			opposition	-12539 Apr 06 j 06:22 14°\$58'59 1°11'19
morning rise	-12546 Sep 21 j 11:34			direct	-12539 Jun 20 j 17:23 13°502'37
retrograde	-12546 Dec 24 j 10:36			evening set	-12539 Sep 17 j 22:44 16°501'31
min. Earth dist.	-12545 Mar 11 j 03:47		18.65229 AU		
opposition	-12545 Mar 12 j 10:50	20° Ⅲ 35′01	1°23'58	conjunction	-12539 Oct 03 j 17:02 16°\$55'37 1°03'00
direct	-12545 May 27 j 11:26	18° 耳 37′30		minimum elong	-12539 Oct 03 j 17:02 16°\$55'37 1°03'45
evening set	-12545 Aug 25 j 13:44			max. Earth dist.	-12539 Oct 05 j 05:19 17°500'50 20.98066 A
				morning rise	-12539 Oct 19 j 15:09 17°550'14
conjunction	-12545 Sep 10 j 03:29	22° Ⅲ 36′24	1°15'19	retrograde	-12538 Jan 22 j 05:11 20°558'30
minimum elong	-12545 Sep 10 j 03:30	22° Ⅲ 36′25	1°16'06	min. Earth dist.	-12538 Apr 09 j 05:26 19°502'14 19.00163 A
max. Earth dist.	-12545 Sep 11 j 12:17	22° Ⅱ 41'15	20.68110 AU	opposition	-12538 Apr 10 j 15:08 18°958'51 1°07'57
morning rise	-12545 Sep 25 j 19:56	23° Ⅱ 31′29		direct	-12538 Jun 24 j 23:59 17°502'40
retrograde	-12545 Dec 28 j 20:50	26° Ⅱ 42'42		evening set	-12538 Sep 22 j 03:28 20°500'58
min. Earth dist.	-12544 Mar 14 j 16:48		18.71084 AU		
opposition	-12544 Mar 16 j 00:10	24° Ⅱ 42'48	1°22'50	conjunction	-12538 Oct 07 j 22:35 20°555'01 0°59'50
direct	-12544 May 30 j 22:54	22° Ⅱ 45'30		minimum elong	-12538 Oct 07 j 22:35 20°55'01 1°00'34
evening set	-12544 Aug 28 j 20:14	25° Ⅱ 48'39		max. Earth dist.	-12538 Oct 09 j 09:42 21°500'04 21.01995 A
				morning rise	-12538 Oct 23 j 21:56 21°549'38
conjunction	-12544 Sep 13 j 10:27			retrograde	-12537 Jan 26 j 14:07 24°S57'33
minimum elong	-12544 Sep 13 j 10:27			opposition	-12537 Apr 14 j 23:13 22°557'59 1°04'15
max. Earth dist.	-12544 Sep 14 j 19:04		20.73811 AU	min. Earth dist.	-12537 Apr 13 j 14:01 23°501'19 19.03896 A
morning rise	-12544 Sep 29 j 03:51			direct	-12537 Jun 29 j 05:22 21°501'58
	-12544 Nov 17 j 06:43			evening set	-12537 Sep 26 j 07:58 23°559'46
retrograde	-12543 Jan 01 j 07:26				
	-12543 Feb 16 j 22:11			conjunction	-12537 Oct 12 j 04:12 24°S53'48 0°56'22
min. Earth dist.	-12543 Mar 19 j 04:22			minimum elong	-12537 Oct 12 j 04:13 24°\$53'48 0°57'05
opposition	-12543 Mar 20 j 12:40	28° Ⅱ 48'54	1°21'17	max. Earth dist.	-12537 Oct 13 j 16:10 24°\$58'57 21.05515 A

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12537 in astronomical counting style is the year 12538 BCE in historical counting style. -12537 Oct 28 i 04:30 25°548'25 retrograde -12530 Feb 23 j 21:31 $22^{\circ}\Omega$ 39'28 morning rise opposition -12536 Jan 30 j 22:17 28°556'01 -12530 May 12 j 20:02 $20^{\circ}\Omega 40'03$ $0^{\circ}31'14$ retrograde -12536 Apr 16 j 22:06 26°559'50 19.07183 AU min. Earth dist. -12530 May 11 j 18:26 $20^{\circ}\Omega$ 42'38 19.15442 AU min. Earth dist. -12536 Apr 18 j 06:53 26°556'33 1°00'16 -12530 Jul 26 j 14:28 18° **Ω**44'11 direct opposition -12536 Jul 02 j 11:25 25°500'42 -12530 Oct 23 j 17:56 21°**Ω**40'18 direct evening set -12536 Sep 29 j 12:28 27°558'02 evening set -12530 Nov 08 j 21:46 $22^{\circ}\Omega$ 34'41 $0^{\circ}25'51$ conjunction -12530 Nov 08 j 21:46 22° Ω 34'41 0°26'20 -12536 Oct 15 j 09:36 28°\$52'04 0°52'38 conjunction minimum elong -12536 Oct 15 j 09:36 28°\$52'04 0°53'19 minimum elong max. Earth dist. -12530 Nov 10 j 00:35 22°**Q**38'29 21.15196 AU max. Earth dist. -12536 Oct 16 j 19:57 28°556'59 21.08575 AU morning rise -12530 Nov 25 j 06:11 23° Ω 29'42 morning rise -12536 Oct 31 j 11:11 29°546'42 retrograde -12529 Feb 28 j 05:26 $26^{\circ}\Omega$ 35'56 -12536 Nov 04 j 11:20 -12529 May 16 j 01:11 $24^{\circ}\Omega 38'49$ 19.14914 AU $0^{\circ}\Omega$ min. Earth dist. retrograde -12535 Feb 03 j 06:47 2°**£**54′03 opposition -12529 May 17 j 00:55 24° Ω 36'25 0°25'46 min. Earth dist. -12535 Apr 21 j 06:26 0°**Ω**57'50 19.09993 AU direct -12529 Jul 30 j 18:10 22° Ω 40'24 opposition -12535 Apr 22 j 14:11 0°**Ω**54'39 0°55'59 evening set -12529 Oct 27 j 23:18 25°**Ω**36'35 -12535 May 16 j 04:59 30°Rூ direct -12535 Jul 06 j 15:30 28°958'55 conjunction -12529 Nov 13 j 04:25 $26^{\circ}\Omega$ 31'06 0° 20'51 -12535 Aug 25 j 03:50 $0^{\circ}\Omega$ minimum elong -12529 Nov 13 j 04:25 $26^{\circ}\Omega$ 31'06 0° 21'17 evening set -12535 Oct 03 j 17:06 1°**Ω**55'53 max. Earth dist. -12529 Nov 14 j 06:58 $26^{\circ}\Omega$ 34'50 21.14442 AU morning rise -12529 Nov 29 j 13:44 $27^{\circ}\Omega 26'12$ conjunction -12535 Oct 19 j 15:26 $2^{\circ}\Omega$ 49'57 $0^{\circ}48'40$ -12528 Jan 26 j 12:08 0° Mp minimum elong -12535 Oct 19 j 15:26 $2^{\circ}\Omega 49'57$ $0^{\circ}49'20$ retrograde -12528 Mar 03 j 12:16 0° m 32'22 max. Earth dist. -12535 Oct 21 j 02:03 $2^{\circ}\Omega$ 54'53 21.11116 AU -12528 Apr 09 j 23:01 30°R,Ω morning rise -12535 Nov 04 j 18:00 $3^{\circ}\Omega$ 44'36 min. Earth dist. -12528 May 19 i 06:46 $28^{\circ}\Omega$ 35'07 19.13936 AU retrograde -12534 Feb 07 i 14:47 $6^{\circ}\Omega$ 51'41 opposition -12528 May 20 j 05:35 $28^{\circ}\Omega$ 32'47 $0^{\circ}20'11$ -12534 Apr 26 j 20:50 $4^{\circ}\Omega$ 52'22 0° 51'27 direct -12528 Aug 02 j 22:02 $26^{\circ}\Omega 36'38$ opposition min. Earth dist. -12534 Apr 25 j 13:57 $4^{\circ}\Omega$ 55'28 19.12247 AU evening set -12528 Oct 31 j 05:00 29° Ω 32'57 -12534 Jul 10 j 21:21 $2^{\circ}\Omega$ 56'42 -12528 Nov 08 j 07:27 0° Mp direct -12534 Oct 07 j 21:58 5° **Ω**53'23 evening set -12528 Nov 16 j 11:06 0° m 27'35 0°15'46 conjunction -12534 Oct 23 j 21:16 $6^{\circ}\Omega$ 47'28 0° 44'28 -12528 Nov 16 j 11:06 0° m 27'35 0°16'10 conjunction minimum elong -12534 Oct 23 j 21:16 $6^{\circ}\Omega$ 47'28 $0^{\circ}45'05$ -12528 Nov 17 j 11:02 0° M 30'57 21.13269 AU minimum elong max. Earth dist. -12534 Oct 25 j 05:36 6° Ω 52'04 21.13092 AU -12528 Dec 02 j 21:40 1° M 22'49 max. Earth dist. morning rise -12534 Nov 09 j 01:08 7° **Ω**42'10 -12527 Mar 07 j 20:01 4° M 28'59 morning rise retrograde -12533 Feb 11 j 23:01 10° **Ω**49'02 -12527 May 24 j 10:15 2° m 29'20 0°14'30 retrograde opposition -12533 Apr 29 j 21:55 8° **Ω**52'41 19.13925 AU -12527 May 23 j 13:22 2° m 31'28 19.12559 AU min. Earth dist. min. Earth dist. -12533 May 01 j 03:17 8° **Ω**49'44 0°46'41 0° m 33'01 opposition direct -12527 Aug 07 j 01:37 direct -12533 Jul 15 j 00:50 6°**Q**54'05 evening set -12527 Nov 04 j 11:06 3° m 29'34 evening set -12533 Oct 12 j 02:39 9°**Ω**50'32 conjunction -12527 Nov 20 j 18:30 4° m/24'21 0°10'36 conjunction -12533 Oct 28 j 03:11 $10^{\circ}\Omega$ 44'40 $0^{\circ}40'03$ minimum elong -12527 Nov 20 j 18:31 4° Mp 24'21 0°10'56 -12533 Oct 28 j 03:12 $10^{\circ}\Omega$ 44'40 $0^{\circ}40'40$ behind sun begin -12527 Nov 20 j 13:29 4° m 23'40 minimum elong max. Earth dist. -12533 Oct 29 j 11:23 $10^{\circ}\Omega$ 49'14 21.14468 AU behind sun end -12527 Nov 20 j 23:32 4° m 25'03 -12533 Nov 13 j 08:01 11°**Ω**39'26 max. Earth dist. -12527 Nov 21 j 17:57 4° m/27'40 21.11692 AU morning rise -12532 Feb 16 j 06:27 14° **Ω**46'05 -12527 Dec 07 j 05:56 5° Mp 19'43 retrograde morning rise -12532 May 03 j 04:49 12° Ω 49'39 19.14990 AU min. Earth dist. retrograde -12526 Mar 12 j 03:40 8° m 25'55 -12532 May 04 j 09:13 12° Ω 46'47 0°41'43 opposition opposition -12526 May 28 j 14:35 6° m 26'14 0° 08'45 direct -12532 Jul 18 j 06:17 $10^{\circ}\Omega$ 51'07 min. Earth dist. -12526 May 27 j 18:48 6° m 28'15 19.10775 AU evening set -12532 Oct 15 j 07:38 13° Ω 47'22 direct -12526 Aug 11 j 05:43 4° m 29'46 evening set -12526 Nov 08 j 17:49 7° m 26'39 conjunction -12532 Oct 31 j 09:10 $14^{\circ}\Omega41'35$ 0°35'28 minimum elong -12532 Oct 31 j 09:10 $14^{\circ}\Omega41'35$ 0°36'02 -12526 Nov 25 j 02:10 8° m 21'35 0°05'23 conjunction max. Earth dist. -12532 Nov 01 j 14:51 $14^{\circ}\Omega$ 45'47 21.15257 AU -12526 Nov 25 j 02:09 8° m) 21'35 0°05'42 minimum elong -12532 Nov 05 j 19:10 $15^{\circ}\Omega$ behind sun begin -12526 Nov 24 j 19:44 8° m 20'42 morning rise -12532 Nov 16 j 15:19 $15^{\circ}\Omega$ 36'24 behind sun end -12526 Nov 25 j 08:34 8° m/22'28 retrograde -12531 Feb 19 j 14:31 18° **Ω**42'54 max. Earth dist. -12526 Nov 25 j 22:40 8° m/24'28 21.09723 AU opposition -12531 May 08 j 14:51 $16^{\circ}\Omega$ 43'32 $0^{\circ}36'33$ morning rise -12526 Dec 11 j 14:43 9° Mp 17'06 min. Earth dist. -12531 May 07 j 12:13 $16^{\circ}\Omega 46'13$ 19.15492 AU retrograde -12525 Mar 16 j 11:05 12° M 23'25 -12531 Jun 30 j 11:13 15°R**Ω** -12525 Jun 01 j 19:09 10° M 23'41 0°02'55 opposition -12531 Jul 22 j 09:56 14° **Ω**47'46 -12525 Jun 01 j 01:34 10° M 25'29 19.08608 AU direct min. Earth dist. -12531 Aug 13 j 04:43 15°**Ω** direct -12525 Aug 15 j 08:58 8° M 27'03 -12531 Oct 19 j 12:35 17°**Ω**43'56 evening set evening set -12525 Nov 13 j 00:42 11° m 24'20 conjunction -12531 Nov 04 j 15:27 18° **Ω**38'14 0°30'44 conjunction -12525 Nov 29 j 10:16 12° Mp 19'27 0°00'03 minimum elong -12531 Nov 04 j 15:27 18° **Ω**38'14 0°31'15 minimum elong -12525 Nov 29 j 10:16 12° **m** 19'27 0°00'18 max. Earth dist. -12531 Nov 05 j 20:52 18° Ω 42'23 21.15486 AU behind sun begin -12525 Nov 29 j 03:36 12° m/18'33 -12531 Nov 20 j 22:36 19°**Ω**33'08 behind sun end -12525 Nov 29 j 16:55 12° m/20'22 morning rise

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Earth dist. -12518 Jun 29 j 04:15 8°**£**32'26 18.80852 AU direct -12524 Aug 18 j 13:45 12° Mp 25'03 direct -12518 Sep 11 j 22:02 6°**£**33'42 -12524 Nov 16 j 08:30 15° Mp 22'50 evening set evening set -12518 Dec 11 j 21:45 9°**£**36′01 -12524 Dec 02 j 18:55 16° mg 18'08 -0°05'20 conjunction conjunction -12518 Dec 28 j 13:33 10°**2**32'40 -0°36'04 minimum elong -12524 Dec 02 j 18:56 16° Mp 18'08 0°05'08 minimum elong -12518 Dec 28 j 13:33 10°**2**32'39 0°36'12 -12524 Dec 02 j 12:25 16° Mp 17'14 -12518 Dec 28 j 14:06 10°**♀**32'44 20.78006 AU behind sun begin max. Earth dist. behind sun end -12524 Dec 03 j 01:26 16° m 19'02 morning rise -12517 Jan 14 j 07:54 11°**♀**29'40 max. Earth dist. -12524 Dec 03 j 11:32 16° M 20'28 21.04580 AU retrograde -12517 Apr 18 j 12:48 14° **△**38'12 opposition morning rise -12524 Dec 19 j 09:19 17° m 13'58 -12517 Jul 03 j 13:25 12°**2**37'55 -0°42'35 retrograde -12523 Mar 24 j 03:24 20° m 20'38 min. Earth dist. -12517 Jul 03 j 13:38 12°**2**37'54 18.75060 AU opposition -12523 Jun 09 j 04:18 18° m/20'52 -0°08'48 direct -12517 Sep 16 j 04:43 10°**2**39'04 min. Earth dist. -12523 Jun 08 j 14:35 18° Mp 22'17 19.03037 AU evening set -12517 Dec 16 j 10:13 13°**2**42'20 direct -12523 Aug 22 j 17:02 16° m 23'53 evening set -12523 Nov 20 j 16:51 19° m 22'16 conjunction -12516 Jan 02 j 02:53 14° **2**39'15 -0°40'47 minimum elong -12516 Jan 02 j 02:53 14° **2**39'15 0° 40'58 conjunction -12523 Dec 07 i 04:30 20° m 17'46 -0°10'37 max. Earth dist. -12516 Jan 02 i 01:57 14° \(\Omega\) 39'07 20.72043 AU minimum elong -12523 Dec 07 i 04:29 20° m 17'46 0°10'28 morning rise -12516 Jan 18 j 21:31 15° **△**36'28 behind sun begin -12523 Dec 06 j 23:16 20° m 17'03 retrograde -12516 Apr 21 j 23:48 18° **2**45'25 behind sun end -12523 Dec 07 i 09:42 20° m 18'29 opposition -12516 Jul 06 j 20:00 16° **2**44'59 -0°47'42 max. Earth dist. -12523 Dec 07 j 19:54 20° mp 19'56 21.01364 AU min. Earth dist. -12516 Jul 06 j 21:39 16°**2**44'48 18.68944 AU -12523 Dec 23 j 19:32 21° m 13'47 -12516 Sep 19 j 13:03 14° **△**45'42 morning rise direct -12522 Mar 28 j 13:00 24° m 20'40 -12516 Dec 19 i 23:46 17° **2**50'01 retrograde evening set -12522 Jun 13 j 09:05 22° m 20'53 -0°14'39 opposition -12522 Jun 12 j 20:57 22° m 22'08 18.99579 AU -12515 Jan 05 j 16:55 18° **2**47'11 -0°45'18 min. Earth dist. conjunction -12522 Aug 26 j 22:45 20° m 23'42 -12515 Jan 05 j 16:55 18°**2**47'11 0°45'32 direct minimum elong -12522 Nov 25 j 02:05 23° m 22'44 -12515 Jan 05 j 12:21 18° **2**46'32 20.65794 AU evening set max. Earth dist. -12515 Jan 22 j 12:01 19°**♀**44'38 morning rise -12522 Dec 11 j 14:28 24° m 18'27 -0°15'52 -12515 Apr 26 j 10:23 22°**♀**54'01 conjunction retrograde -12522 Dec 11 j 14:28 24° m 18'27 0°15'47 -12515 Jul 11 j 03:03 20°**2**53'26 -0°52'37 minimum elong opposition -12522 Dec 12 j 02:11 24° m 20'06 20.97670 AU -12515 Jul 11 j 07:41 20°**-**252'57 18.62591 AU max. Earth dist. min. Earth dist. -12522 Dec 28 j 06:25 25° m 14'39 -12515 Sep 23 j 20:48 18°**♀**53'43 morning rise direct retrograde -12521 Apr 01 j 21:16 28° m 21'50 evening set -12515 Dec 24 j 14:01 21°**⊆**59'10 opposition -12521 Jun 17 j 14:11 26° M 21'59 -0°20'27 min. Earth dist. -12521 Jun 17 j 04:58 26° M 22'56 18.95643 AU conjunction -12514 Jan 10 j 07:54 22° **2**56'35 -0°49'36 direct -12521 Aug 31 j 02:51 24° Mp 24'32 minimum elong -12514 Jan 10 j 07:53 22° **2**56'35 0°49'54 -12521 Nov 29 j 11:50 27° m/24'19 max. Earth dist. -12514 Jan 10 j 01:51 22°**2**55'43 20.59336 AU evening set -12514 Jan 27 j 03:07 23° **2**54'15 morning rise -12521 Dec 16 j 01:19 28° m 20'15 -0°21'04 -12514 Apr 30 j 22:47 27° **2**04'07 conjunction retrograde -12521 Dec 16 j 01:18 28° m/20'15 0°21'02 -12514 Jul 15 j 10:36 25°**2**03'24 -0°57'17 minimum elong opposition -12521 Dec 16 j 11:27 28° m 21'41 20.93482 AU max. Earth dist. min. Earth dist. -12514 Jul 15 i 16:28 25° **2**02'47 18.56047 AU -12520 Jan 01 j 17:47 29° m 16'38 morning rise direct -12514 Sep 28 i 06:28 23° **2**03'17 -12514 Dec 29 j 05:08 26° **2**09'53 -12520 Jan 15 i 04:16 0° € evening set retrograde -12520 Apr 05 i 07:15 2° \alpha 24'07 -12520 Jun 20 i 19:29 0° \(\Omega\)24'13 -0°26'10 conjunction -12513 Jan 14 j 23:18 27°**2**07'35 -0°53'41 opposition min. Earth dist. -12520 Jun 20 j 11:56 0° **2**25'00 18.91197 AU minimum elong -12513 Jan 14 j 23:18 27°**2**07'35 0°54'01 -12520 Jun 30 j 15:13 30°R Mp max. Earth dist. -12513 Jan 14 j 13:52 27°**2**06'13 20.52713 AU direct -12520 Sep 03 j 09:18 28° m 26'29 -12513 Jan 31 j 18:46 28° **2**05'29 morning rise -12520 Nov 04 j 16:22 0∘**⊽** -12513 Mar 10 j 13:01 evening set -12520 Dec 02 j 22:24 1°**£**27′02 retrograde -12513 May 05 j 10:20 1°ML15'52 -12513 Jul 01 j 15:12 30°R Ω -12513 Jul 19 j 18:50 29°**£**15'03 -1°01'40 conjunction -12520 Dec 19 j 12:37 2°**2**23'12 -0°26'11 opposition -12520 Dec 19 j 12:37 2°**2**23'12 0°26'13 min. Earth dist. -12513 Jul 20 j 03:31 29°**2**14'08 18.49379 AU minimum elong -12520 Dec 19 j 18:46 2°**£**24'04 20.88791 AU direct -12513 Oct 02 j 15:07 27° **2**14'31 max. Earth dist. -12519 Jan 05 j 05:56 -12513 Dec 27 j 04:59 morning rise 3°**₽**19'48 0°M -12519 Apr 09 j 16:33 -12512 Jan 02 j 20:58 retrograde 6°**£**27'37 evening set 0°M22'21 opposition -12519 Jun 25 j 01:15 4°**£**27'36 -0°31'47 min. Earth dist. -12519 Jun 24 j 20:46 4°**£**28'04 18.86260 AU conjunction -12512 Jan 19 j 15:43 1°M20'19 -0°57'30 direct -12519 Sep 07 j 14:42 2°**₽**29'31 minimum elong -12512 Jan 19 j 15:43 1°M20'19 0°57'53 evening set -12519 Dec 07 j 09:39 5°**2**30'55 max. Earth dist. -12512 Jan 19 j 04:50 1°M18'44 20.45995 AU -12512 Feb 05 j 11:10 2°M18'26 morning rise -12519 Dec 24 j 00:53 6°**£**27'20 -0°31'12 retrograde -12512 May 09 j 00:26 conjunction 5°M29'23

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Earth dist. 5°M32'52 20.39196 AU morning rise -12505 Mar 09 j 04:03 morning rise -12511 Feb 09 j 04:26 6°M33'17 retrograde -12505 Jun 09 j 17:29 6°**х** 01′03 retrograde -12511 May 13 j 13:38 9°**ጤ**44'49 opposition -12505 Aug 22 j 15:26 3°**₹**59'41 -1°23'47 opposition -12511 Jul 27 j 13:05 7°ML43'50 -1°09'33 min. Earth dist. -12505 Aug 23 j 16:02 3°**∡**57′02 17.93532 AU -12511 Jul 28 j 01:46 min. Earth dist. 7°M42'30 18.35800 AU direct -12505 Nov 06 j 00:35 1°**∡**¹56′02 direct -12511 Oct 10 j 12:06 5°M42'33 evening set -12504 Feb 08 j 14:18 5°**х** 14′53 evening set -12510 Jan 11 j 07:42 8°M53'01 max. Earth dist. -12504 Feb 24 j 03:00 6°**≯**10'26 19.89900 AU max. Earth dist. -12510 Jan 27 j 11:14 9° 11.49'13 20.32342 AU conjunction -12504 Feb 25 j 09:22 6°**∡**15'00 -1°15'41 conjunction -12510 Jan 28 j 03:04 9°M 51'32 -1°04'15 minimum elong -12504 Feb 25 j 09:22 6°**х** 15′00 1°16′24 minimum elong -12510 Jan 28 j 03:03 9°M 51'32 1°04'45 morning rise -12504 Mar 13 j 02:33 7°**х** 14′53 morning rise -12510 Feb 13 j 22:27 10°M 50'08 retrograde -12504 Jun 13 j 12:44 10° ₹30'44 retrograde -12510 May 18 j 05:22 14° ML02'15 opposition -12504 Aug 26 j 06:38 8° ₹29'15 -1°24'31 opposition -12510 Jul 31 j 23:13 12°M 01'15 -1°12'59 min. Earth dist. -12504 Aug 27 j 07:57 8°**₹**26'30 17.86423 AU min. Earth dist. -12510 Aug 01 j 12:58 11°ML59'47 18.28915 AU direct -12504 Nov 09 j 19:43 6°**х** 25′09 direct -12510 Oct 15 i 00:29 9°M 59'35 evening set -12503 Feb 12 i 14:16 9° ₹ 45'21 evening set -12509 Jan 16 j 02:36 13°M 11'26 max. Earth dist. -12503 Feb 28 j 01:15 10° ₹ 40'54 19.82837 AU -12509 Feb 01 j 22:01 14°ML10'14 -1°07'08 -12503 Mar 01 j 09:05 10° ₹ 45'43 -1°16'05 conjunction conjunction -12509 Feb 01 j 22:00 14°ML10'14 1°07'41 -12503 Mar 01 j 09:05 10° ₹ 45'43 1°16'49 minimum elong minimum elong max. Earth dist. -12509 Feb 01 j 03:07 14° ML07'28 20.25419 AU -12503 Mar 18 j 01:30 11° ₹ 45'47 morning rise -12509 Feb 16 j 02:19 15°M -12503 Jun 18 j 06:46 15° **₹** 02'13 retrograde -12509 Feb 18 j 17:15 15° ML09'04 -12503 Aug 30 j 22:59 13°₹00'36 -1°24'44 morning rise opposition -12509 May 22 j 20:32 18° M21'50 -12503 Sep 01 j 02:38 12° ₹ 57'36 17.79447 AU min. Earth dist. retrograde -12509 Aug 05 j 10:24 16°M20'46 -1°16'01 -12503 Nov 14 j 13:21 10°**х** 56'04 direct opposition evening set min. Earth dist. -12509 Aug 06 j 03:08 16°ML18'59 18.21976 AU -12502 Feb 17 j 14:52 14° ₹ 17'37 -12502 Mar 04 j 23:24 15° ₹ 13'03 19.75965 AU -12509 Sep 08 j 20:39 15°RM max. Earth dist. -12509 Oct 19 j 12:10 14°M 18'45 direct -12502 Mar 06 j 09:10 15°**尽** 18'11 -1°16'01 -12509 Nov 28 j 16:43 15°M conjunction -12508 Jan 20 j 22:11 17° M 32'00 -12502 Mar 06 j 09:10 15° ₹ 18'11 1°16'46 evening set minimum elong morning rise -12502 Mar 23 j 00:58 16° **₹** 18'25 conjunction -12508 Feb 06 j 17:47 18°M 31'04 -1°09'40 retrograde -12502 Jun 23 j 03:05 19°**х** 35′26 minimum elong -12508 Feb 06 j 17:46 18°M 31'04 1°10'14 opposition -12502 Sep 04 j 16:03 17°**х** 33'42 -1°24'26 max. Earth dist. -12508 Feb 05 j 20:59 18°ML28'00 20.18441 AU min. Earth dist. -12502 Sep 05 j 20:01 17°**х** 30'39 17.72703 AU -12508 Feb 23 j 12:46 19°M30'08 -12502 Nov 19 j 10:42 15° ₹28'45 morning rise direct -12508 May 26 j 13:41 22° ML43'32 -12501 Feb 22 j 15:59 18° ₹ 51'35 retrograde evening set -12508 Aug 08 j 22:16 20°M42'26 -1°18'38 max. Earth dist. -12501 Mar 09 j 23:45 19°**х** 47'10 19.69353 AU opposition -12508 Aug 09 j 16:06 20°M 40'31 18.14960 AU min. Earth dist. -12501 Mar 11 j 09:54 19° ₹ 52'22 -1°15'28 direct -12508 Oct 23 j 02:29 18°ML40'02 conjunction evening set -12507 Jan 24 j 19:01 21°M 54'42 minimum elong -12501 Mar 11 j 09:54 19° ₹752'22 1°16'13 -12501 Mar 28 j 00:46 20° ₹ 52'46 morning rise -12507 Feb 10 j 14:35 22°M 54'03 -1°11'48 conjunction retrograde -12501 Jun 27 i 22:11 24° ₹ 10'21 minimum elong -12507 Feb 10 i 14:34 22°ML54'03 1°12'25 opposition -12501 Sep 09 j 10:07 22° ₹ 08'31 -1°23'35 max. Earth dist. -12507 Feb 09 j 14:51 22°M 50'32 20.11371 AU min. Earth dist. -12501 Sep 10 j 15:46 22° ₹05'17 17.66264 AU -12507 Feb 27 j 09:12 23°ML53'19 direct -12501 Nov 24 j 05:59 20° ₹03'11 morning rise -12507 May 31 j 06:03 27° ML07'21 -12500 Feb 27 j 17:40 23°**尽**27'17 retrograde evening set opposition -12507 Aug 13 j 11:06 25°ML06'12 -1°20'50 max. Earth dist. -12500 Mar 13 j 23:05 24° ₹22'46 19.63099 AU min. Earth dist. -12507 Aug 14 j 08:00 25°ML03'57 18.07863 AU direct -12507 Oct 27 j 16:05 23°ML03'23 conjunction -12500 Mar 15 j 10:54 24°**₹** 28'15 -1°14'26 evening set -12506 Jan 29 j 16:43 26°M 19'28 minimum elong -12500 Mar 15 j 10:54 24°**₹**28'15 1°15'12 max. Earth dist. -12506 Feb 14 j 10:16 27° ML15'13 20.04237 AU -12500 Apr 01 j 01:06 25° ₹ 28'48 morning rise -12500 Jul 01 j 19:48 28° ₹ 46'57 retrograde -12506 Feb 15 j 12:13 27°M 19'05 -1°13'32 -12500 Sep 13 j 04:58 26° ₹ 45'01 -1°22'13 conjunction opposition -12506 Feb 15 j 12:13 27° ML 19'05 1°14'10 -12500 Sep 14 j 10:40 26° ₹ 41'47 17.60210 AU minimum elong min. Earth dist. morning rise -12506 Mar 04 j 06:26 28°M 18'34 direct -12500 Nov 28 j 05:10 24° ₹ 39'22 -12506 Apr 04 j 21:58 0°**∡**¹ evening set -12499 Mar 03 j 19:56 28°**尽**04'41 retrograde -12506 Jun 05 j 00:29 1°**х** 33′14 max. Earth dist. -12499 Mar 19 j 01:14 29° ₹ 00'23 19.57246 AU -12506 Aug 07 j 02:11 30°RML -12506 Aug 18 j 00:46 29°M31'58 -1°22'33 -12499 Mar 20 j 12:39 29°**尽** 05'50 -1°12'55 opposition conjunction min. Earth dist. -12506 Aug 18 j 22:38 29°M29'37 18.00705 AU -12499 Mar 20 j 12:39 29°**尽** 05'50 1°13'42 minimum elong

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Earth dist. -12492 Apr 21 j 22:12 2°≈06'59 19.29824 AU direct -12499 Dec 03 j 02:41 29° ₹ 17'19 -12498 Jan 12 j 19:30 0°ಕ conjunction -12492 Apr 23 j 09:01 2°≈12'29 -0°49'17 evening set -12498 Mar 08 j 22:50 2°る43'48 minimum elong -12492 Apr 23 j 09:02 2°≈12'29 0°49'58 max. Earth dist. -12498 Mar 24 j 01:50 3°중39'24 19.51866 AU morning rise -12492 May 09 j 14:39 3°≈13'34 retrograde -12492 Aug 08 j 15:41 6°≈35'20 -12498 Mar 25 j 14:38 3°₹45'05 -1°10'56 -12492 Oct 20 j 20:38 conjunction opposition 4°≈33'36 -0°52'22 minimum elong -12498 Mar 25 j 14:38 3°**ප්**45'05 1°11'42 min. Earth dist. -12492 Oct 22 j 03:02 4°≈30'18 17.28821 AU morning rise -12498 Apr 11 j 02:56 4°る45'53 direct -12491 Jan 05 j 12:53 2°≈26'54 retrograde -12498 Jul 11 j 14:51 8°**る**05'07 evening set -12491 Apr 12 j 03:24 5°≈58'59 opposition -12498 Sep 22 j 21:37 6°**ට**03'09 -1°17'50 max. Earth dist. -12491 Apr 27 j 02:56 6°≈55'23 19.27788 AU min. Earth dist. -12498 Sep 24 j 04:12 5°**궁**59'49 17.49455 AU direct -12498 Dec 08 j 02:58 3°**る**57'01 conjunction -12491 Apr 28 j 12:20 7°≈00'41 -0°44'16 evening set -12497 Mar 14 j 01:50 7°**る**24'36 minimum elong -12491 Apr 28 j 12:20 7°≈00'41 0°44'54 max. Earth dist. -12497 Mar 29 j 05:21 8°る20'30 19.46983 AU morning rise -12491 May 14 j 16:46 8°≈01'43 retrograde -12491 Aug 13 j 17:32 11°≈23'44 conjunction -12497 Mar 30 j 17:01 8°る26'02 -1°08'27 opposition -12491 Oct 25 j 23:00 9°≈22'00 -0°46'36 minimum elong -12497 Mar 30 j 17:01 8°**ප**26'02 1°09'14 min. Earth dist. -12491 Oct 27 j 03:50 9°≈18'52 17.27015 AU morning rise -12497 Apr 16 j 04:10 9°る26'56 direct -12490 Jan 10 i 18:35 7°≈15'17 retrograde -12497 Jul 16 j 13:23 12°₹46'41 evening set -12490 Apr 17 j 07:41 10°≈47'37 -12497 Sep 27 j 19:21 10°₹44'45 -1°14'50 max. Earth dist. -12490 May 02 j 07:02 11°≈44'07 19.26246 AU opposition -12497 Sep 29 j 02:23 10°중41'22 17.44818 AU min. Earth dist. -12497 Dec 13 j 02:36 8°**궁**38'28 -12490 May 03 j 15:26 11°≈49'15 -0°38'57 direct conjunction -12496 Mar 18 j 05:36 12°**⋜**07'04 -12490 May 03 j 15:26 11°≈49'16 0°39'32 minimum elong evening set -12496 Apr 02 j 06:57 13°중02'53 19.42606 AU -12490 May 19 j 18:38 12°≈50'15 max. Earth dist. morning rise -12490 Jun 28 j 06:15 15°≈ -12496 Apr 03 j 19:45 13°る08'36 -1°05'30 -12490 Aug 18 j 16:51 16°≈12'26 conjunction retrograde -12496 Apr 03 j 19:45 13°₹08'37 1°06'16 -12490 Oct 11 j 12:51 15°R≈ minimum elong -12496 Apr 20 j 06:00 14°**⋜**09'36 -12490 Oct 31 j 01:58 14°≈10'40 -0°40'30 morning rise opposition -12496 Jul 20 j 12:53 17°**궁**29'50 -12490 Nov 01 j 06:37 14°≈07'33 17.25743 AU retrograde min. Earth dist. -12496 Oct 01 j 17:46 15°る27'58 -1°11'19 -12489 Jan 15 j 22:33 12°≈03'55 opposition direct -12496 Oct 03 j 00:51 15°る24'35 17.40691 AU min. Earth dist. -12489 Apr 12 j 11:51 15°≈ direct -12496 Dec 17 j 03:24 13°중21'33 evening set -12489 Apr 22 j 11:30 15°≈36'24 evening set -12495 Mar 23 j 09:38 16°**⋜**51'06 max. Earth dist. -12489 May 07 j 11:12 16°≈33'03 19.25262 AU max. Earth dist. -12495 Apr 07 j 11:29 17°정47'11 19.38718 AU conjunction -12489 May 08 j 18:02 16°≈37'57 -0°33'20 -12495 Apr 08 j 22:59 17°₹52'45 -1°02'05 -12489 May 08 j 18:02 16°≈37'57 0°33'53 conjunction minimum elong -12495 Apr 08 j 22:59 17°₹52'45 1°02'50 -12489 May 24 j 20:10 17°≈38'51 minimum elong morning rise -12495 Apr 25 j 08:00 18°₹53'47 -12489 Aug 23 j 18:33 21°≈01'09 morning rise retrograde -12495 Jul 25 j 13:45 22°쥥14'29 -12489 Nov 05 j 05:10 18°≈59'21 -0°34'06 retrograde opposition -12495 Oct 06 j 17:20 20°る12'41 -1°07'16 opposition min. Earth dist. -12489 Nov 06 j 07:30 18°≈56'30 17.25027 AU min. Earth dist. -12495 Oct 08 j 00:20 20°る09'18 17.37031 AU direct -12488 Jan 21 i 05:40 16°≈52'38 direct -12495 Dec 22 i 04:59 18°る06'11 evening set -12488 Apr 26 j 15:00 20°≈25'05 evening set -12494 Mar 28 j 13:58 21°る36'33 max. Earth dist. -12494 Apr 12 j 14:00 22°る32'34 19.35295 AU -12488 May 12 j 20:22 21°≈26'32 -0°27'31 conjunction minimum elong -12488 May 12 j 20:22 21°≈26'32 0°27'59 -12494 Apr 14 i 02:08 22° ₹38'15 -0°58'14 max. Earth dist. -12488 May 11 j 15:38 21°≈21'58 19.24846 AU conjunction -12488 May 28 j 21:13 22°**≈**27′20 -12494 Apr 14 j 02:09 22°る38'15 0°58'57 minimum elong morning rise -12494 Apr 30 j 10:06 23°る39'20 morning rise retrograde -12488 Aug 27 j 17:33 25°≈49'41 -12494 Jul 30 j 13:49 27°る00'27 retrograde opposition -12488 Nov 09 j 08:47 23°≈47'51 -0°27'29 -12488 Nov 10 j 10:33 23°≈45'04 17.24917 AU opposition -12494 Oct 11 j 17:45 24°る58'41 -1°02'45 min. Earth dist. -12487 Jan 25 j 10:07 21°≈41'10 min. Earth dist. -12494 Oct 13 j 00:49 24°중55'19 17.33844 AU direct -12494 Dec 27 j 06:30 22°**궁**52'06 -12487 May 01 j 18:08 25°≈13'30 direct evening set -12493 Apr 02 j 18:23 26°₹23'11 evening set -12493 Apr 17 j 18:52 27°정19'26 19.32336 AU -12487 May 17 j 22:08 26°≈14'48 -0°21'30 max. Earth dist. conjunction minimum elong -12487 May 17 j 22:08 26°≈14'48 0°21'56 conjunction -12493 Apr 19 j 05:37 27°♂24'55 -0°53'57 max. Earth dist. -12487 May 16 j 19:02 26°≈10'29 19.25066 AU minimum elong -12493 Apr 19 j 05:37 27°₹24'55 0°54'39 morning rise -12487 Jun 02 j 21:58 27°≈15'29 morning rise -12493 May 05 j 12:22 28°중26'00 -12487 Jul 27 j 01:04 0°**∀** -12493 Jun 01 j 20:53 retrograde -12487 Sep 01 j 19:17 0°**∺**37'51 -12493 Aug 04 j 15:53 -12487 Oct 09 j 16:50 30°R≈ retrograde 1°≈47'28

opposition

-12487 Nov 14 j 12:41 28°≈35'59 -0°20'41

-12493 Oct 11 j 07:22 30°R ₹

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12487 in astronomical counting style is the year 12488 BCE in historical counting style. min. Earth dist. -12487 Nov 15 j 11:29 28°≈33'32 17.25451 AU minimum elong -12481 Jun 15 j 20:35 24° **H** 51'19 0°16'00 behind sun begin -12486 Jan 30 j 16:54 26°≈29'24 -12481 Jun 15 j 19:27 24°\ 51'08 direct evening set -12486 May 06 j 20:29 0°**₩**01'27 -12481 Jun 15 j 21:43 24° **H** 51'29 behind sun end -12486 May 06 j 11:08 0°**∀** max. Earth dist. -12481 Jun 15 j 08:56 24° **X** 49'28 19.39972 AU -12481 Jul 01 j 14:14 25°**ਮ** 50'52 morning rise -12486 May 22 j 23:20 1°**米**02'36 -0°15'21 conjunction retrograde -12481 Sep 30 j 21:59 29° **∺** 12'34 -12486 May 22 j 23:20 minimum elong 1° **★**02'36 0°15'44 opposition -12481 Dec 14 j 13:51 27° ★ 11'08 0°21'13 min. Earth dist. behind sun begin -12486 May 22 j 21:51 1°**₩**02'22 -12481 Dec 14 j 22:48 27° **₭** 10'12 17.42118 AU behind sun end -12486 May 23 j 00:49 1°**)** 02'49 direct -12480 Feb 29 j 18:32 25°**₭**06'19 max. Earth dist. -12486 May 21 j 23:23 0°**¥**58'47 19.25936 AU evening set -12480 Jun 03 j 22:31 28° **∺** 34'34 morning rise -12486 Jun 07 j 21:53 2°**₩**03'07 -12480 Jun 19 j 18:10 29° **€** 34'19 0°22'07 retrograde -12486 Sep 06 j 18:43 5°**)**€25'28 conjunction -12480 Jun 19 j 18:10 29°**)** 34'19 opposition -12486 Nov 19 j 16:54 3°**¥**23'37 -0°13'44 minimum elong 0°22'06 min. Earth dist. -12486 Nov 20 j 14:31 3°**₭**21'17 17.26656 AU max. Earth dist. -12480 Jun 19 j 10:09 29° ₩ 33'03 19.44361 AU direct -12485 Feb 04 j 20:55 1°**¥**17'12 -12480 Jun 26 j 12:11 $0^{\circ}\Upsilon$ evening set -12485 May 11 j 22:31 4°**)** 48′52 morning rise -12480 Jul 05 j 10:46 0°Y33'38 retrograde -12480 Oct 04 j 20:45 3°Y55'04 conjunction -12485 May 27 j 23:58 5°\dagger49'48 -0°09'07 opposition -12480 Dec 18 j 17:44 1°Υ53'46 0°27'53 minimum elong -12485 May 27 j 23:58 5°**)**49'48 0°09'27 min. Earth dist. -12480 Dec 19 j 00:22 1°**Υ**53'04 17.46695 AU behind sun begin -12485 May 27 j 18:25 5°**)**(48'57 -12479 Feb 13 j 12:18 30°R € behind sun end -12485 May 28 j 05:31 5°**)** 50'40 direct -12479 Mar 05 j 22:18 29°**)** 49'21 max. Earth dist. -12485 May 27 i 01:39 5°**)** 46'15 19.27493 AU -12479 Mar 26 i 02:11 $0^{\circ}\Upsilon$ morning rise -12485 Jun 12 j 21:34 6° + 50'10 evening set -12479 Jun 08 j 20:31 3°Y16'36 retrograde -12485 Sep 11 j 20:27 10° + 12'27 opposition -12485 Nov 24 j 20:53 8° ¥ 10'38 -0°06'43 conjunction -12479 Jun 24 i 14:56 4°Υ16'03 0°28'00 min. Earth dist. -12485 Nov 25 i 15:17 8°¥08'40 17.28544 AU -12479 Jun 24 i 14:55 4°**Y**16′03 0°28'03 minimum elong -12484 Feb 10 j 02:33 6°**)**€04'26 max. Earth dist. -12479 Jun 24 j 08:32 4°Υ15'03 19.49126 AU direct evening set -12484 May 15 j 23:49 9°**H** 35'37 -12479 Jul 10 j 06:51 5°**Y**15′08 morning rise -12484 May 31 j 05:28 10° ¥ 33'23 19.29716 AU -12479 Oct 09 j 20:10 8°**Υ**36'16 max Farth dist retrograde 6°**Y**35'02 0°34'20 -12479 Dec 23 j 21:22 opposition -12484 Jun 01 j 00:13 10°¥36'22 -0°02'50 -12479 Dec 24 j 01:35 6°**Υ**34'36 17.51640 AU conjunction min. Earth dist. -12484 Jun 01 j 00:12 10° ¥ 36'22 0°03'06 -12478 Mar 11 j 01:30 4°**Υ**31'01 direct minimum elong -12484 May 31 j 17:37 10°**米**35'21 7°**Y**57'12 behind sun begin -12478 Jun 13 j 17:23 evening set -12484 Jun 01 j 06:48 10°**)** 37'23 behind sun end -12478 Jun 29 j 10:57 8° Υ 56'21 0°33'40 -12484 Jun 16 j 20:34 11° **∺** 36'33 morning rise conjunction -12484 Sep 15 j 20:01 14° **€** 58'44 -12478 Jun 29 j 10:56 8°**Y** 56'21 0°33'47 retrograde minimum elong -12484 Nov 11 j 12:49 13°\ 40'54 -12478 Jun 29 j 08:00 8°**Υ**55'53 19.54227 AU asc. node max. Earth dist. -12484 Nov 29 j 01:15 12°\ 57'00 0°00'21 morning rise -12478 Jul 15 j 02:03 9°**Y**55'10 opposition min. Earth dist. -12484 Nov 29 j 18:03 12°\\$55'12 17.31080 AU retrograde -12478 Oct 14 j 17:49 13°**Υ**15'57 -12483 Feb 14 j 06:07 10° **₭** 51'05 opposition -12478 Dec 29 j 00:30 11°**Υ**′14'48 0°40'31 direct -12483 May 21 j 00:34 14°**米**21'41 min. Earth dist. -12478 Dec 29 j 01:56 11°**Υ**°14'39 17.56879 AU evening set -12477 Mar 16 j 05:07 9°**Υ**11'09 direct -12483 Jun 05 j 23:32 15°**米**22'12 0°03'38 -12477 Jun 18 j 13:37 12°**Υ**36'11 conjunction evening set -12483 Jun 05 j 23:32 15°**米**22'12 0°03'26 minimum elong -12483 Jun 05 j 16:59 15°**米**21'11 -12477 Jul 04 j 06:08 13°**Y**°35′02 0°39′05 behind sun begin conjunction -12483 Jun 06 i 06:06 15°¥23'13 -12477 Jul 04 j 06:07 13° γ35'02 0°39'14 behind sun end minimum elong -12477 Jul 04 j 04:58 13° γ 34'51 19.59604 AU max. Earth dist. -12483 Jun 05 i 06:28 15° ¥ 19'29 19.32578 AU max. Earth dist. morning rise -12483 Jun 21 j 19:03 16° # 22'11 morning rise -12477 Jul 19 i 20:42 14° γ33'35 -12477 Oct 19 j 14:55 17° Υ 53'58 retrograde -12483 Sep 20 j 21:39 19° \(\frac{1}{44}\)'15 retrograde opposition -12483 Dec 04 j 05:32 17° \(\frac{1}{42}\)'36 0°07'23 $-12476 \text{ Jan } 03 \text{ i } 02:58 \text{ } 15^{\circ}\text{Y}52'51 \text{ } 0^{\circ}46'24$ opposition min. Earth dist. -12483 Dec 04 j 19:09 17°\ 41'09 17.34236 AU min. Earth dist. -12476 Jan 03 j 02:26 15° Υ 52'54 17.62402 AU -12482 Feb 19 j 10:58 15° **€** 37'02 direct -12476 Mar 20 j 06:35 13°**Y**49'34 direct -12482 May 26 j 00:33 19°**米**06'57 -12476 Jun 22 j 08:46 17°**Υ**13'23 evening set evening set -12476 Jul 08 j 00:31 18°**Υ**'11'55 0°44'12 conjunction -12482 Jun 10 j 22:30 20° ₭ 07'13 0°09'53 conjunction minimum elong -12482 Jun 10 j 22:30 20° ₭ 07'13 0°09'44 minimum elong -12476 Jul 08 j 00:30 18°Υ11'55 0°44'26 behind sun begin -12482 Jun 10 j 17:03 20°**米**06'22 max. Earth dist. -12476 Jul 08 j 02:33 18°**Υ**12'14 19.65258 AU -12476 Jul 23 j 14:28 19° Υ 10'13 -12482 Jun 11 j 03:57 20° ₩ 08'04 behind sun end morning rise -12482 Jun 10 j 09:17 20° ₩ 05'08 19.36020 AU -12476 Oct 23 j 11:35 22°**Y**30'08 max. Earth dist. retrograde -12482 Jun 26 j 16:53 21°₩07'00 -12475 Jan 07 j 04:56 20°**Y**29'03 0°51'55 morning rise opposition -12482 Sep 25 j 21:10 24° **★**28'53 -12475 Jan 07 j 01:11 20°**Υ**29'26 17.68176 AU retrograde min. Earth dist. opposition -12482 Dec 09 j 09:48 22° ★27'22 0°14'22 direct -12475 Mar 25 j 08:57 18°**Υ**26'08 min. Earth dist. -12482 Dec 09 j 21:30 22° ¥26'08 17.37935 AU evening set -12475 Jun 27 j 02:53 21°**Y**48'38 direct -12481 Feb 24 j 14:23 20° ★22'10 evening set -12481 May 30 j 23:57 23°**₭**51'18 conjunction -12475 Jul 12 j 17:47 22°**Y**46'52 0°49'01 minimum elong -12475 Jul 12 j 17:46 22°**Y**46'52 0°49'17 -12481 Jun 15 j 20:35 24° **€** 51'19 0°16'04 max. Earth dist. -12475 Jul 12 j 22:08 22°**Y**47'33 19.71159 AU conjunction

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12475 in astronomical counting style is the year 12476 BCE in historical counting style. -12475 Jul 28 i 07:20 23°**Υ**44'54 retrograde -12469 Nov 24 j 18:26 23°**8**46'07 morning rise -12475 Oct 28 j 06:51 27° Υ 04'21 opposition -12468 Feb 09 j 21:00 21°845'28 1°19'02 retrograde -12474 Jan 12 j 06:21 25° Υ 03'16 0° 57'04 min. Earth dist. -12468 Feb 09 j 00:19 21°**8**47'35 18.15598 AU opposition -12474 Jan 12 j 00:45 25°**Y**03'51 17.74221 AU -12468 Apr 26 j 11:30 19°**8**45'21 min. Earth dist. direct -12474 Mar 30 j 07:54 23°**Y**00'41 -12468 Jul 27 j 07:39 22°**8**58'20 direct evening set -12474 Jul 01 j 20:02 26°**Y**21'51 evening set -12468 Aug 11 j 19:36 23°**8**54'30 1°12'08 conjunction -12474 Jul 17 j 10:18 27°**Υ**19'47 0°53'28 -12468 Aug 11 j 19:35 23°**8**54'30 1°12'45 conjunction minimum elong -12474 Jul 17 j 10:17 27°**Υ**19'46 0°53'48 minimum elong max. Earth dist. -12468 Aug 12 j 17:54 23°**8**57'54 20.19239 AU max. Earth dist. -12474 Jul 17 j 17:42 27°**Y**20'56 19.77334 AU morning rise -12468 Aug 27 j 08:27 24°**8**50'50 morning rise -12474 Aug 01 j 23:27 28°**Y**17'33 retrograde -12468 Nov 28 j 11:13 28°**8**06'18 -12474 Sep 01 j 13:29 -12467 Feb 13 j 16:35 26°**8**05'47 1°21'05 0° 8 opposition -12474 Nov 02 j 02:42 -12467 Feb 12 j 16:53 26°**8**08'12 18.22961 AU retrograde 1°**8**36'27 min. Earth dist. -12473 Jan 07 j 07:22 30°R**Y** direct -12467 May 01 j 05:56 24°**8**06'07 opposition -12473 Jan 17 j 06:39 29°**Y**35'23 1°01'49 evening set -12467 Jul 31 j 18:41 27°**8**17'46 min. Earth dist. -12473 Jan 16 j 21:33 29°**Υ**36'20 17.80527 AU direct -12473 Apr 04 j 08:19 27°**Y**33'10 conjunction -12467 Aug 16 j 06:39 28°**8**13'42 1°13'47 -12473 Jun 21 j 10:41 0°႘ minimum elong -12467 Aug 16 j 06:38 28°**8**13'42 1°14'26 evening set -12473 Jul 06 j 12:14 0°**ප**52'58 max. Earth dist. -12467 Aug 17 j 07:31 28°**8**17'28 20.26567 AU morning rise -12467 Aug 31 j 19:43 29°**8**09'48 conjunction -12473 Jul 22 j 01:51 1°**8**50'35 0°57'34 -12467 Sep 15 j 10:30 0°**П** minimum elong -12473 Jul 22 i 01:50 1°850'35 0°57'58 retrograde -12467 Dec 03 i 01:42 2°**II**24'42 max. Earth dist. -12473 Jul 22 j 11:52 1°852'08 19.83764 AU min. Earth dist. -12466 Feb 17 j 11:03 0° **I**I 26'47 18.30258 AU morning rise -12473 Aug 06 i 14:44 2°**8**48'06 opposition -12466 Feb 18 j 11:29 0° **П**24'18 1°22'40 retrograde -12473 Nov 06 j 20:25 6°**8**06'27 -12466 Feb 28 j 12:29 30°R8 opposition -12472 Jan 22 i 06:26 4°805'25 1°06'09 direct -12466 May 05 j 22:15 28°825'04 min. Earth dist. -12472 Jan 21 j 19:35 4°806'32 17.87106 AU -12466 Jul 06 j 20:31 $0^{\circ}\Pi$ -12472 Apr 08 j 04:44 2°803'34 -12466 Aug 05 j 05:13 1°**Ⅲ**35'24 direct evening set -12472 Jul 10 j 03:24 5°**8**21'59 evening set conjunction -12466 Aug 20 j 17:11 2°**Д**31'06 1°15'01 -12472 Jul 25 j 16:29 6°819'18 1°01'17 -12466 Aug 20 j 17:11 2°**Д**31'06 1°15'42 conjunction minimum elong -12472 Jul 25 j 16:29 6°**8**19'18 1°01'43 max. Earth dist. -12466 Aug 21 j 19:01 2°**Д**35'00 20.33800 AU minimum elong -12472 Jul 26 j 05:15 6°**8**21'16 19.90472 AU -12466 Sep 05 j 06:41 3°**Ⅲ**27'01 max. Earth dist. morning rise -12472 Aug 10 j 05:09 7°**8**16'33 -12466 Dec 07 j 17:05 6°**Д**41'18 retrograde morning rise -12465 Feb 22 j 02:23 4°**Д**43'44 18.37418 AU -12472 Nov 10 j 15:35 10°**8**34'20 retrograde min. Earth dist. -12465 Feb 23 j 05:11 4°**Д**41'01 1°23'46 -12471 Jan 26 j 05:16 8°\begin{align*} 8°\begin{align*} 33'22 1°10'03 \end{align*} opposition opposition -12471 Jan 25 j 14:40 8°**8**34'52 17.93941 AU -12465 May 10 j 14:21 2°**Д**42'09 min. Earth dist. direct direct -12471 Apr 13 j 03:08 6°**8**31'55 evening set -12465 Aug 09 j 15:01 5°**II**51'15 evening set -12471 Jul 14 j 17:44 9°**8**48'58 conjunction -12465 Aug 25 j 03:11 6°**Д**46'43 1°15'50 -12471 Jul 30 j 06:24 10°**8**45'58 1°04'36 conjunction minimum elong -12465 Aug 25 j 03:11 6°**Д**46'43 1°16'31 minimum elong -12471 Jul 30 j 06:23 10°**8**45'58 1°05'07 max. Earth dist. -12465 Aug 26 j 07:09 6°**Д**50'55 20.40846 AU max. Earth dist. -12471 Jul 30 j 22:01 10°**8**48'23 19.97420 AU morning rise -12465 Sep 09 j 17:01 7°**Д**42'26 -12471 Aug 14 j 18:57 11°**8**42'59 retrograde -12465 Dec 12 j 05:58 10°**Д**56'08 morning rise -12471 Nov 12 j 14:05 15°**8** -12464 Feb 27 j 22:17 8°Д55'56 1°24'24 opposition -12471 Nov 15 j 08:29 15°**8**00'12 -12464 Feb 26 j 19:03 8°**Д**58'42 18.44360 AU retrograde min. Earth dist. -12471 Nov 18 j 03:06 15°R8 -12464 May 14 і 05:14 6°**Д**57'27 direct -12470 Jan 30 j 11:18 13°\(200'58\) 18.01015 AU -12464 Aug 13 i 00:04 10°**Д**05'17 min. Earth dist. evening set opposition direct -12470 Apr 17 i 21:42 10°858'18 conjunction -12464 Aug 28 j 12:24 11°**II**00'32 1°16'13 -12470 Jul 19 j 07:08 14°**8**13'58 minimum elong -12464 Aug 28 j 12:24 11°**II**00'32 1°16'57 evening set -12470 Jul 31 j 21:55 15°8 max. Earth dist. -12464 Aug 29 j 16:52 11°**Д**04'48 20.47666 AU morning rise -12464 Sep 13 j 02:51 11°Д56'05 -12464 Dec 15 j 20:05 15°**Д**09'12 conjunction -12470 Aug 03 j 19:30 15°**8**10'41 1°07'32 retrograde -12463 Mar 02 j 09:16 13°**Д**12'01 18.51052 AU minimum elong -12470 Aug 03 j 19:29 15°**8**10'41 1°08'04 min. Earth dist. max. Earth dist. -12470 Aug 04 j 13:22 15°8 13'26 20.04589 AU opposition -12463 Mar 03 j 14:29 13°**I**109'04 1°24'34 -12463 May 18 j 19:31 11°**Д**10'53 morning rise -12470 Aug 19 j 08:06 16°**8**07'28 direct retrograde -12470 Nov 20 j 02:33 19°**8**24'06 evening set -12463 Aug 17 j 08:31 14°**Ⅲ**17'31 min. Earth dist. -12469 Feb 04 j 05:00 17°**8**25'19 18.08259 AU -12469 Feb 05 j 00:35 17°**8**23'19 1°16'31 -12463 Sep 01 j 21:17 15°**I**I12'35 1°16'11 opposition conjunction -12469 Apr 22 j 18:13 15°**8**22'45 -12463 Sep 01 j 21:17 15°**I**I12'35 1°16'55 direct minimum elong -12469 Jul 23 j 19:46 18°**8**37'04 evening set max. Earth dist. -12463 Sep 03 j 03:43 15°**I**17'06 20.54207 AU morning rise -12463 Sep 17 j 12:15 16°**Ⅲ**07'58 conjunction -12469 Aug 08 j 07:54 19°**8**33'31 1°10'02 retrograde -12463 Dec 20 j 07:28 19°**Ⅲ**20'28 minimum elong -12469 Aug 08 j 07:54 19°\(233'31\) 1°10'37 min. Earth dist. -12462 Mar 07 j 00:15 17°**Ⅲ**23'21 18.57453 AU max. Earth dist. -12469 Aug 09 j 04:32 19°**8**36'40 20.11878 AU -12462 Mar 08 j 05:42 17°**П**20'23 1°24'16 opposition morning rise -12469 Aug 23 j 20:32 20°830'04 -12462 May 23 j 08:46 15°**Д**22'29 direct

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, page 36 Attention, astronomical year style is used: The year -12462 in astronomical counting style is the year 12463 BCE in historical counting style. evening set -12462 Aug 21 j 16:21 18° II 27'57 max. Earth dist. -12456 Oct 01 j 08:30 13° 556'32 20.92640 A

		•		ounting style is the year			
evening set	-12462 Aug 21 j 16:21	18° Ⅲ 27'57		max. Earth dist.	-12456 Oct 01 j 08:30	13° © 56'32	20.92640 AU
				morning rise	-12456 Oct 15 j 18:20	14°5546'08	
conjunction	-12462 Sep 06 j 05:29	19° Ⅲ 22'50	1°15'45	retrograde	-12455 Jan 18 j 06:50	17° © 54'59	
minimum elong	-12462 Sep 06 j 05:29			min. Earth dist.	-12455 Apr 05 j 06:06	15°\$58'39	18.94974 AU
max. Earth dist.	-12462 Sep 07 j 12:03			opposition	-12455 Apr 06 j 16:05		1°10'48
	1 3		20.00409 AU	**	1 3		1 1046
morning rise	-12462 Sep 21 j 21:16			direct	-12455 Jun 21 j 02:53		
retrograde	-12462 Dec 24 j 20:24			evening set	-12455 Sep 18 j 08:52	16°558'00	
opposition	-12461 Mar 12 j 19:59	21° Ⅲ 29'55	1°23'33				
min. Earth dist.	-12461 Mar 11 j 13:02	21° Ⅲ 33′02	18.63575 AU	conjunction	-12455 Oct 04 j 03:05	17° © 52'08	1°02'32
direct	-12461 May 27 j 21:06	19° Ⅲ 32'15		minimum elong	-12455 Oct 04 i 03:05	17°952'08	1°03'17
evening set	-12461 Aug 25 j 23:26			max. Earth dist.	-12455 Oct 05 j 15:32	17°9357'23	20 97034 AU
evening set	12401 Mug 23 j 23.20	22 113030			,		20.77034710
	10161 0 10:10.00	•••• •	101.415	morning rise	-12455 Oct 20 j 01:08		
conjunction	-12461 Sep 10 j 13:08			retrograde	-12454 Jan 22 j 15:04	21°255'15	
minimum elong	-12461 Sep 10 j 13:08	23° Ⅲ 31'19	1°15'42	min. Earth dist.	-12454 Apr 09 j 15:14	19° © 59'00	18.99175 AU
max. Earth dist.	-12461 Sep 11 j 21:40	23° Ⅲ 36′07	20.66439 AU	opposition	-12454 Apr 11 j 00:52	19° © 55'38	1°07'25
morning rise	-12461 Sep 26 j 05:31	24°∏26'26		direct	-12454 Jun 25 j 09:51	17°959'29	
retrograde	-12461 Dec 29 j 05:55			evening set	-12454 Sep 22 j 13:42		
-			10 (0415 41)	evening set	-12434 SCP 22 J 13.42	20 357 39	
min. Earth dist.	-12460 Mar 15 j 02:08					_	
opposition	-12460 Mar 16 j 09:21		1°22'24	conjunction	-12454 Oct 08 j 08:45		0°59'21
direct	-12460 May 31 j 08:35	23° Ⅱ 40′16		minimum elong	-12454 Oct 08 j 08:45	21° © 52'04	1°00'04
evening set	-12460 Aug 29 j 06:04	26° Ⅱ 43'33		max. Earth dist.	-12454 Oct 09 j 19:59	21° © 57'08	21.01044 AU
· ·	• •			morning rise	-12454 Oct 24 j 08:00	22°9546'43	
conjunction	-12460 Sep 13 j 20:14	27°π28'07	1012144	retrograde	-12453 Jan 27 j 00:24		
	1 3			Č	J		10.02060 411
minimum elong	-12460 Sep 13 j 20:14			min. Earth dist.	-12453 Apr 13 j 23:56		
max. Earth dist.	-12460 Sep 15 j 04:51		20.72163 AU	opposition	-12453 Apr 15 j 09:13	23°955'18	1°03'43
morning rise	-12460 Sep 29 j 13:33	28° Ⅲ 33'07		direct	-12453 Jun 29 j 15:24	21° © 59'19	
	-12460 Oct 26 j 17:47	0°©		evening set	-12453 Sep 26 j 18:16	24°957'17	
retrograde	-12459 Jan 01 j 17:45	1°9543'52		· ·	1 0		
101108111110	-12459 Mar 14 j 04:41			conjunction	-12453 Oct 12 j 14:24	250651121	0°55'52
•,•	•		1020150	•			
opposition	-12459 Mar 20 j 21:52			minimum elong	-12453 Oct 12 j 14:24		
min. Earth dist.	-12459 Mar 19 j 13:23	29° ∏ 47'06	18.75027 AU	max. Earth dist.	-12453 Oct 14 j 02:19	25° © 56'30	21.04597 AU
direct	-12459 Jun 04 j 18:48	27° Ⅱ 46'37		morning rise	-12453 Oct 28 j 14:36	26°5946'00	
	-12459 Aug 18 j 17:41	0°©		retrograde	-12452 Jan 31 j 08:16	29°953'46	
evening set	-12459 Sep 02 j 12:04			min. Earth dist.	-12452 Apr 17 j 08:25		19 06270 AU
evening sec	1213) Sep 02 j 12.01	0 - 1033		opposition	-12452 Apr 18 j 17:02		
	10150 0 10:00 00	1001010	1010110	* *	1 3		0 3943
conjunction	-12459 Sep 18 j 03:00	1°9543'22		direct			
	1 2				-12452 Jul 02 j 21:09		
minimum elong	-12459 Sep 18 j 03:00		1°12'56	evening set	-12452 Sep 29 j 23:03		
minimum elong max. Earth dist.	1 2	1°543'22					
max. Earth dist.	-12459 Sep 18 j 03:00	1°543'22	1°12'56		-12452 Sep 29 j 23:03	28° © 56'00	0°52'08
max. Earth dist. morning rise	-12459 Sep 18 j 03:00 -12459 Sep 19 j 13:31 -12459 Oct 03 j 21:05	1°543'22 1°548'25 2°538'16	1°12'56	evening set	-12452 Sep 29 j 23:03 -12452 Oct 15 j 20:05	28°\$56'00 29°\$50'03	
max. Earth dist. morning rise retrograde	-12459 Sep 18 j 03:00 -12459 Sep 19 j 13:31 -12459 Oct 03 j 21:05 -12458 Jan 06 j 02:13	1°543'22 1°548'25 2°538'16 5°548'28	1°12'56 20.77647 AU	evening set conjunction minimum elong	-12452 Sep 29 j 23:03 -12452 Oct 15 j 20:05 -12452 Oct 15 j 20:05	28°\$56'00 29°\$50'03 29°\$50'04	0°52'49
max. Earth dist. morning rise retrograde min. Earth dist.	-12459 Sep 18 j 03:00 -12459 Sep 19 j 13:31 -12459 Oct 03 j 21:05 -12458 Jan 06 j 02:13 -12458 Mar 24 j 00:49	1°543'22 1°548'25 2°538'16 5°548'28 3°551'47	1°12'56 20.77647 AU 18.80396 AU	evening set	-12452 Sep 29 j 23:03 -12452 Oct 15 j 20:05 -12452 Oct 15 j 20:05 -12452 Oct 17 j 06:16	28°\$56'00 29°\$50'03 29°\$50'04 29°\$54'57	0°52'49
max. Earth dist. morning rise retrograde min. Earth dist. opposition	-12459 Sep 18 j 03:00 -12459 Sep 19 j 13:31 -12459 Oct 03 j 21:05 -12458 Jan 06 j 02:13 -12458 Mar 24 j 00:49 -12458 Mar 25 j 09:34	1°\$43'22 1°\$48'25 2°\$38'16 5°\$48'28 3°\$51'47 3°\$48'30	1°12'56 20.77647 AU	evening set conjunction minimum elong max. Earth dist.	-12452 Sep 29 j 23:03 -12452 Oct 15 j 20:05 -12452 Oct 15 j 20:05 -12452 Oct 17 j 06:16 -12452 Oct 18 j 17:37	28°\$56'00 29°\$50'03 29°\$50'04 29°\$54'57 0°\$\$\Omega\$	0°52'49
max. Earth dist. morning rise retrograde min. Earth dist.	-12459 Sep 18 j 03:00 -12459 Sep 19 j 13:31 -12459 Oct 03 j 21:05 -12458 Jan 06 j 02:13 -12458 Mar 24 j 00:49	1°543'22 1°548'25 2°538'16 5°548'28 3°551'47	1°12'56 20.77647 AU 18.80396 AU	evening set conjunction minimum elong	-12452 Sep 29 j 23:03 -12452 Oct 15 j 20:05 -12452 Oct 15 j 20:05 -12452 Oct 17 j 06:16	28°\$56'00 29°\$50'03 29°\$50'04 29°\$54'57 0°\$\Omega\$ 0°\$\Omega\$4'43	0°52'49
max. Earth dist. morning rise retrograde min. Earth dist. opposition	-12459 Sep 18 j 03:00 -12459 Sep 19 j 13:31 -12459 Oct 03 j 21:05 -12458 Jan 06 j 02:13 -12458 Mar 24 j 00:49 -12458 Mar 25 j 09:34	1°\$43'22 1°\$48'25 2°\$38'16 5°\$48'28 3°\$51'47 3°\$48'30	1°12'56 20.77647 AU 18.80396 AU	evening set conjunction minimum elong max. Earth dist.	-12452 Sep 29 j 23:03 -12452 Oct 15 j 20:05 -12452 Oct 15 j 20:05 -12452 Oct 17 j 06:16 -12452 Oct 18 j 17:37	28°\$56'00 29°\$50'03 29°\$50'04 29°\$54'57 0°\$\$\Omega\$	0°52'49
max. Earth dist. morning rise retrograde min. Earth dist. opposition direct	-12459 Sep 18 j 03:00 -12459 Sep 19 j 13:31 -12459 Oct 03 j 21:05 -12458 Jan 06 j 02:13 -12458 Mar 24 j 00:49 -12458 Mar 25 j 09:34 -12458 Jun 09 j 04:24	1°\$43'22 1°\$48'25 2°\$38'16 5°\$48'28 3°\$51'47 3°\$48'30 1°\$51'30	1°12'56 20.77647 AU 18.80396 AU	evening set conjunction minimum elong max. Earth dist. morning rise	-12452 Sep 29 j 23:03 -12452 Oct 15 j 20:05 -12452 Oct 15 j 20:05 -12452 Oct 17 j 06:16 -12452 Oct 18 j 17:37 -12452 Oct 31 j 21:33	28°\$56'00 29°\$50'03 29°\$50'04 29°\$54'57 0°\$\Omega\$000 00\Omega\$04'43 3°\$\Omega\$52'12	0°52'49
max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set	-12459 Sep 18 j 03:00 -12459 Sep 19 j 13:31 -12459 Oct 03 j 21:05 -12458 Jan 06 j 02:13 -12458 Mar 24 j 00:49 -12458 Mar 25 j 09:34 -12458 Jun 09 j 04:24 -12458 Sep 06 j 17:50	1°\$43'22 1°\$48'25 2°\$38'16 5°\$48'28 3°\$51'47 3°\$48'30 1°\$51'30 4°\$52'53	1°12'56 20.77647 AU 18.80396 AU 1°18'53	evening set conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist.	-12452 Sep 29 j 23:03 -12452 Oct 15 j 20:05 -12452 Oct 15 j 20:05 -12452 Oct 17 j 06:16 -12452 Oct 18 j 17:37 -12452 Oct 31 j 21:33 -12451 Feb 03 j 17:20 -12451 Apr 21 j 16:41	28°\$56'00 29°\$50'03 29°\$50'04 29°\$54'57 0°\$\Omega\$0\$0\cdot \text{0}\text{0}\text{0}\text{0}\text{0}\text{0}\text{0}\text{0}\text{0}\text{0}\text{0}\text{0}\text{2}\text{1}\text{0}\text{0}\text{5}\text{5}\text{5}\text{9}\text{0}\text{5}\text{5}\text{5}\text{9}\text{0}\text{5}\text{5}\text{5}\text{0}\text{0}\text{0}\text{0}\text{5}\text{5}\text{5}\text{9}\text{0}\text{5}\text{5}\text{5}\text{0}\text{0}\text{0}\text{5}\text{5}\text{0}0	0°52'49 21.07654 AU 19.09059 AU
max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set conjunction	-12459 Sep 18 j 03:00 -12459 Sep 19 j 13:31 -12459 Oct 03 j 21:05 -12458 Jan 06 j 02:13 -12458 Mar 24 j 00:49 -12458 Mar 25 j 09:34 -12458 Jun 09 j 04:24 -12458 Sep 06 j 17:50 -12458 Sep 22 j 09:23	1°\$43'22 1°\$48'25 2°\$38'16 5°\$48'28 3°\$51'47 3°\$48'30 1°\$51'30 4°\$52'53	1°12'56 20.77647 AU 18.80396 AU 1°18'53	evening set conjunction minimum elong max. Earth dist. morning rise retrograde	-12452 Sep 29 j 23:03 -12452 Oct 15 j 20:05 -12452 Oct 15 j 20:05 -12452 Oct 17 j 06:16 -12452 Oct 18 j 17:37 -12452 Oct 31 j 21:33 -12451 Feb 03 j 17:20 -12451 Apr 21 j 16:41 -12451 Apr 23 j 00:24	28°\$56'00 29°\$50'03 29°\$50'04 29°\$54'57 0°\$\Omega\$ 0°\$\Omega\$44'43 3°\$\Omega\$52'12 1°\$\Omega\$55'59 1°\$\Omega\$52'48	0°52'49 21.07654 AU 19.09059 AU
max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set conjunction minimum elong	-12459 Sep 18 j 03:00 -12459 Sep 19 j 13:31 -12459 Oct 03 j 21:05 -12458 Jan 06 j 02:13 -12458 Mar 24 j 00:49 -12458 Mar 25 j 09:34 -12458 Jun 09 j 04:24 -12458 Sep 06 j 17:50 -12458 Sep 22 j 09:23 -12458 Sep 22 j 09:24	1°\$43'22 1°\$48'25 2°\$38'16 5°\$48'28 3°\$51'47 3°\$48'30 1°\$51'30 4°\$52'53 5°\$47'12	1°12'56 20.77647 AU 18.80396 AU 1°18'53 1°10'15 1°11'00	evening set conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition	-12452 Sep 29 j 23:03 -12452 Oct 15 j 20:05 -12452 Oct 15 j 20:05 -12452 Oct 17 j 06:16 -12452 Oct 18 j 17:37 -12452 Oct 31 j 21:33 -12451 Feb 03 j 17:20 -12451 Apr 21 j 16:41 -12451 Apr 23 j 00:24 -12451 Jun 26 j 09:06	28°\$56'00 29°\$50'03 29°\$50'04 29°\$54'57 0°\$\Omega\$ 0°\$\Omega\$44'43 3°\$\Omega\$52'12 1°\$\Omega\$55'59 1°\$\Omega\$52'48 30°\$\SE	0°52'49 21.07654 AU 19.09059 AU
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max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set conjunction minimum elong max. Earth dist. morning rise	-12459 Sep 18 j 03:00 -12459 Sep 19 j 13:31 -12459 Oct 03 j 21:05 -12458 Jan 06 j 02:13 -12458 Mar 24 j 00:49 -12458 Mar 25 j 09:34 -12458 Jun 09 j 04:24 -12458 Sep 06 j 17:50 -12458 Sep 22 j 09:23 -12458 Sep 22 j 09:24 -12458 Sep 23 j 19:39 -12458 Oct 08 j 04:30	1°\$43'22 1°\$48'25 2°\$38'16 5°\$48'28 3°\$51'47 3°\$48'30 1°\$51'30 4°\$52'53 5°\$47'12 5°\$47'12 5°\$52'12 6°\$42'02	1°12'56 20.77647 AU 18.80396 AU 1°18'53 1°10'15 1°11'00	evening set conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct	-12452 Sep 29 j 23:03 -12452 Oct 15 j 20:05 -12452 Oct 15 j 20:05 -12452 Oct 17 j 06:16 -12452 Oct 18 j 17:37 -12452 Oct 31 j 21:33 -12451 Feb 03 j 17:20 -12451 Apr 21 j 16:41 -12451 Apr 23 j 00:24 -12451 Jun 26 j 09:06 -12451 Jul 07 j 02:29 -12451 Jul 17 j 18:55	28°\$56'00 29°\$50'03 29°\$50'04 29°\$54'57 0°\$\Omega\$ 0°\$\Omega\$44'43 3°\$\Omega\$52'12 1°\$\Omega\$55'59 1°\$\Omega\$52'48 30°\$\Omega\$6 29°\$\Omega\$57'02 0°\$\Omega\$	0°52'49 21.07654 AU 19.09059 AU
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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	-12459 Sep 18 j 03:00 -12459 Sep 19 j 13:31 -12459 Oct 03 j 21:05 -12458 Jan 06 j 02:13 -12458 Mar 24 j 00:49 -12458 Mar 25 j 09:34 -12458 Jun 09 j 04:24 -12458 Sep 06 j 17:50 -12458 Sep 22 j 09:23 -12458 Sep 22 j 09:24 -12458 Sep 23 j 19:39 -12458 Oct 08 j 04:30 -12457 Jan 10 j 12:47 -12457 Mar 28 j 10:45 -12457 Mar 29 j 20:19 -12457 Jun 13 j 12:25	1°543'22 1°548'25 2°538'16 5°548'28 3°551'47 3°548'30 1°551'30 4°552'53 5°547'12 5°552'12 6°542'02 9°551'44 7°555'12 7°551'50 5°555'02	1°12'56 20.77647 AU 18.80396 AU 1°18'53 1°10'15 1°11'00 20.82904 AU	evening set conjunction minimum elong max. Earth dist. morning rise retrograde min. Earth dist. opposition direct evening set conjunction minimum elong	-12452 Sep 29 j 23:03 -12452 Oct 15 j 20:05 -12452 Oct 15 j 20:05 -12452 Oct 17 j 06:16 -12452 Oct 18 j 17:37 -12452 Oct 31 j 21:33 -12451 Feb 03 j 17:20 -12451 Apr 21 j 16:41 -12451 Apr 23 j 00:24 -12451 Jun 26 j 09:06 -12451 Jun 27 j 02:29 -12451 Jul 17 j 18:55 -12451 Oct 20 j 01:59 -12451 Oct 20 j 01:59 -12451 Oct 20 j 02:00	28°\$56'00 29°\$50'03 29°\$50'04 29°\$54'57 0°\$\Omega\$ 0°\$\Omega\$44'43 3°\$\Omega\$52'12 1°\$\Omega\$55'59 1°\$\Omega\$52'48 30°\$\Omega\$9°\$\Omega\$57'02 0°\$\Omega\$ 2°\$\Omega\$54'08 3°\$\Omega\$48'13 3°\$\Omega\$48'13	0°52'49 21.07654 AU 19.09059 AU 0°55'26 0°48'09 0°48'48
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Planetary Pheno	omena of Uranus fro	om -12900	through -1239	8 (UT). Astrodier	nst AG 18-Feb-2025	14:23.	page 37
•	ical year style is used: The		_	. ,,			
opposition	-12449 May 01 j 13:41	9° Ω 48'08		opposition	-12443 May 24 j 20:42	3° m/26'30	
direct	-12449 Jul 15 j 12:20	7° Ω 52'23		min. Earth dist.	-12443 May 23 j 23:10	3° ™ 28'41	19.12347 AU
evening set	-12449 Oct 12 j 13:18	10° Ω 48'53		direct	-12443 Aug 07 j 12:04	1° m 30'09	
				evening set	-12443 Nov 04 j 21:20	4° Mp 26′42	
conjunction	-12449 Oct 28 j 13:45						
minimum elong	-12449 Oct 28 j 13:45			conjunction	-12443 Nov 21 j 04:38	5° Mp 21'29	
max. Earth dist.	-12449 Oct 29 j 21:50		21.13427 AU	minimum elong	-12443 Nov 21 j 04:38	5° ™ 21'29	0°10'33
morning rise	-12449 Nov 13 j 18:31			behind sun begin	-12443 Nov 20 j 23:28	5° m 20'46	
	-12448 Jan 04 j 02:33			behind sun end	-12443 Nov 21 j 09:48	5° m/22'11	
retrograde	-12448 Feb 16 j 16:33			max. Earth dist.	-12443 Nov 22 j 04:43	~	21.11603 AU
.	-12448 Apr 01 j 05:36		0041111	morning rise	-12443 Dec 07 j 15:58	6° m 16'50	
opposition	-12448 May 04 j 19:39			retrograde	-12442 Mar 12 j 13:11	9° Mp 23'04	10 10010 411
min. Earth dist.	-12448 May 03 j 15:16		19.13930 AU	min. Earth dist.	-12442 May 28 j 04:56	-•	19.10810 AU
direct	-12448 Jul 18 j 17:09			opposition	-12442 May 29 j 01:13	7° M) 23'23	0°08'19
evening set	-12448 Oct 15 j 18:05 -12448 Oct 20 j 02:05			direct evening set	-12442 Aug 11 j 16:05 -12442 Nov 09 j 03:58	5° Mp 26'57 8° Mp 23'49	
	-12448 Oct 20 J 02.03	13 06		evening set	-12442 NOV 09 J 03.38	8 HJ 23 49	
conjunction	-12448 Oct 31 j 19:34			conjunction	-12442 Nov 25 j 12:11	9° m 18'45	0°05'00
minimum elong	-12448 Oct 31 j 19:34			minimum elong	-12442 Nov 25 j 12:11	9° m 18'45	0°05'17
max. Earth dist.	-12448 Nov 02 j 01:27		21.14238 AU	behind sun begin	-12442 Nov 25 j 05:42	9° m 17'52	
morning rise	-12448 Nov 17 j 01:39			behind sun end	-12442 Nov 25 j 18:39	9° m 19'38	21 000 72 177
retrograde	-12447 Feb 20 j 00:02		10.14502.444	max. Earth dist.	-12442 Nov 26 j 09:21		21.09872 AU
min. Earth dist.	-12447 May 07 j 22:23			morning rise	-12442 Dec 12 j 00:38		
opposition	-12447 May 09 j 01:19		0°36'02	retrograde	-12441 Mar 16 j 21:49		10 00000 411
direct	-12447 Jul 22 j 21:04			min. Earth dist.	-12441 Jun 01 j 11:31	-	
evening set	-12447 Oct 19 j 23:02	18-864130		opposition direct	-12441 Jun 02 j 05:44		0°02'31
conjunction	-12447 Nov 05 j 01:48	100 026100	0°20'16	desc. node	-12441 Aug 15 j 19:26 -12441 Nov 05 j 21:27		
minimum elong	-12447 Nov 05 j 01:48			evening set	-12441 Nov 03 j 21:27 -12441 Nov 13 j 11:01		
max. Earth dist.	-12447 Nov 06 j 07:34			evening set	-12441 NOV 13 J 11.01	12 11/21 39	
morning rise	-12447 Nov 00 j 07:54 -12447 Nov 21 j 08:52		21.14347 AU	conjunction	-12441 Nov 29 j 20:26	13°m 16'//5	-0°00'20
retrograde	-12446 Feb 24 j 07:16			minimum elong	-12441 Nov 29 j 20:27		
min. Earth dist.	-12446 May 12 j 04:34		19 14573 AU	behind sun begin	-12441 Nov 29 j 14:02		0 00 00
opposition	-12446 May 13 j 06:23			behind sun end	-12441 Nov 30 j 02:52		
direct	-12446 Jul 27 j 01:52		0 30 44	max. Earth dist.	-12441 Nov 30 j 16:48		21 07715 AU
evening set	-12446 Oct 24 j 04:17			morning rise	-12441 Dec 16 j 09:40		21.07713710
		000,00		retrograde	-12440 Mar 20 j 05:44		
conjunction	-12446 Nov 09 j 08:02	23°Ω32'18	0°25'24	opposition	-12440 Jun 05 j 10:16	-	-0°03'19
minimum elong	-12446 Nov 09 j 08:03			min. Earth dist.	-12440 Jun 04 j 17:35		
max. Earth dist.	-12446 Nov 10 j 11:26			direct	-12440 Aug 18 j 23:13	13° m 22'33	
morning rise	-12446 Nov 25 j 16:22			evening set	-12440 Nov 16 j 18:49	16° Mp 20'21	
retrograde	-12445 Feb 28 j 14:27	27° Ω 33'32					
min. Earth dist.	-12445 May 16 j 11:04	25° Ω 36′22	19.14229 AU	conjunction	-12440 Dec 03 j 05:10	17° m 15'38	-0°05'41
opposition	-12445 May 17 j 11:23	25° Ω 33'54	0°25'17	minimum elong	-12440 Dec 03 j 05:09	17° m 15'38	0°05'30
direct	-12445 Jul 31 j 04:44	23° Ω 37'47		behind sun begin	-12440 Dec 02 j 22:42	17° m 14'45	
evening set	-12445 Oct 28 j 09:28	26° Ω 33'57		behind sun end	-12440 Dec 03 j 11:37	17° m 16'31	
				max. Earth dist.	-12440 Dec 03 j 22:10	17° m 18'02	21.05101 AU
conjunction	-12445 Nov 13 j 14:29			morning rise	-12440 Dec 19 j 19:27	-	
minimum elong	-12445 Nov 13 j 14:29			retrograde	-12439 Mar 24 j 15:06		
max. Earth dist.	-12445 Nov 14 j 17:42		21.13863 AU	opposition	-12439 Jun 09 j 15:03		
morning rise	-12445 Nov 29 j 23:43			min. Earth dist.	-12439 Jun 09 j 00:53		19.03615 AU
	-12445 Dec 31 j 21:03	0° m)		direct	-12439 Aug 23 j 03:28		
retrograde	-12444 Mar 03 j 21:47	1° m 29'43		evening set	-12439 Nov 21 j 03:17	20° m/20'01	
	-12444 May 08 j 05:59						
opposition	-12444 May 20 j 16:08			conjunction	-12439 Dec 07 j 14:46	-	
min. Earth dist.	-12444 May 19 j 16:50		19.13476 AU	minimum elong	-12439 Dec 07 j 14:46		0°10'49
direct	-12444 Aug 03 j 09:17			behind sun begin	-12439 Dec 07 j 09:41	-	
	-12444 Oct 22 j 07:54	0° m 20100		behind sun end	-12439 Dec 07 j 19:50		21 01070 ATT
evening set	-12444 Oct 31 j 15:15	0° m/30'09		max. Earth dist. morning rise	-12439 Dec 08 j 06:25 -12439 Dec 24 j 05:42		41.019/9 AU
conjunction	-12444 Nov 16 j 21:15	1° m) 24'46	0°15'21	retrograde	-12439 Dec 24 j 05:42 -12438 Mar 28 j 23:35	-	
minimum elong	-12444 Nov 16 j 21:16	1° m) 24'46	0°15'44	opposition	-12438 Jun 13 j 19:48		-0°14'50
behind sun begin	-12444 Nov 16 j 20:16	1° Mp 24'38	U 10 TT	min. Earth dist.	-12438 Jun 13 j 07:30		
behind sun end	-12444 Nov 16 j 22:16	1° M) 24'55		direct	-12438 Aug 27 j 08:13		. 7.00222 AU
max. Earth dist.	-12444 Nov 17 j 21:53	-	21.12929 AU	evening set	-12438 Nov 25 j 12:32		
morning rise	-12444 Dec 03 i 07:44	2° m/20'00	. , _,	-0		·* = - · · ·	
retrograde	-12443 Mar 08 j 05:31	5° m/26'11		conjunction	-12438 Dec 12 j 00:49	25° m 16'23	-0°16'10
-	- 3 7	3		•	J	3	

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12438 in astronomical counting style is the year 12439 BCE in historical counting style. -12438 Dec 12 i 00:49 25° m 16'23 0°16'05 opposition minimum elong -12431 Jul 11 i 13:25 21° **2**50'35 -0°52'41 min. Earth dist. max. Earth dist. -12438 Dec 12 j 12:40 25° Mp 18'03 20.98327 AU -12431 Jul 11 j 17:32 21°**2**50'09 18.63576 AU -12438 Dec 28 j 16:41 26° m 12'34 -12431 Sep 24 j 07:01 19° **2**50'55 morning rise direct -12437 Apr 02 j 08:47 29° m 19'47 -12431 Dec 24 j 23:36 22°**♀**56'11 retrograde evening set -12437 Jun 18 j 01:01 27° m 20'01 -0°20'46 opposition -12437 Jun 17 j 15:30 27° m 21'00 18.96302 AU -12430 Jan 10 j 17:24 23° **2**53'34 -0°49'39 min. Earth dist. conjunction -12437 Aug 31 j 13:11 25° Mp 22'40 -12430 Jan 10 j 17:23 23°**2**53'34 0°49'57 direct minimum elong -12437 Nov 29 j 22:06 28° m 22'23 -12430 Jan 10 j 11:56 23°**♀**52'47 20.60392 AU evening set max. Earth dist. morning rise -12430 Jan 27 j 12:33 24°**♀**51'12 -12430 May 01 j 08:31 28° **♀**00'57 conjunction -12437 Dec 16 j 11:30 29° m 18'18 -0°21'20 retrograde -12430 Jul 15 j 20:51 26°**2**00'16 -0°57'19 -12437 Dec 16 j 11:29 29° mg 18'18 0°21'19 minimum elong opposition max. Earth dist. -12437 Dec 16 j 21:48 29° mg 19'46 20.94136 AU min. Earth dist. -12430 Jul 16 j 02:14 25°**♀**59'42 18.57185 AU -12437 Dec 28 j 18:28 0°**♀** -12430 Sep 28 j 16:36 24°**♀**00'13 direct -12430 Dec 29 j 14:40 27°**♀**06'39 morning rise -12436 Jan 02 j 03:54 0°**£**14'41 evening set retrograde -12436 Apr 05 j 18:19 3°**₽**22'10 opposition -12436 Jun 21 j 06:22 1°**2**22'19 -0°26'27 conjunction -12429 Jan 15 j 08:47 28° **2**04'17 -0°53'42 min. Earth dist. -12436 Jun 20 j 22:44 1°**£**23'06 18.91839 AU minimum elong -12429 Jan 15 j 08:46 28° **2**04'17 0° 54'03 -12436 Jul 28 j 00:10 30°R Mp max. Earth dist. -12429 Jan 14 j 23:46 28°**♀**02'59 20.53932 AU direct -12436 Sep 03 j 19:27 29° mp 24'39 morning rise -12429 Feb 01 j 04:14 29° **2**02'09 -12436 Oct 11 j 02:24 -12429 Feb 18 j 23:03 0° M evening set -12436 Dec 03 j 08:42 2°**₽**25'08 retrograde -12429 May 05 j 20:13 2°M12'25 opposition -12429 Jul 20 i 05:02 0°M11'38 -1°01'41 conjunction -12436 Dec 19 i 22:49 3°**£**21'17 -0°26'26 min. Earth dist. -12429 Jul 20 j 13:06 0°ML10'47 18.50677 AU minimum elong -12436 Dec 19 j 22:49 3°**£**21'17 0°26'26 -12429 Jul 24 j 19:14 30°R **≏** max. Earth dist. -12436 Dec 20 i 05:09 3°**2**22'10 20.89429 AU direct -12429 Oct 03 j 01:01 28° **2**11'12 morning rise -12435 Jan 05 i 16:04 4° **2**17'51 -12429 Dec 09 i 12:39 0°M retrograde -12435 Apr 10 j 03:07 7°**£**25'38 -12428 Jan 03 j 06:18 1°ML18'50 evening set -12435 Jun 25 j 11:55 5°**2**25'40 -0°32'01 opposition min. Earth dist. -12435 Jun 25 j 07:16 5°**2**26'09 18.86894 AU conjunction -12428 Jan 20 j 01:02 2°ML16'46 -0°57'29 minimum elong -12428 Jan 20 j 01:02 2°ML16'46 0°57'52 -12435 Sep 08 j 01:04 3°**£**27'38 direct -12435 Dec 07 j 19:50 6° **2**28'56 max. Earth dist. -12428 Jan 19 j 14:41 2°M 15'16 20.47364 AU evening set -12428 Feb 05 j 20:30 3°ML14'51 morning rise -12435 Dec 24 j 10:58 7°**2**25'19 -0°31'24 -12428 May 09 j 10:19 6°M25'41 conjunction retrograde -12435 Dec 24 j 10:57 7°**2**25'19 0°31'29 -12428 Jul 23 j 13:44 4°M24'50 -1°05'45 opposition minimum elong -12435 Dec 24 j 15:43 7°**£**26'00 20.84259 AU -12428 Jul 23 j 23:02 4°ML23'51 18.44050 AU max. Earth dist. min. Earth dist. -12434 Jan 10 j 04:36 8°**♀**22'05 -12428 Oct 06 j 11:49 2°M24'02 morning rise direct -12434 Apr 14 j 13:34 11°**♀**30'11 -12427 Jan 06 j 23:16 5°M32'57 retrograde evening set opposition -12434 Jun 29 j 17:44 9°**2**30'04 -0°37'28 min. Earth dist. -12434 Jun 29 j 14:49 9°**2**30'22 18.81513 AU conjunction -12427 Jan 23 j 18:13 6°M231'09 -1°00'59 direct -12434 Sep 12 j 08:43 7°**♀**31'40 minimum elong -12427 Jan 23 j 18:12 6°M231'09 1°01'26 evening set -12434 Dec 12 j 07:40 10°**£**33'51 max. Earth dist. -12427 Jan 23 j 04:22 6°M29'08 20.40681 AU morning rise -12427 Feb 09 j 13:47 7°M29'28 conjunction -12434 Dec 28 j 23:22 11° **2**30'28 -0°36'14 retrograde -12427 May 13 j 23:27 10°M 40'53 -12434 Dec 28 j 23:21 11°**2**30'28 0°36'22 opposition -12427 Jul 27 j 23:11 8°M 39'59 -1°09'29 minimum elong max. Earth dist. -12434 Dec 29 j 00:21 11°**2**30'36 20.78696 AU min. Earth dist. -12427 Jul 28 j 11:27 8°M 38'41 18.37324 AU -12433 Jan 14 i 17:39 12°**£**27'26 -12427 Oct 10 j 21:45 6°M 38'49 morning rise direct -12433 Apr 18 j 22:34 15°**2**35'55 retrograde evening set -12426 Jan 11 i 17:03 9°M49'05 -12433 Jul 03 j 23:56 13° **2**35'37 -0°42'44 opposition -12433 Jul 03 j 23:50 13°**2**35'38 18.75792 AU -12426 Jan 28 j 12:23 10°ML47'34 -1°04'11 min. Earth dist. conjunction direct -12433 Sep 16 i 15:04 11° \alpha 36'48 minimum elong -12426 Jan 28 i 12:23 10°ML47'34 1°04'40 evening set -12433 Dec 16 j 20:06 14° **2**39'56 max. Earth dist. -12426 Jan 27 j 20:57 10°M 45'19 20.33894 AU morning rise -12426 Feb 14 i 07:46 11° ML46'07 conjunction -12432 Jan 02 j 12:41 15° **△**36'48 -0°40'54 retrograde -12426 May 18 j 15:23 14° ML58'08 -12432 Jan 02 j 12:41 15°**2**36'48 0°41'05 minimum elong opposition -12426 Aug 01 j 09:23 12°M 57'12 -1°12'52 -12426 Aug 01 j 22:56 12°**M**\$\cdot 55'46 18.30478 AU -12432 Jan 02 j 12:17 15°**2**36'45 20.72823 AU max. Earth dist. min. Earth dist. morning rise -12432 Jan 19 j 07:14 16°**♀**34'00 direct -12426 Oct 15 j 10:25 10°ML55'41 retrograde -12432 Apr 22 j 09:49 19° **2**42'51 evening set -12425 Jan 16 j 11:47 14° ML07'19 -12432 Jul 07 j 06:21 17°**2**42'25 -0°47'49 opposition -12425 Jan 31 j 13:48 15°M min. Earth dist. -12432 Jul 07 j 07:43 17°**2**42'16 18.69789 AU -12432 Sep 19 j 23:43 15°**Ω**43'11 -12425 Feb 02 j 07:09 15°ML06'04 -1°07'02 direct conjunction -12432 Dec 20 j 09:31 18°**£**47'20 -12425 Feb 02 j 07:09 15°ML06'04 1°07'33 evening set minimum elong max. Earth dist. -12425 Feb 01 j 12:23 15°ML03'19 20.26978 AU conjunction -12431 Jan 06 j 02:36 19°**2**44'28 -0°45'23 morning rise -12425 Feb 19 j 02:25 16° ML04'51 minimum elong -12431 Jan 06 j 02:35 19°**2**44'28 0°45'38 retrograde -12425 May 23 j 05:42 19°M 17'30 max. Earth dist. -12431 Jan 05 j 22:30 19°**-**243'53 20.66704 AU opposition -12425 Aug 05 j 20:32 17°ML16'32 -1°15'52 -12431 Jan 22 j 21:40 20°**♀**41'52 min. Earth dist. -12425 Aug 06 j 13:08 17°ML14'45 18.23513 AU morning rise retrograde -12431 Apr 26 j 20:02 23°**♀**51'10 direct -12425 Oct 19 j 22:02 15° ML14'37

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•	omena of Uranus fro		-				page 39
	nical year style is used: Th	-	in astronomical co				
evening set	-12424 Jan 21 j 07:27		20 10041 411	minimum elong	-12418 Mar 06 j 17:26		1°16'24
max. Earth dist.	-12424 Feb 06 j 06:23	19°11L23'38	20.19941 AU	morning rise	-12418 Mar 23 j 09:20		
. ,.	12424 F 1 07:02 02	100 M 26141	1000121	retrograde	-12418 Jun 23 j 11:57		1024102
conjunction	-12424 Feb 07 j 03:02			opposition	-12418 Sep 05 j 00:59		
minimum elong	-12424 Feb 07 j 03:02		1°10'06	min. Earth dist.	-12418 Sep 06 j 04:41		1/./3//8 AU
morning rise	-12424 Feb 23 j 22:01			direct	-12418 Nov 19 j 18:43		
retrograde	-12424 May 26 j 23:18		1010127	evening set	-12417 Feb 22 j 23:51		10.70445 ATT
opposition	-12424 Aug 09 j 08:14			max. Earth dist.	-12417 Mar 10 j 07:58	20° × °40'08	19.70445 AU
min. Earth dist.	-12424 Aug 10 j 02:07		18.10413 AU	:	12417 Mar. 11 : 17.40	200.745117	1015107
direct	-12424 Oct 23 j 12:46			conjunction	-12417 Mar 11 j 17:49		
evening set	-12423 Jan 25 j 04:14	22*11630*04		minimum elong	-12417 Mar 11 j 17:49		1-15-52
· · · · · · · · · · · ·	12422 E-L 10 : 22.46	220M 40122	1011127	morning rise	-12417 Mar 28 j 08:48		
conjunction minimum elong	-12423 Feb 10 j 23:46 -12423 Feb 10 j 23:45			retrograde opposition	-12417 Jun 28 j 07:02 -12417 Sep 09 j 18:54		1922111
max. Earth dist.	-12423 Feb 10 j 23:43 -12423 Feb 09 j 23:53			min. Earth dist.	1 3		
morning rise	-12423 Feb 09 j 23.33 -12423 Feb 27 j 18:25		20.12/09 AU	direct	-12417 Sep 11 j 00:20 -12417 Nov 24 j 14:46		17.07378 AU
retrograde	-12423 New 27 j 18:23 -12423 May 31 j 14:50			evening set	-12417 Nov 24 j 14.40 -12416 Feb 28 j 01:28		
Č			1920/25	max. Earth dist.			10 64220 ATT
opposition min. Earth dist.	-12423 Aug 13 j 21:05 -12423 Aug 14 j 18:01			max. Earm dist.	-12416 Mar 14 j 07:23	23 X ·1321	19.04239 AU
direct	-12423 Aug 14 j 18.01 -12423 Oct 28 j 02:28		18.09201 AU	conjunction	-12416 Mar 15 j 18:46	250.720152	1914/04
evening set	-12423 Oct 28 j 02:28 -12422 Jan 30 j 01:41			minimum elong	-12416 Mar 15 j 18:46		
evening set	-12422 Jan 30 J 01.41	27 1161429		morning rise	-12416 Mar 13 j 18:46 -12416 Apr 01 j 09:04		1 1449
conjunction	-12422 Feb 15 j 21:11	200M 14102	1012110	retrograde	-12416 Apr 01 j 09:04 -12416 Jul 02 j 03:51		
minimum elong	-12422 Feb 15 j 21:11 -12422 Feb 15 j 21:11			opposition	-12416 Sep 13 j 13:26		1021140
max. Earth dist.	-12422 Feb 13 j 21:11 -12422 Feb 14 j 19:21			min. Earth dist.	-12416 Sep 13 j 13:20 -12416 Sep 14 j 18:47		
morning rise	-12422 New 14 j 19:21 -12422 Mar 04 j 15:25		20.03313 AU	direct	-12416 Nov 28 j 12:47		17.01373 AU
morning rise	-12422 Mar 18 j 08:39			evening set	-12416 Nov 28 j 12.47 -12415 Mar 04 j 03:38		
retrograde	-12422 Mai 18 j 08.39 -12422 Jun 05 j 09:31			max. Earth dist.	-12415 Mar 19 j 09:15		10 59420 ATT
opposition	-12422 Juli 03 j 09:31 -12422 Aug 18 j 10:32		1022116	max. Latin dist.	-12413 Mai 19 j 09.13	29 🗡 3241	19.36439 AU
min. Earth dist.	-12422 Aug 18 j 10.32 -12422 Aug 19 j 08:26		18.01923 AU	conjunction	-12415 Mar 20 j 20:26	200.759112	1012122
iiiii. Eartii dist.	-12422 Aug 19 j 08:20 -12422 Aug 28 j 21:06		18.01923 AC	minimum elong	-12415 Mar 20 j 20:26		
direct	-12422 Nov 01 j 18:59			minimum ciong	-12415 Mar 21 j 08:08		1 1317
direct	-12421 Jan 03 j 14:48			morning rise	-12415 Apr 06 j 09:38		
evening set	-12421 Feb 03 j 23:59			retrograde	-12415 Jul 07 j 00:37		
evening set	-12421 FC0 03 j 23.39	1 7 4049		opposition	-12415 Sep 18 j 09:14		-1°10'52
conjunction	-12421 Feb 20 j 19:19	2° √ 40'39	-1°14'35	min. Earth dist.	-12415 Sep 19 j 15:48		17.55798 AU
minimum elong	-12421 Feb 20 j 19:18			direct	-12415 Dec 03 j 10:55		
max. Earth dist.	-12421 Feb 19 j 15:00		19.98223 AU	evening set	-12414 Mar 09 j 06:19	3° ප 36'01	
morning rise	-12421 Mar 09 j 13:01	3° × ⁷ 40'18	17.70223 110	max. Earth dist.	-12414 Mar 24 j 09:41		19.53095 AU
retrograde	-12421 Jun 10 j 02:20			max. Dartii dist.	1211111111 21j 09.11	. 05150	17.55075 110
opposition	-12421 Aug 23 j 00:55	4° ∡ °54'03	-1°23'28	conjunction	-12414 Mar 25 j 22:12	4° ට 37'16	-1°10'33
min. Earth dist.	-12421 Aug 24 j 01:34		17.94664 AU	minimum elong	-12414 Mar 25 j 22:13	4° る 37'16	
direct	-12421 Nov 06 j 10:36	2° × ⁷ 50'25	17.5 1001110	morning rise	-12414 Apr 11 j 10:38		,
evening set	-12420 Feb 08 j 22:54	6° ₹ 109'03		retrograde	-12414 Jul 11 j 22:53	8° ප 57'10	
max. Earth dist.	-12420 Feb 24 j 11:55		19.91001 AU	opposition	-12414 Sep 23 j 05:48	6° ප 55'17	-1°17'24
				min. Earth dist.	-12414 Sep 24 j 12:08		17.50684 AU
conjunction	-12420 Feb 25 j 18:03	7° ∡ 09'07	-1°15'24	direct	-12414 Dec 08 j 10:46	4° ට 49'15	
minimum elong	-12420 Feb 25 j 18:03	7° ∡ ¹09'07		evening set	-12413 Mar 14 j 09:25	8° ට 16'40	
morning rise	-12420 Mar 13 j 11:17	8° ∡ 108'58		max. Earth dist.	-12413 Mar 29 j 13:02		19.48204 AU
retrograde	-12420 Jun 13 j 21:50	11° ∡ ′24'40			,		
opposition	-12420 Aug 26 j 16:01	9° ∡ 23'11	-1°24'10	conjunction	-12413 Mar 31 j 00:41	9° ට 18'04	-1°08'04
min. Earth dist.	-12420 Aug 27 j 17:16		17.87497 AU	minimum elong	-12413 Mar 31 j 00:41	9° ට 18'04	
direct	-12420 Nov 10 j 04:51	7° ∡ 19'07		morning rise	-12413 Apr 16 j 11:56	10° ප 18'56	
evening set	-12419 Feb 12 j 22:40	10° ∡ ³39′05		retrograde	-12413 Jul 16 j 21:13		
max. Earth dist.	-12419 Feb 28 j 09:48		19.83898 AU	opposition	-12413 Sep 28 j 03:18		-1°14'23
	v			min. Earth dist.	-12413 Sep 29 j 10:28		
conjunction	-12419 Mar 01 j 17:31	11° ∡ ³39′24	-1°15'46	direct	-12413 Dec 13 j 10:13		
minimum elong	-12419 Mar 01 j 17:31			evening set	-12412 Mar 18 j 13:09		
morning rise	-12419 Mar 18 j 10:00			max. Earth dist.	-12412 Apr 02 j 14:26		19.43763 AU
retrograde	-12419 Jun 18 j 15:41						
opposition	-12419 Aug 31 j 08:05		-1°24'22	conjunction	-12412 Apr 04 j 03:24	14° る 00'29	-1°05'06
min. Earth dist.	-12419 Sep 01 j 11:40			minimum elong	-12412 Apr 04 j 03:24		
direct	-12419 Nov 14 j 22:33			morning rise	-12412 Apr 20 j 13:47		
evening set	-12418 Feb 17 j 23:04			retrograde	-12412 Jul 20 j 21:08		
max. Earth dist.	-12418 Mar 05 j 08:07		19.77027 AU	opposition	-12412 Oct 02 j 01:45		-1°10'51
				min. Earth dist.	-12412 Oct 03 j 08:52	16° ප 16'21	17.41792 AU
conjunction	-12418 Mar 06 j 17:26	16° ∡ 11′28	-1°15'41	direct	-12412 Dec 17 j 11:21	14° る 13'23	

Planetary Phenomena of Uranus from -12900 through -12398 (UT), Astrodienst AG 18-Feb-2025 14:23, Attention, astronomical year style is used: The year -12411 in astronomical counting style is the year 12412 BCE in historical counting style. -12411 Mar 23 i 17:05 17°**⋜**42'46 max. Earth dist. -12405 May 07 j 17:58 17°≈21'42 19.25274 AU evening set max. Earth dist. -12411 Apr 07 j 18:46 18° 중38'47 19.39744 AU -12405 May 09 j 00:54 17°≈26'37 -0°33'03 conjunction -12411 Apr 09 j 06:32 18°₹44'22 -1°01'41 -12405 May 09 j 00:55 17°≈26'37 0°33'34 minimum elong conjunction -12411 Apr 09 j 06:32 18°정44'22 1°02'24 -12405 May 25 j 03:11 18°≈27'31 minimum elong morning rise -12405 Aug 24 j 01:22 21°≈49'41 -12411 Apr 25 j 15:39 19°중45'24 morning rise retrograde -12411 Jul 25 j 21:00 23°**정**05'57 retrograde opposition -12405 Nov 05 j 11:47 19°≈47'47 -0°33'48 opposition -12411 Oct 07 j 01:12 21°♂04'11 -1°06'49 min. Earth dist. -12405 Nov 06 j 14:19 19°≈44'54 17.25009 AU min. Earth dist. -12411 Oct 08 j 08:32 21°중00'46 17.37977 AU direct -12404 Jan 21 j 11:57 17°≈40'57 direct -12411 Dec 22 j 12:38 18°₹57'41 evening set -12404 Apr 26 j 21:39 21°≈13'19 evening set -12410 Mar 28 j 21:27 22°**♂**27'53 max. Earth dist. -12404 May 11 j 22:09 22°≈10'09 19.24811 AU -12410 Apr 12 j 21:02 23°중23'47 19.36147 AU max. Earth dist. -12404 May 13 j 03:09 22°≈14'46 -0°27'15 conjunction conjunction -12410 Apr 14 j 09:45 23°₹29'33 -0°57'50 minimum elong -12404 May 13 j 03:09 22°≈14'46 0°27'44 minimum elong -12410 Apr 14 j 09:45 23°**중**29'33 0°58'32 morning rise -12404 May 29 j 04:10 23°≈15'34 morning rise -12410 Apr 30 j 17:51 24°₹30'36 retrograde -12404 Aug 28 j 00:43 26°≈37'49 retrograde -12410 Jul 30 j 21:36 27°**궁**51'34 opposition -12404 Nov 09 j 15:23 24°≈35'55 -0°27'13 opposition -12410 Oct 12 j 01:25 25°₹49'47 -1°02'18 min. Earth dist. -12404 Nov 10 j 17:10 24°≈33'07 17.24880 AU min. Earth dist. -12410 Oct 13 j 08:41 25°る46'23 17.34599 AU direct -12403 Jan 25 j 16:10 22°≈29'09 direct -12410 Dec 27 j 14:45 23°₹43'11 evening set -12403 May 02 j 00:37 26°≈01'25 evening set -12409 Apr 03 j 01:38 27°る14'04 max. Earth dist. -12403 May 17 j 01:45 26°≈58'26 19.25034 AU max. Earth dist. -12409 Apr 18 j 01:48 28°중10'13 19.32985 AU conjunction -12403 May 18 j 04:46 27°≈02'44 -0°21'16 conjunction -12409 Apr 19 j 13:02 28°る15'46 -0°53'34 minimum elong -12403 May 18 j 04:46 27°≈02'44 0°21'41 minimum elong -12409 Apr 19 j 13:03 28°る15'46 0°54'15 morning rise -12403 Jun 03 i 04:43 28°≈03'24 -12409 May 05 j 19:56 29°る16'50 -12403 Jul 07 j 19:14 0°**)** morning rise -12409 May 17 j 19:51 0°≈ -12403 Sep 02 j 02:15 1° **★**25'44 retrograde retrograde -12409 Aug 04 j 22:22 2°≈38'09 -12403 Oct 31 j 14:30 30°R≈ -12409 Oct 17 j 02:21 0°≈36'22 -0°57'20 -12403 Nov 14 j 19:09 29°≈23'50 -0°20'26 opposition opposition -12409 Oct 18 j 09:04 0°≈33'01 17.31643 AU min. Earth dist. min. Earth dist. -12403 Nov 15 j 17:54 29°≈21'23 17.25437 AU -12409 Oct 31 j 05:30 30°R ₹ -12402 Jan 30 j 23:10 27°≈17'13 direct -12402 Apr 23 j 12:39 0°**米** -12408 Jan 01 j 17:58 28°₹29'40 direct -12408 Mar 01 j 19:53 0°≈ evening set -12402 May 07 j 03:07 0°\ 49'16 -12408 Apr 07 j 06:08 2°≈01'06 max. Earth dist. -12402 May 22 j 05:59 1°**¥**46'35 19.25947 AU evening set -12408 Apr 22 j 04:50 2°≈57'12 19.30265 AU max. Earth dist. -12402 May 23 j 06:06 1° **★** 50'25 -0°15'09 conjunction -12408 Apr 23 j 16:20 3°≈02'49 -0°48'55 -12402 May 23 j 06:06 1° **★** 50'25 0°15'32 conjunction minimum elong minimum elong -12408 Apr 23 j 16:20 3°≈02'49 0°49'33 behind sun begin -12402 May 23 j 04:17 1°**米** 50'08 morning rise -12408 May 09 j 22:07 4°≈03'53 behind sun end -12402 May 23 j 07:55 1°**米** 50'42 retrograde -12408 Aug 08 j 22:39 7°≈25'29 morning rise -12402 Jun 08 j 04:46 2° **∺** 50'57 opposition -12408 Oct 21 j 03:54 5°≈23'40 -0°51'58 retrograde -12402 Sep 07 j 01:27 6°**米** 13'18 min. Earth dist. -12408 Oct 22 j 10:31 5°≈20'21 17.29165 AU -12402 Nov 19 j 23:12 4°**光**11'27 -0°13'31 opposition -12407 Jan 05 j 20:53 3°≈16'53 min. Earth dist. -12402 Nov 20 j 20:48 4°**米**09'07 17.26702 AU direct -12401 Feb 05 j 03:02 2°**米**05'02 evening set -12407 Apr 12 j 10:26 6°≈48'46 direct max. Earth dist. -12407 Apr 27 j 09:48 7°≈45'06 19.28046 AU -12401 May 12 j 05:06 5° **∺** 36'45 evening set max. Earth dist. -12401 May 27 j 08:27 6° + 34'10 19.27572 AU -12407 Apr 28 j 19:33 7°≈50'27 -0°43'55 conjunction -12407 Apr 28 j 19:34 7°≈50'27 0°44'32 -12401 May 28 j 06:45 6° \(\frac{1}{37} \) 43 -0°08'56 minimum elong conjunction morning rise -12407 May 15 j 00:08 8°≈51'29 minimum elong -12401 May 28 i 06:45 6° + 37'43 0°09'15 retrograde -12407 Aug 14 j 00:08 12°≈13'19 behind sun begin -12401 May 28 j 01:08 6° **★** 36'51 opposition -12407 Oct 26 j 06:07 10°≈11'29 -0°46'13 behind sun end -12401 May 28 j 12:21 6° ¥ 38'36 min. Earth dist. -12407 Oct 27 j 11:16 10°≈08'19 17.27194 AU morning rise -12401 Jun 13 j 04:29 7° **★** 38'06 -12406 Jan 11 j 02:01 8°≈04'39 retrograde -12401 Sep 12 j 03:11 11° **★** 00'25 direct evening set -12406 Apr 17 j 14:25 11°≈36'49 opposition -12401 Nov 25 j 03:16 8°\ 58'39 -0°06'31 min. Earth dist. -12401 Nov 25 j 21:36 8° **X** 56'41 17.28649 AU conjunction -12406 May 03 j 22:20 12°≈38'27 -0°38'37 direct -12400 Feb 10 j 08:48 6° **∺** 52'30 minimum elong -12406 May 03 j 22:20 12°≈38'27 0°39'11 evening set -12400 May 16 j 06:29 10°**∺**23'47 -12406 May 02 j 13:29 12°≈33'15 19.26360 AU max. Earth dist. -12400 Jun 01 j 07:00 11°¥24'33 -0°02'40 morning rise -12406 May 20 j 01:44 13°≈39'26 conjunction -12406 Jun 12 j 00:31 15°≈ -12400 Jun 01 j 06:59 11° **★**24'33 0°02'55 minimum elong -12400 Jun 01 j 00:24 11°**∺**23'32 retrograde -12406 Aug 18 j 23:53 17°≈01'28 behind sun begin opposition -12406 Oct 31 j 08:53 14°≈59'35 -0°40'09 behind sun end -12400 Jun 01 j 13:35 11°**米**25'35 -12406 Oct 31 j 05:05 15°R≈ max. Earth dist. -12400 May 31 j 12:11 11° **★**21'34 19.29848 AU min. Earth dist. -12406 Nov 01 j 13:39 14°≈56'28 17.25798 AU morning rise -12400 Jun 17 j 03:29 12° **★** 24'45 direct -12405 Jan 16 j 05:38 12°≈52'44 retrograde -12400 Sep 16 j 03:00 15° **★** 46'59 -12405 Mar 29 j 10:53 15°≈ asc. node -12405 Apr 22 j 18:12 16°≈25'04 -12400 Nov 29 j 07:38 13°**光**45'20 0°00'31 evening set opposition

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Attention, astronomical year style is used: The year -12400 in astronomical counting style is the year 12401 BCE in historical counting style.

min. Earth dist. -12400 Nov 30 j 00:37 13° ★43'32 17.31231 AU

direct -12399 Feb 14 j 12:28 11° ⅓ 39'31 evening set -12399 May 21 j 07:25 15° ⅓ 10'14

conjunction -12399 Jun 06 j 06:33 16° ★ 10'46 0°03'46 minimum elong -12399 Jun 06 j 06:32 16° ★ 10'46 0°03'34

behind sun begin -12399 Jun 05 j 23:59 16° ★ 09'45 behind sun end -12399 Jun 06 j 13:05 16° ★ 11'47

morning rise -12399 Jun 22 j 02:09 17° ¥ 10'47 retrograde -12399 Sep 21 j 04:30 20° ¥ 32'54