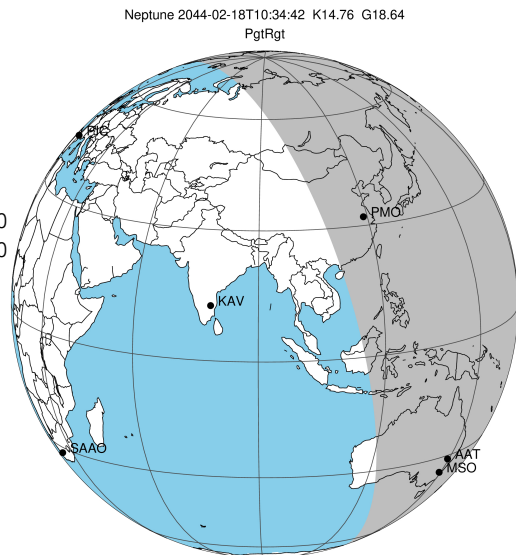


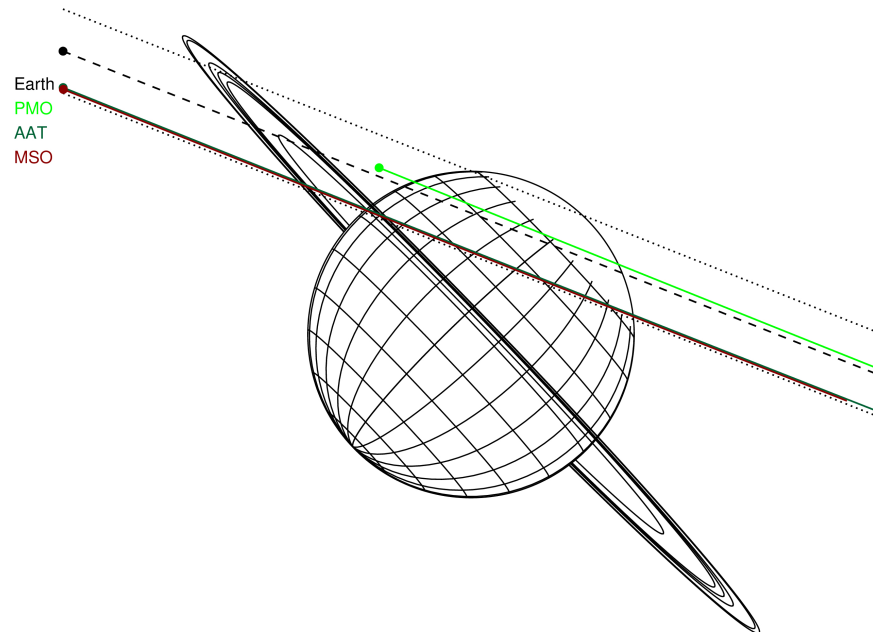
target : Neptune
 target radius (km) : 24764.00
 C/A epoch : 2044-02-18T10:34:42.610
 Event type : PgtRgt
 : Neptune occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 74485590590155776
 2Mass ID (if available) : 02302385+1258177

ICRS Star Coord at Epoch: 02h 30m 23.85894s +12:58:16.49424s
 RUWE (>1.4 is poor) : 1.06
 K magnitude : 14.757
 G magnitude : 18.636
 RP magnitude : 17.396
 BP magnitude : 20.144
 DUPflag : 0
 Distance (au) : 30.121
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 15.15
 Sun-Target sep (deg) : 70.64
 Sun-Moon sep (deg) : 170.95
 B (ring opening deg) : -3.09
 PA of pole (deg) : -46.51
 # a(km) ring



2044-02-18T10:34:42.6100 cc: 02 30 23.8589 s: +12 58 16.494 C/A 0.784° PA 158.36 deg v_sky +15.14 km/s D 30.12 AU
 Credit: Styled after SORA/Lucky Star

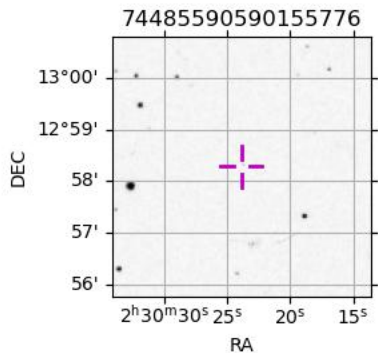
Neptune 2044-02-18T10:34:42 K14.76 G18.64 PgtRgt



- 1 42000.0 Galle
- 2 53200.0 LeVerrier
- 3 55200.0 Lassell
- 4 57200.0 Arago
- 5 61953.0 Galatea
- 6 62933.0 Adams

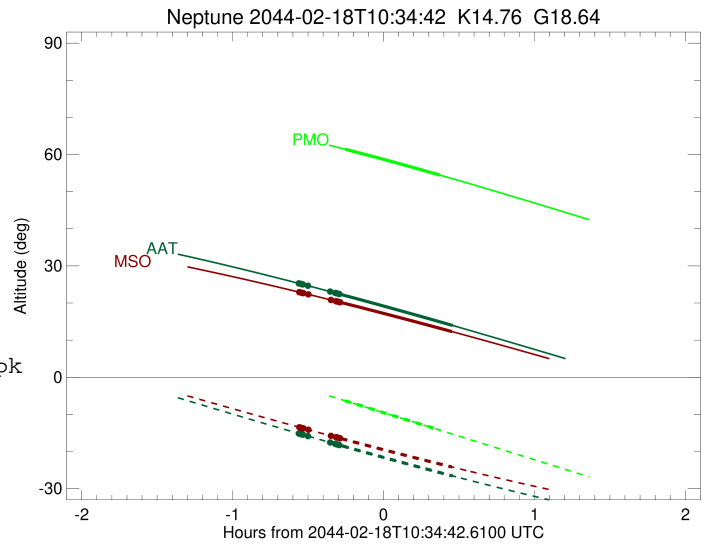
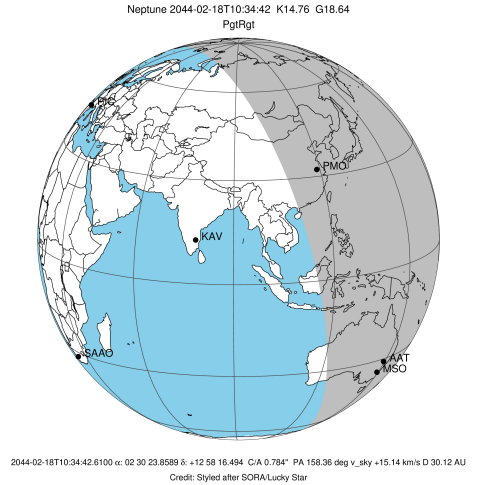
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1					PnnRnn
PAL	Palomar Mt (200")	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs. Nanki	32.1	118.8		+	+	FEB 18 10:19 - FEB 18 10:57	PieRnn
KPNO	Kitt Peak Natl Obs	32.0	248.4					PnnRnn
MCD	McDonald Obs. 2.7m	30.7	256.0					PnnRnn
TEN	Teide Obs./Tenerife	28.3	343.5					PnnRnn
IRTF	Mauna Kea/IRTF	19.8	204.5					PnnRnn
KAV	Kavalur Observatory	12.6	78.8					PnnRnn
RIO	Rio de Janeiro	-22.9	316.8					PnnRnn
ESO	European Southern Obs	-29.3	289.3					PnnRnn
AAT	Siding Spring (AAT)	-31.3	149.1	+	+	+	FEB 18 10:01 - FEB 18 11:02	PieRin
SAAO	So. Afr. Astro. Obs.	-32.4	20.8					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0	+	+	+	FEB 18 10:01 - FEB 18 11:01	PieRin



```

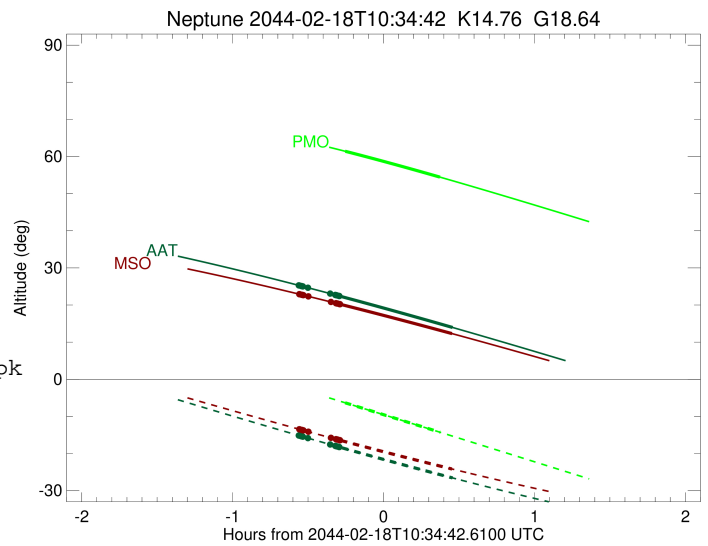
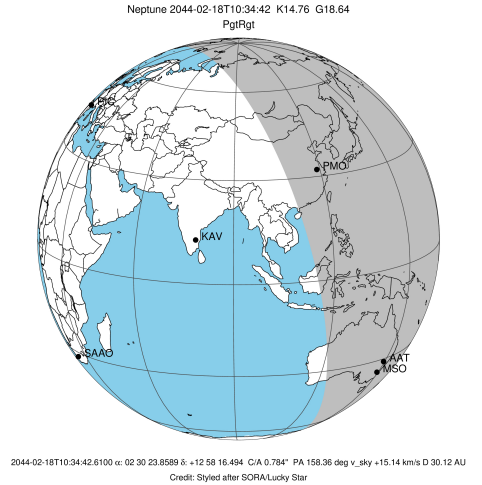
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2044-02-18T10:38:20.270
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : PMO
Location              : Purple Mtn Obs. Nanking
Latitude (deg)       : 32.06667
E. Longitude (deg)   : 118.82089
Altitude (km)        : 0.364
Gaia source ID       : 74485590590155776
2Mass ID (if available) : 02302385+1258177
ICRS Star Coord at Epoch: 02h 30m 23.85894s +12:58:16.49424s
RUWE (>1.4 is poor) : 1.06
K magnitude           : 14.757
G magnitude           : 18.636
RP magnitude         : 17.396
BP magnitude         : 20.144
DUPflag              : 0
Distance (au)        : 30.121
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : 15.15
Sun-Target sep (deg) : 70.64
Sun-Moon sep (deg)   : 171.30
B (ring opening deg) : -3.09
PA of pole (deg)     : -46.51
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.834
C/A sky separation (km) : 18230.2
NAIF SPICE kernels   : RAJobs_U111+rgf16.spk
URKALLv1.spk
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
earthstns_itr93_040916.bsp
earth_200101_990628_predict.bpc
pck00010.tpc
pck.urall11.tpc.Neptune
naif0012.tls
IAU_NEPTUNE_for_RINGFIT.tpc.BECAREFUL
earth_flat_IAU.spk
    
```



Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
Adams	I	2044-02-18T09:47:22.167		66.49	0.32x	62933.12	-81.98		
Galatea	I	2044-02-18T09:47:34.209		66.46	0.28x	61953.15	-80.76		
Arago	I	2044-02-18T09:48:35.711		66.31	0.07x	57200.31	-73.51		
Lassell	I	2044-02-18T09:49:03.647		66.25	-0.03x	55200.44	-69.60		
LeVerrier	I	2044-02-18T09:49:33.354		66.18	-0.13x	53200.64	-64.96		
Neptune	I	2044-02-18T10:19:28.241		61.42	-6.34	24763.82		22.86	23.57
Neptune	E	2044-02-18T10:57:10.796		54.45	-14.27	24762.91		71.71	72.28
LeVerrier	E	2044-02-18T09:58:24.499		64.87	-1.96x	53208.72	65.10		
Lassell	E	2044-02-18T09:58:54.154		64.80	-2.06x	55204.77	69.75		
Arago	E	2044-02-18T09:59:22.037		64.72	-2.15x	57202.81	73.67		
Galatea	E	2044-02-18T10:00:23.404		64.57	-2.37x	61953.96	80.96		
Adams	E	2044-02-18T10:00:35.417		64.53	-2.41x	62933.78	82.20		

```

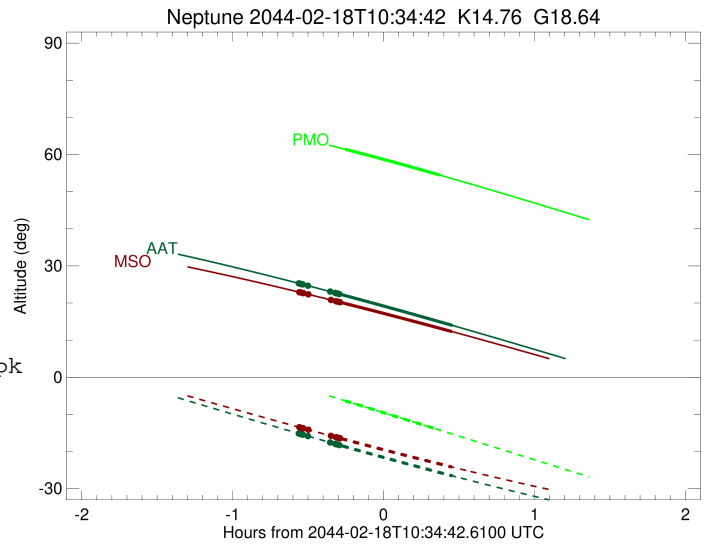
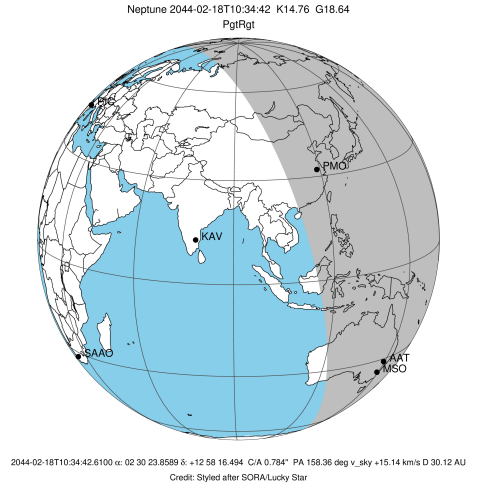
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2044-02-18T10:37:55.190
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : AAT
Location              : Siding Spring (AAT)
Latitude (deg)       : -31.27703
E. Longitude (deg)   : 149.06608
Altitude (km)        : 1.164
Gaia source ID       : 74485590590155776
2Mass ID (if available) : 02302385+1258177
ICRS Star Coord at Epoch: 02h 30m 23.85894s +12:58:16.49424s
RUWE (>1.4 is poor) : 1.06
K magnitude           : 14.757
G magnitude           : 18.636
RP magnitude         : 17.396
BP magnitude         : 20.144
DUPflag              : 0
Distance (au)        : 30.121
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : 15.15
Sun-Target sep (deg) : 70.64
Sun-Moon sep (deg)   : 171.78
B (ring opening deg) : -3.09
PA of pole (deg)     : -46.51
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.542
C/A sky separation (km) : 11836.3
NAIF SPICE kernels   : RAJobs_U111+rgf16.spk
URKALLv1.spk
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
earthstns_itr93_040916.bsp
earth_200101_990628_predict.bpc
pck00010.tpc
pck.urall1.tpc.Neptune
naif0012.tls
IAU_NEPTUNE_for_RINGFIT.tpc.BECAREFUL
earth_flat_IAU.spk
    
```



Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
Adams	I	2044-02-18T10:01:41.806		25.18	-15.28	62933.01	-104.05		
Galatea	I	2044-02-18T10:01:51.243		25.15	-15.31	61953.00	-103.64		
Arago	I	2044-02-18T10:02:37.599		25.02	-15.46	57200.00	-101.32		
Lassell	I	2044-02-18T10:02:57.450		24.96	-15.52	55200.00	-100.14		
LeVerrier	I	2044-02-18T10:03:17.553		24.90	-15.59	53200.00	-98.81		
Galle	I	2044-02-18T10:05:17.439		24.55	-15.98	42000.06	-86.58		
Neptune	I	2044-02-18T10:13:36.239		23.07	-17.59	24764.00		3.73	3.86
Neptune	E	2044-02-18T11:02:10.190		13.96	-26.58	24763.21		53.33	54.26
Galle	E	2044-02-18T10:14:13.468	b	22.95	-17.70	42000.29	86.93		
LeVerrier	E	2044-02-18T10:16:12.778	b	22.60	-18.09	53200.02	99.39		
Lassell	E	2044-02-18T10:16:32.761	b	22.54	-18.15	55200.01	100.76		
Arago	E	2044-02-18T10:16:52.489	b	22.48	-18.21	57200.01	101.99		
Galatea	E	2044-02-18T10:17:38.528	b	22.34	-18.36	61953.00	104.40		
Adams	E	2044-02-18T10:17:47.895	b	22.31	-18.39	62933.01	104.83		

```

target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2044-02-18T10:37:33.700
Event type           : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : MSO
Location              : Mt. Stromlo Observatory
Latitude (deg)       : -35.32000
E. Longitude (deg)   : 149.00833
Altitude (km)        : 0.770
Gaia source ID       : 74485590590155776
2Mass ID (if available) : 02302385+1258177
ICRS Star Coord at Epoch: 02h 30m 23.85894s +12:58:16.49424s
RUWE (>1.4 is poor) : 1.06
K magnitude           : 14.757
G magnitude           : 18.636
RP magnitude         : 17.396
BP magnitude         : 20.144
DUPflag              : 0
Distance (au)        : 30.121
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : 15.15
Sun-Target sep (deg) : 70.64
Sun-Moon sep (deg)   : 171.76
B (ring opening deg) : -3.09
PA of pole (deg)     : -46.51
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.531
C/A sky separation (km) : 11601.4
NAIF SPICE kernels   : RAJobs_U111+rgf16.spk
URKALLv1.spk
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
earthstns_itr93_040916.bsp
earth_200101_990628_predict.bpc
pck00010.tpc
pck.urall1.tpc.Neptune
naif0012.tls
IAU_NEPTUNE_for_RINGFIT.tpc.BECAREFUL
earth_flat_IAU.spk
    
```



Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
Adams	I	2044-02-18T10:01:53.230		22.82	-13.58	62933.00	-104.67		
Galatea	I	2044-02-18T10:02:02.611		22.79	-13.61	61953.00	-104.27		
Arago	I	2044-02-18T10:02:48.661		22.66	-13.76	57200.01	-102.06		
Lassell	I	2044-02-18T10:03:08.364		22.61	-13.82	55200.01	-100.93		
LeVerrier	I	2044-02-18T10:03:28.303		22.55	-13.88	53200.00	-99.65		
Galle	I	2044-02-18T10:05:26.779		22.23	-14.24	42000.05	-88.03		
Neptune	I	2044-02-18T10:13:07.210		20.94	-15.65	24764.00		3.11	3.22
Neptune	E	2044-02-18T11:01:56.331		12.30	-24.17	24763.23		52.71	53.65
Galle	E	2044-02-18T10:14:30.673	b	20.71	-15.90	42000.23	88.40		
LeVerrier	E	2044-02-18T10:16:28.564	b	20.38	-16.26	53200.01	100.25		
Lassell	E	2044-02-18T10:16:48.382	b	20.32	-16.32	55200.01	101.57		
Arago	E	2044-02-18T10:17:07.959	b	20.26	-16.38	57200.01	102.74		
Galatea	E	2044-02-18T10:17:53.687	b	20.13	-16.52	61953.00	105.06		
Adams	E	2044-02-18T10:18:02.997	b	20.11	-16.54	62933.00	105.47		