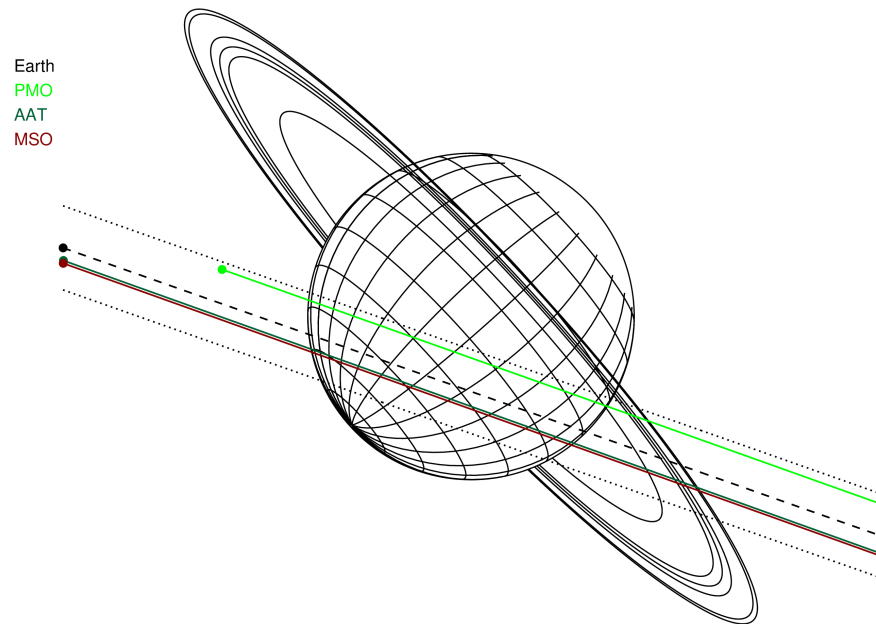
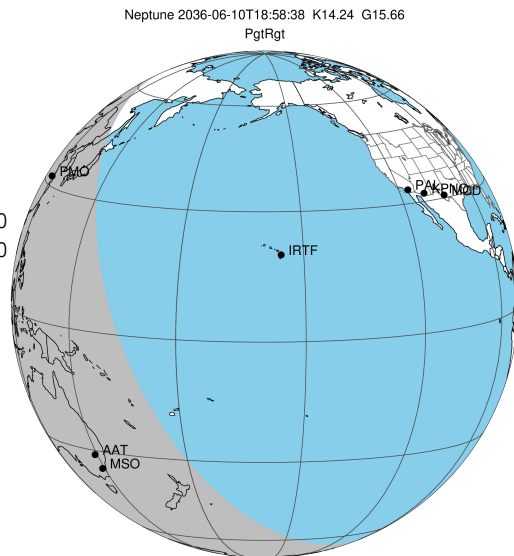


target : Neptune
 target radius (km) : 24764.00
 C/A epoch : 2036-06-10T18:58:38.110
 Event type : PgtRgt
 : Neptune occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 2571919810909171968
 2Mass ID (if available) : 01375079+0824088

Neptune 2036-06-10T18:58:38 K14.24 G15.66 PgtRgt

ICRS Star Coord at Epoch: 01h 37m 50.77838s +08:24:08.47786s
 RUWE (>1.4 is poor) : 0.95
 K magnitude : 14.244
 G magnitude : 15.663
 RP magnitude : 15.137
 BP magnitude : 16.021
 DUPflag : 0
 Distance (au) : 30.413
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 22.80
 Sun-Target sep (deg) : 54.25
 Sun-Moon sep (deg) : 104.32
 B (ring opening deg) : -9.44
 PA of pole (deg) : -47.63

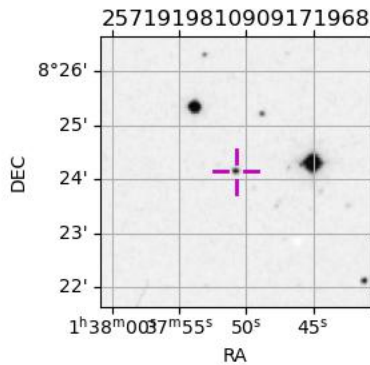


2036-06-10T18:58:38.1100 cc: 01 37 50.7784 s: +08 24 08.478 C/A 0.487° PA 340.60 deg v_sky +22.80 km/s D 30.41 AU
 Credit: Styled after SORA/Lucky Star

#	a(km)	ring
1	42000.0	Galle
2	53200.0	LeVerrier
3	55200.0	Lassell
4	57200.0	Arago
5	61953.0	Galatea
6	62933.0	Adams

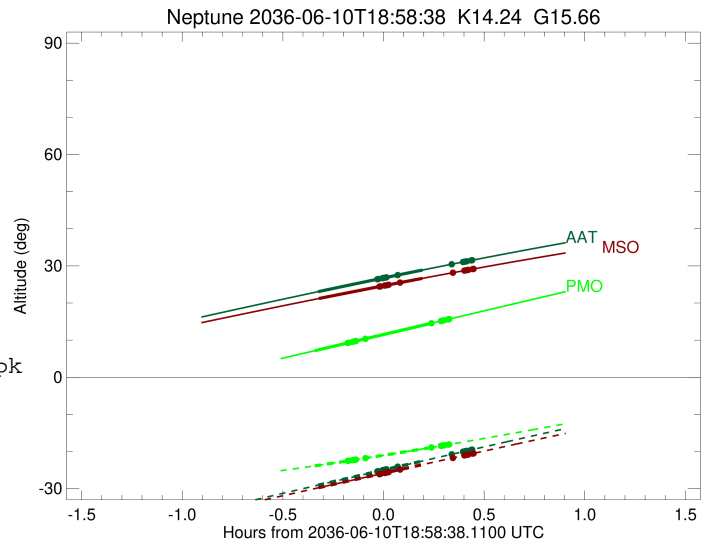
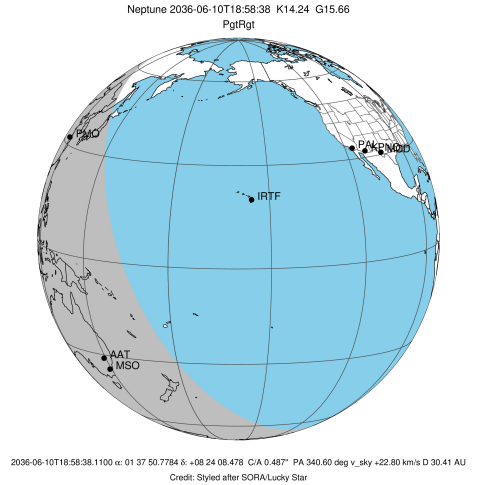
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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		+	+	JUN 10 18:38 - JUN 10 19:18	PieRne
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		+	+	JUN 10 18:39 - JUN 10 19:24	PieRne
SAAO	So. Afr. Astro. Obs.	-32.4	20.8					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0		+	+	JUN 10 18:39 - JUN 10 19:25	PieRne



```

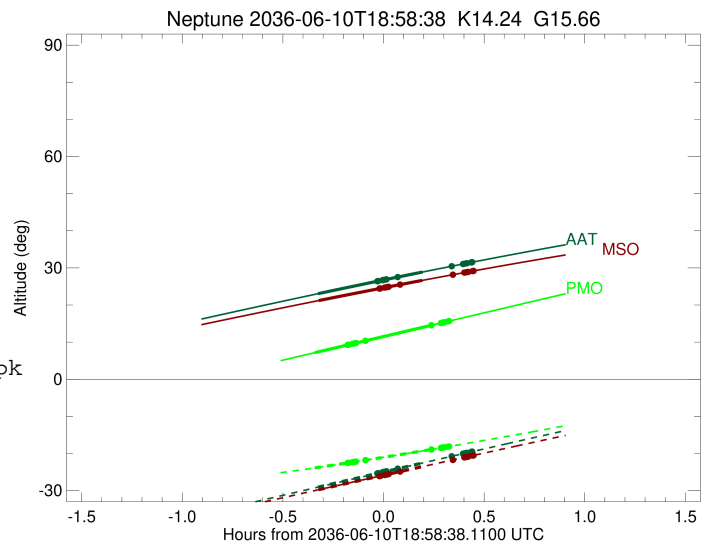
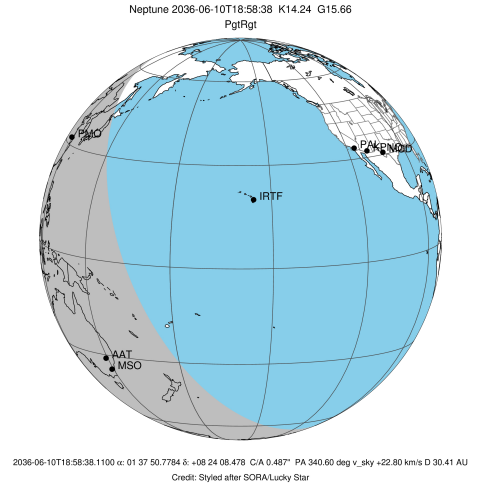
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2036-06-10T18:55:41.990
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : PMO
Location              : Purple Mtn Obs. Nanking
Latitude (deg)       : 32.06667
E. Longitude (deg)   : 118.82089
Altitude (km)        : 0.364
Gaia source ID       : 2571919810909171968
2Mass ID (if available) : 01375079+0824088
ICRS Star Coord at Epoch: 01h 37m 50.77838s +08:24:08.47786s
RUWE (>1.4 is poor) : 0.95
K magnitude           : 14.244
G magnitude           : 15.663
RP magnitude         : 15.137
BP magnitude         : 16.021
DUPflag              : 0
Distance (au)        : 30.413
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : 22.80
Sun-Target sep (deg) : 54.25
Sun-Moon sep (deg)   : 104.64
B (ring opening deg) : -9.44
PA of pole (deg)     : -47.63
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.268
C/A sky separation (km) : 5920.4
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.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	2036-06-10T18:48:00.715	b	9.25	-22.52	62933.00	-65.81		
Galatea	I	2036-06-10T18:48:15.620	b	9.31	-22.49	61953.00	-65.70		
Arago	I	2036-06-10T18:49:28.280	b	9.56	-22.32	57200.00	-65.11		
Lassell	I	2036-06-10T18:49:59.061	b	9.67	-22.25	55200.00	-64.84		
LeVerrier	I	2036-06-10T18:50:29.976	b	9.78	-22.18	53200.00	-64.55		
Galle	I	2036-06-10T18:53:25.215	b	10.40	-21.77	42000.00	-63.59		
Neptune	I	2036-06-10T18:38:06.902		7.16	-23.86	24758.97		-41.20	-42.18
Neptune	E	2036-06-10T19:13:18.819		14.63	-18.85	24763.32		14.01	14.48
Galle	E	2036-06-10T19:12:44.254	b	14.51	-18.94	42000.00	65.28		
LeVerrier	E	2036-06-10T19:15:34.267		15.11	-18.51	53200.00	66.35		
Lassell	E	2036-06-10T19:16:04.382		15.22	-18.43	55200.00	66.47		
Arago	E	2036-06-10T19:16:34.444		15.33	-18.35	57200.00	66.58		
Galatea	E	2036-06-10T19:17:45.706		15.58	-18.17	61953.00	66.80		
Adams	E	2036-06-10T19:18:00.372		15.63	-18.13	62933.00	66.84		

```

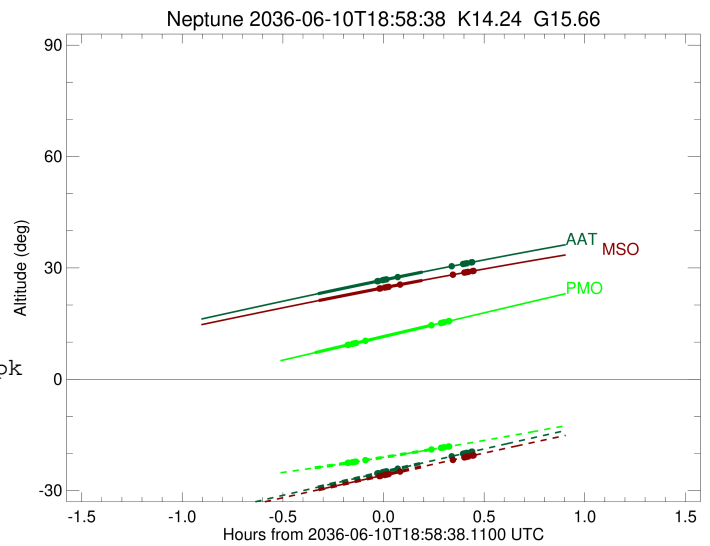
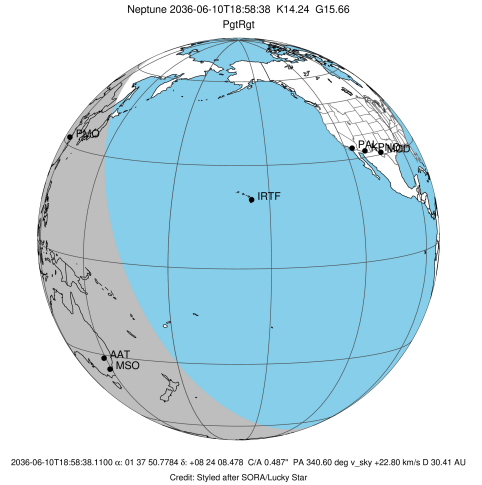
target                : Neptune
target radius (km)   : 24764.00
C/A epoch            : 2036-06-10T18:54:41.400
Event type          : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code       : AAT
Location            : Siding Spring (AAT)
Latitude (deg)      : -31.27703
E. Longitude (deg)  : 149.06608
Altitude (km)       : 1.164
Gaia source ID      : 2571919810909171968
2Mass ID (if available) : 01375079+0824088
ICRS Star Coord at Epoch: 01h 37m 50.77838s +08:24:08.47786s
RUWE (>1.4 is poor) : 0.95
K magnitude          : 14.244
G magnitude          : 15.663
RP magnitude         : 15.137
BP magnitude         : 16.021
DUPflag             : 0
Distance (au)       : 30.413
f0 (km)             : 0.000
g0 (km)             : 0.000
skyplane vel. (km/s) : 22.80
Sun-Target sep (deg) : 54.25
Sun-Moon sep (deg)  : 104.91
B (ring opening deg) : -9.44
PA of pole (deg)    : -47.63
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.582
C/A sky separation (km) : 12846.0
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	2036-06-10T18:56:35.461	b	26.36	-25.40	62933.00	-62.06		
Galatea	I	2036-06-10T18:56:51.276	b	26.41	-25.35	61953.00	-61.88		
Arago	I	2036-06-10T18:58:08.744	b	26.65	-25.08	57200.00	-60.77		
Lassell	I	2036-06-10T18:58:41.816	b	26.76	-24.96	55200.00	-60.17		
LeVerrier	I	2036-06-10T18:59:15.242	b	26.86	-24.84	53200.00	-59.48		
Galle	I	2036-06-10T19:02:32.808	b	27.47	-24.16	42000.00	-53.16		
Neptune	I	2036-06-10T18:39:04.986		23.05	-29.07	24755.67		-57.91	-58.78
Neptune	E	2036-06-10T19:10:19.299		28.89	-22.54	24763.97		-3.29	-3.41
Galle	E	2036-06-10T19:18:41.471		30.40	-20.81	42000.00	52.59		
LeVerrier	E	2036-06-10T19:22:01.688		30.99	-20.12	53200.00	58.58		
Lassell	E	2036-06-10T19:22:35.633		31.09	-20.00	55200.00	59.24		
Arago	E	2036-06-10T19:23:09.222		31.19	-19.89	57200.00	59.83		
Galatea	E	2036-06-10T19:24:27.870		31.42	-19.62	61953.00	60.99		
Adams	E	2036-06-10T19:24:43.911		31.47	-19.56	62933.00	61.19		

```

target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2036-06-10T18:54:44.400
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       : 2571919810909171968
2Mass ID (if available) : 01375079+0824088
ICRS Star Coord at Epoch: 01h 37m 50.77838s +08:24:08.47786s
RUWE (>1.4 is poor) : 0.95
K magnitude          : 14.244
G magnitude          : 15.663
RP magnitude         : 15.137
BP magnitude         : 16.021
DUPflag              : 0
Distance (au)        : 30.413
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : 22.80
Sun-Target sep (deg) : 54.25
Sun-Moon sep (deg)   : 104.88
B (ring opening deg) : -9.44
PA of pole (deg)     : -47.63
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.600
C/A sky separation (km) : 13237.7
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	2036-06-10T18:57:12.192	b	24.39	-26.15	62933.00	-61.72		
Galatea	I	2036-06-10T18:57:28.098	b	24.44	-26.09	61953.00	-61.51		
Arago	I	2036-06-10T18:58:46.107	b	24.66	-25.83	57200.00	-60.28		
Lassell	I	2036-06-10T18:59:19.461	b	24.76	-25.72	55200.00	-59.63		
LeVerrier	I	2036-06-10T18:59:53.209	b	24.86	-25.61	53200.00	-58.88		
Galle	I	2036-06-10T19:03:13.632	b	25.44	-24.94	42000.00	-52.10		
Neptune	I	2036-06-10T18:39:19.117		21.20	-29.75	24755.50		-58.93	-59.79
Neptune	E	2036-06-10T19:10:11.122		26.63	-23.55	24763.93		-4.33	-4.48
Galle	E	2036-06-10T19:19:02.639		28.12	-21.79	42000.00	51.60		
LeVerrier	E	2036-06-10T19:22:25.497		28.68	-21.11	53200.00	58.06		
Lassell	E	2036-06-10T19:22:59.732		28.78	-21.00	55200.00	58.77		
Arago	E	2036-06-10T19:23:33.579		28.87	-20.89	57200.00	59.40		
Galatea	E	2036-06-10T19:24:52.737		29.09	-20.63	61953.00	60.64		
Adams	E	2036-06-10T19:25:08.869		29.13	-20.58	62933.00	60.86		