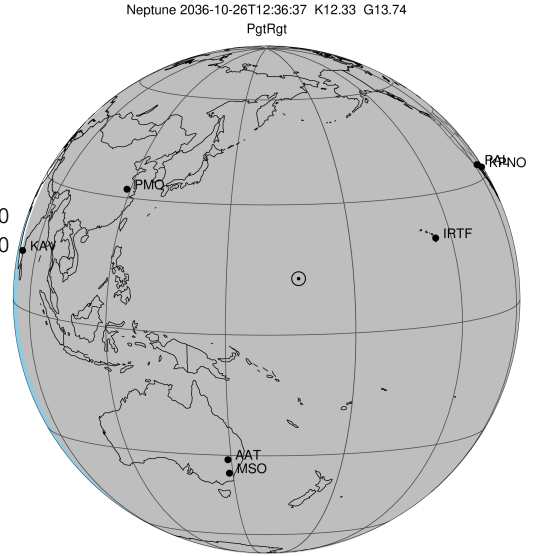


target : Neptune
 target radius (km) : 24764.00
 C/A epoch : 2036-10-26T12:36:37.970
 Event type : PgtRgt
 : Neptune occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 2565887099845330048
 2Mass ID (if available) : 01340777+0756191

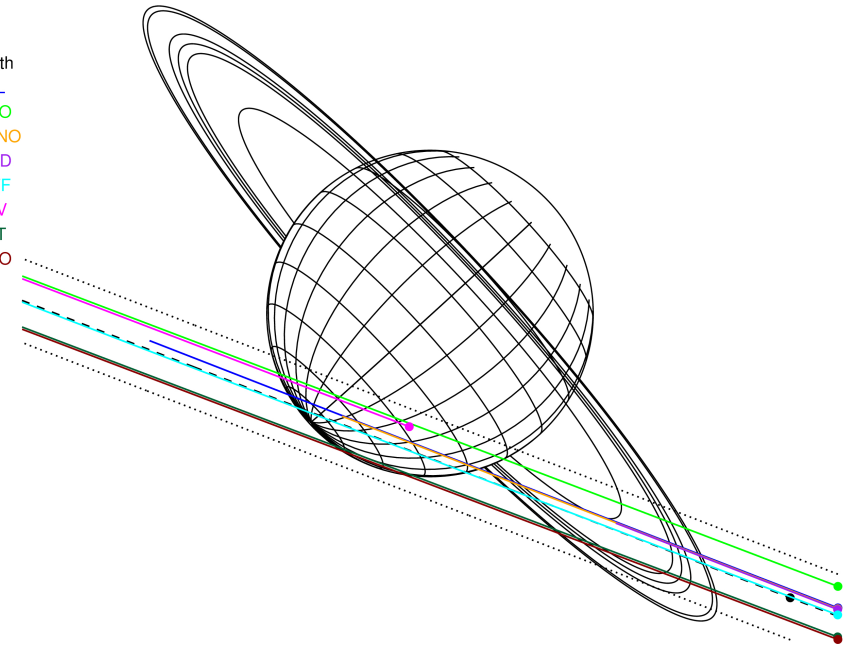
Neptune 2036-10-26T12:36:37 K12.33 G13.74 PgtRgt

ICRS Star Coord at Epoch: 01h 34m 07.81260s +07:56:19.45741s
 RUWE (>1.4 is poor) : 1.01
 K magnitude : 12.326
 G magnitude : 13.738
 RP magnitude : 13.247
 BP magnitude : 14.065
 DUPflag : 0
 Distance (au) : 28.846
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -24.08
 Sun-Target sep (deg) : 171.35
 Sun-Moon sep (deg) : 87.30
 B (ring opening deg) : -9.81
 PA of pole (deg) : -47.60
 # a(km) ring



2036-10-26T12:36:37.9700 ra: 01 34 07.8126 s: +07 56 19.457 C/A 0.980° PA 338.84 deg v_sky -24.08 km/s D 28.85 AU
 Credit: Styled after SORA/Lucky Star

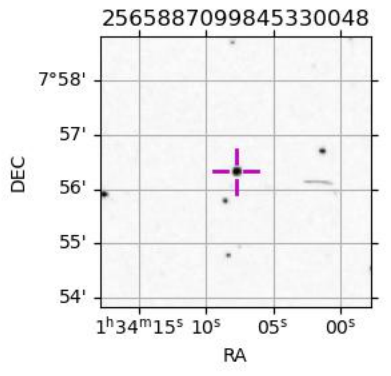
Earth
 PAL
 PMO
 KPNO
 MCD
 IRTF
 KAV
 AAT
 MSO



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

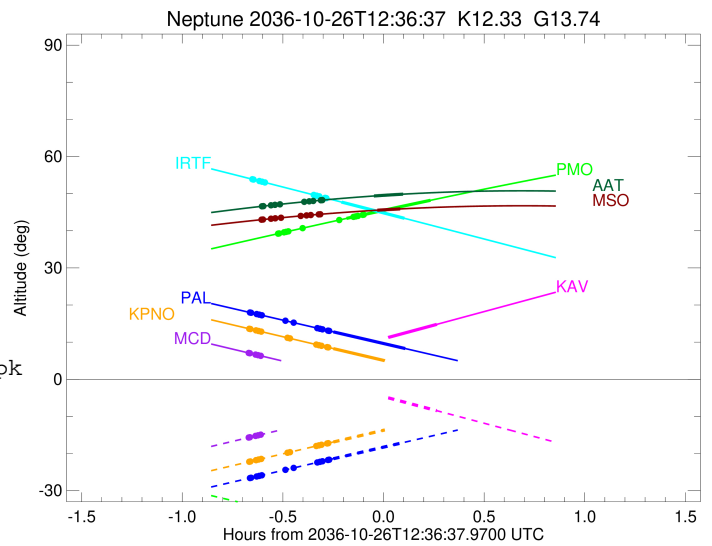
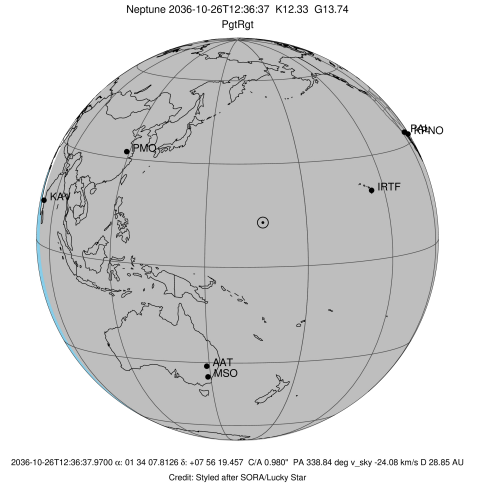
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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	+	+	+	+	+	+	+	+	OCT 26 11:57 - OCT 26 12:43	PieRie
PMO	Purple Mtn Obs. Nanki	32.1	118.8	+	+	+	+	+	+	+	+	OCT 26 12:05 - OCT 26 12:50	PieRie
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	+	+	+	+	+	+	+	OCT 26 11:57 - OCT 26 12:21	PinRie
MCD	McDonald Obs. 2.7m	30.7	256.0	+	+	+	+	+	+	+	+	OCT 26 11:56 - OCT 26 12:00	PnnRin
TEN	Teide Obs./Tenerife	28.3	343.5										PnnRnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+	+	+	+	+	+	+	+	OCT 26 11:57 - OCT 26 12:42	PieRie
KAV	Kavalur Observatory	12.6	78.8								+	OCT 26 12:52 - OCT 26 12:52	PneRnn
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	+	+	+	+	+	+	+	+	OCT 26 12:00 - OCT 26 12:42	PieRie
SAAO	So. Afr. Astro. Obs.	-32.4	20.8										PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0	+	+	+	+	+	+	+	+	OCT 26 12:00 - OCT 26 12:41	PieRie



```

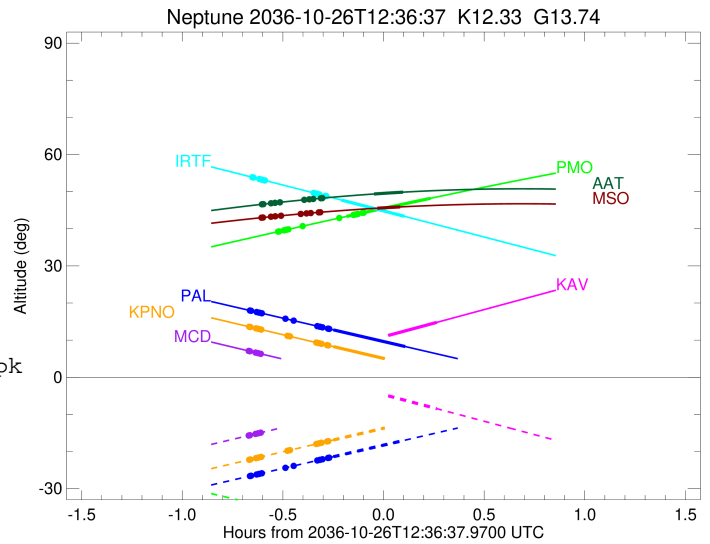
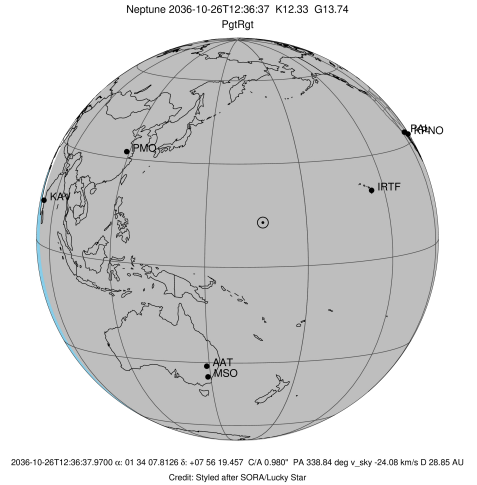
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2036-10-26T12:32:23.880
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code         : PAL
Location              : Palomar Mt (200")
Latitude (deg)        : 33.35622
E. Longitude (deg)   : 243.13601
Altitude (km)         : 1.706
Gaia source ID        : 2565887099845330048
2Mass ID (if available) : 01340777+0756191
ICRS Star Coord at Epoch: 01h 34m 07.81260s +07:56:19.45741s
RUWE (>1.4 is poor) : 1.01
K magnitude           : 12.326
G magnitude           : 13.738
RP magnitude          : 13.247
BP magnitude          : 14.065
DUPflag              : 0
Distance (au)         : 28.846
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -24.08
Sun-Target sep (deg) : 171.35
Sun-Moon sep (deg)   : 87.49
B (ring opening deg) : -9.81
PA of pole (deg)     : -47.60
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.921
C/A sky separation (km) : 19267.4
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	2036-10-26T11:57:12.555		17.90	-26.53	62933.00	-50.66		
Galatea	I	2036-10-26T11:57:32.016		17.83	-26.46	61953.00	-50.05		
Arago	I	2036-10-26T11:59:10.291		17.49	-26.12	57200.00	-46.53		
Lassell	I	2036-10-26T11:59:54.133		17.34	-25.96	55200.00	-44.67		
LeVerrier	I	2036-10-26T12:00:39.999		17.18	-25.80	53200.00	-42.50		
Galle	I	2036-10-26T12:06:53.670		15.87	-24.50	42000.85	-14.11		
Neptune	I	2036-10-26T12:21:39.776		12.77	-21.41	24761.88		-24.33	-25.08
Neptune	E	2036-10-26T12:43:07.815		8.27	-16.93	24752.42		-74.13	-74.64
Galle	E	2036-10-26T12:11:20.132		14.94	-23.57	42235.52	15.71		
LeVerrier	E	2036-10-26T12:17:32.878		13.64	-22.27	53200.03	42.53		
Lassell	E	2036-10-26T12:18:18.709		13.48	-22.11	55200.02	44.71		
Arago	E	2036-10-26T12:19:02.511		13.32	-21.96	57200.01	46.58		
Galatea	E	2036-10-26T12:20:40.675		12.98	-21.62	61953.00	50.12		
Adams	E	2036-10-26T12:21:00.110		12.91	-21.55	62933.00	50.73		

```

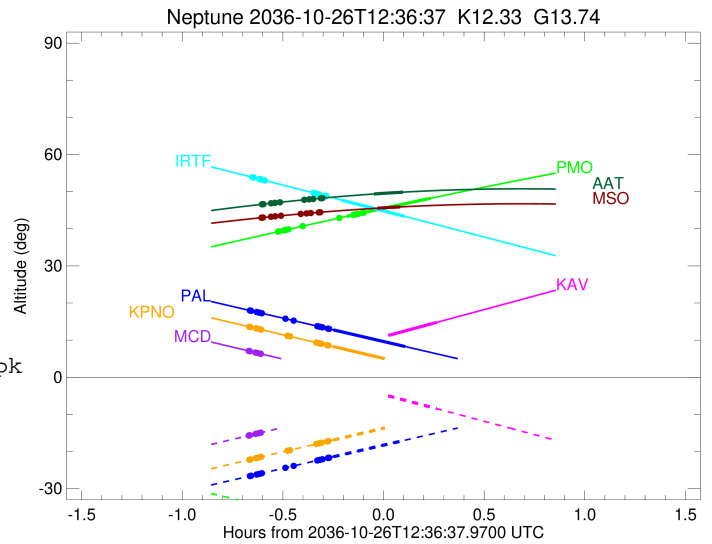
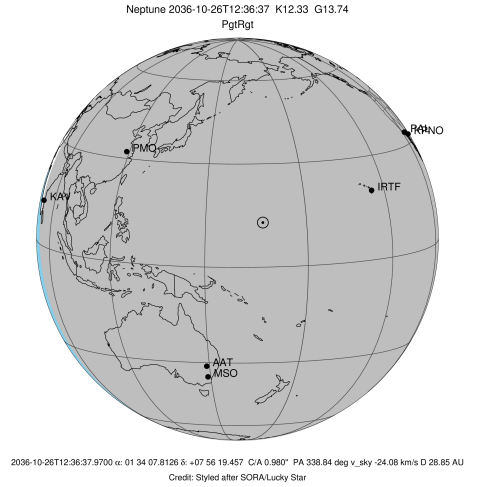
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2036-10-26T12:38:08.150
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : PMO
Location              : Purple Mtn Obs. Nanking
Latitude (deg)       : 32.06667
E. Longitude (deg)   : 118.82089
Altitude (km)        : 0.364
Gaia source ID       : 2565887099845330048
2Mass ID (if available) : 01340777+0756191
ICRS Star Coord at Epoch: 01h 34m 07.81260s +07:56:19.45741s
RUWE (>1.4 is poor) : 1.01
K magnitude           : 12.326
G magnitude           : 13.738
RP magnitude         : 13.247
BP magnitude         : 14.065
DUPflag              : 0
Distance (au)        : 28.846
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -24.08
Sun-Target sep (deg) : 171.35
Sun-Moon sep (deg)   : 87.93
B (ring opening deg) : -9.81
PA of pole (deg)     : -47.60
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.797
C/A sky separation (km) : 16677.7
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	2036-10-26T12:05:34.601		39.30	-35.63	62933.00	-56.29		
Galatea	I	2036-10-26T12:05:52.074		39.36	-35.69	61953.00	-55.88		
Arago	I	2036-10-26T12:07:18.864		39.65	-35.99	57200.00	-53.55		
Lassell	I	2036-10-26T12:07:56.628		39.78	-36.13	55200.00	-52.34		
LeVerrier	I	2036-10-26T12:08:35.336		39.91	-36.26	53200.00	-50.97		
Galle	I	2036-10-26T12:12:44.743		40.75	-37.14	42000.00	-37.22		
Neptune	I	2036-10-26T12:25:36.130		43.33	-39.83	24763.12		-15.33	-15.85
Neptune	E	2036-10-26T12:50:39.226		48.21	-45.02	24753.38		-67.04	-67.73
Galle	E	2036-10-26T12:24:01.927		43.02	-39.50	42000.09	37.35		
LeVerrier	E	2036-10-26T12:28:10.124	b	43.84	-40.37	53200.00	51.30		
Lassell	E	2036-10-26T12:28:48.572	b	43.96	-40.50	55200.01	52.72		
Arago	E	2036-10-26T12:29:26.063	b	44.09	-40.63	57200.00	53.96		
Galatea	E	2036-10-26T12:30:52.153	b	44.37	-40.93	61953.00	56.37		
Adams	E	2036-10-26T12:31:09.474	b	44.43	-40.99	62933.00	56.79		

```

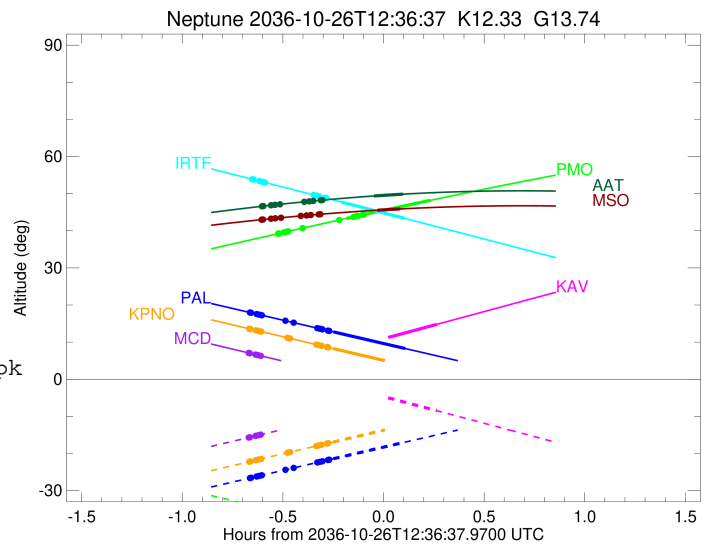
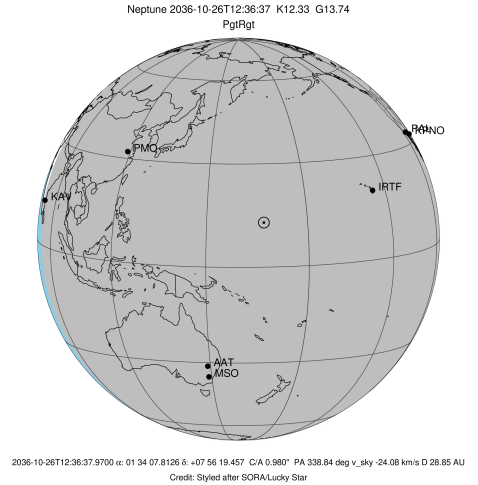
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2036-10-26T12:32:20.460
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code         : KPNO
Location              : Kitt Peak Natl Obs
Latitude (deg)        : 31.96333
E. Longitude (deg)    : 248.40000
Altitude (km)         : 2.120
Gaia source ID        : 2565887099845330048
2Mass ID (if available) : 01340777+0756191
ICRS Star Coord at Epoch: 01h 34m 07.81260s +07:56:19.45741s
RUWE (>1.4 is poor) : 1.01
K magnitude           : 12.326
G magnitude           : 13.738
RP magnitude          : 13.247
BP magnitude          : 14.065
DUPflag               : 0
Distance (au)         : 28.846
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -24.08
Sun-Target sep (deg) : 171.35
Sun-Moon sep (deg)   : 87.42
B (ring opening deg) : -9.81
PA of pole (deg)     : -47.60
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.926
C/A sky separation (km) : 19367.9
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	2036-10-26T11:57:00.081		13.51	-22.13	62933.00	-50.31		
Galatea	I	2036-10-26T11:57:19.679		13.45	-22.06	61953.00	-49.70		
Arago	I	2036-10-26T11:58:58.743		13.09	-21.71	57200.00	-46.12		
Lassell	I	2036-10-26T11:59:43.001		12.94	-21.56	55200.00	-44.22		
LeVerrier	I	2036-10-26T12:00:29.364		12.77	-21.39	53200.00	-42.01		
Galle	I	2036-10-26T12:06:58.298		11.39	-20.02	42053.38	-12.49		
Neptune	I	2036-10-26T12:21:40.702		8.26	-16.90	24761.82		-24.73	-25.49
Neptune	E	2036-10-26T12:43:00.057		3.74x	-12.40	24752.39		-74.40	-74.89
Galle	E	2036-10-26T12:05:55.212		11.62	-20.24	46824.73	-31.39		
LeVerrier	E	2036-10-26T12:17:15.210		9.20	-17.84	53200.03	42.04		
Lassell	E	2036-10-26T12:18:01.543		9.04	-17.67	55200.02	44.26		
Arago	E	2036-10-26T12:18:45.767		8.88	-17.52	57200.01	46.16		
Galatea	E	2036-10-26T12:20:24.732		8.53	-17.17	61953.01	49.76		
Adams	E	2036-10-26T12:20:44.306		8.46	-17.10	62933.00	50.37		

```

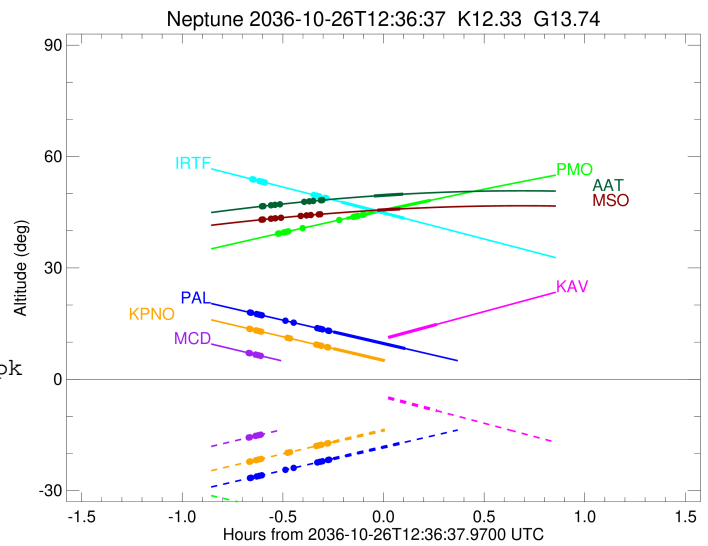
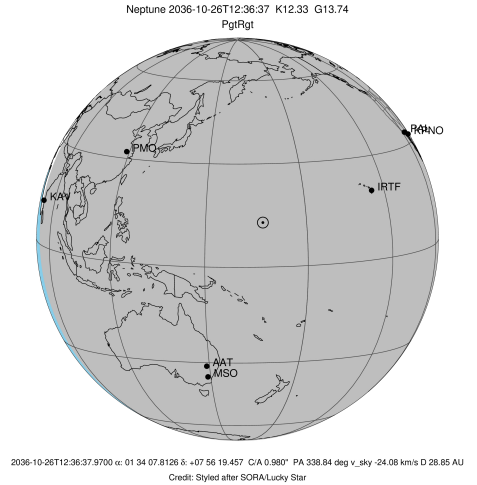
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2036-10-26T12:32:19.370
Event type           : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : MCD
Location              : McDonald Obs. 2.7m
Latitude (deg)       : 30.67158
E. Longitude (deg)   : 255.97844
Altitude (km)        : 2.075
Gaia source ID       : 2565887099845330048
2Mass ID (if available) : 01340777+0756191
ICRS Star Coord at Epoch: 01h 34m 07.81260s +07:56:19.45741s
RUWE (>1.4 is poor) : 1.01
K magnitude           : 12.326
G magnitude           : 13.738
RP magnitude          : 13.247
BP magnitude          : 14.065
DUPflag               : 0
Distance (au)         : 28.846
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -24.08
Sun-Target sep (deg) : 171.35
Sun-Moon sep (deg)   : 87.32
B (ring opening deg) : -9.81
PA of pole (deg)     : -47.60
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.928
C/A sky separation (km) : 19404.6
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	2036-10-26T11:56:50.567		7.00	-15.61	62933.00	-50.01		
Galatea	I	2036-10-26T11:57:10.283		6.93	-15.54	61953.00	-49.39		
Arago	I	2036-10-26T11:58:49.996		6.57	-15.19	57200.00	-45.79		
Lassell	I	2036-10-26T11:59:34.582		6.41	-15.03	55200.00	-43.88		
LeVerrier	I	2036-10-26T12:00:21.320		6.25	-14.86	53200.00	-41.65		
Neptune	I	2036-10-26T12:21:40.240	1.68x	-10.31		24761.79		-24.91	-25.67
Neptune	E	2036-10-26T12:42:58.348	-2.86x	-5.80		24752.38		-74.47	-74.96
LeVerrier	E	2036-10-26T12:17:05.505	2.66x	-11.28		53200.03	41.68		
Lassell	E	2036-10-26T12:17:52.216	2.49x	-11.12		55200.02	43.92		
Arago	E	2036-10-26T12:18:36.769	2.33x	-10.96		57200.01	45.83		
Galatea	E	2036-10-26T12:20:16.389	1.98x	-10.61		61953.01	49.45		
Adams	E	2036-10-26T12:20:36.083	1.91x	-10.54		62933.00	50.07		

```

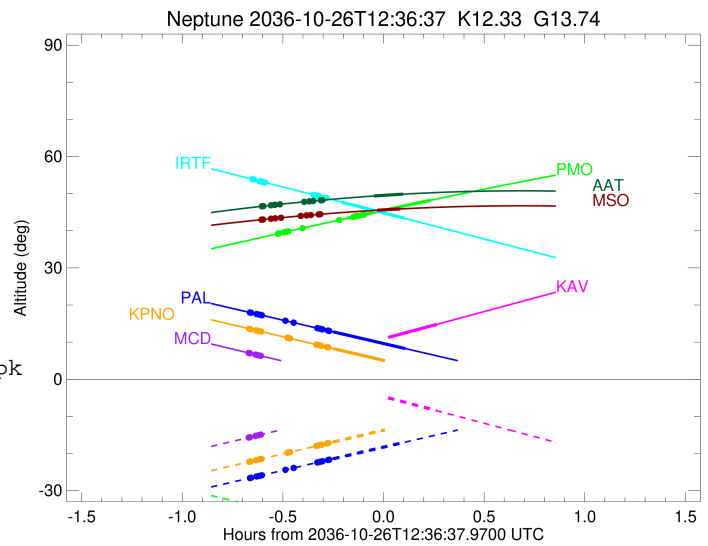
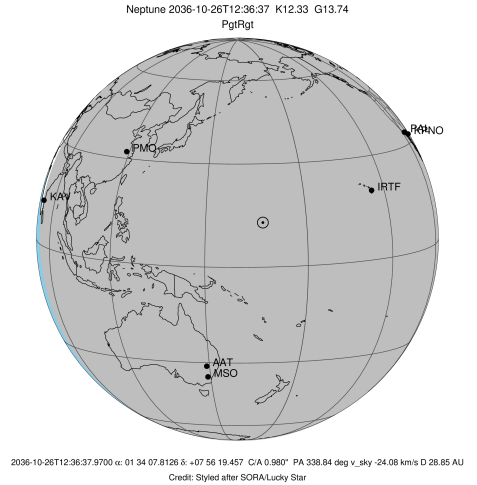
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2036-10-26T12:33:29.930
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : IRTF
Location              : Mauna Kea/IRTF
Latitude (deg)       : 19.82622
E. Longitude (deg)   : 204.52800
Altitude (km)        : 4.168
Gaia source ID       : 2565887099845330048
2Mass ID (if available) : 01340777+0756191
ICRS Star Coord at Epoch: 01h 34m 07.81260s +07:56:19.45741s
RUWE (>1.4 is poor) : 1.01
K magnitude           : 12.326
G magnitude           : 13.738
RP magnitude          : 13.247
BP magnitude          : 14.065
DUPflag               : 0
Distance (au)         : 28.846
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -24.08
Sun-Target sep (deg) : 171.35
Sun-Moon sep (deg)   : 87.96
B (ring opening deg) : -9.81
PA of pole (deg)     : -47.60
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation ("): 0.984
C/A sky separation (km): 20587.0
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.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	2036-10-26T11:57:55.258		53.79	-62.23	62933.00	-49.09		
Galatea	I	2036-10-26T11:58:15.369		53.72	-62.15	61953.00	-48.36		
Arago	I	2036-10-26T11:59:57.996		53.32	-61.76	57200.00	-44.09		
Lassell	I	2036-10-26T12:00:44.548		53.14	-61.58	55200.00	-41.79		
LeVerrier	I	2036-10-26T12:01:33.983		52.96	-61.39	53200.00	-39.07		
Neptune	I	2036-10-26T12:24:05.766		47.74	-56.14	24761.04		-29.16	-30.00
Neptune	E	2036-10-26T12:42:53.694		43.36	-51.73	24752.04		-77.90	-78.29
LeVerrier	E	2036-10-26T12:16:34.143		49.49	-57.90	53200.08	39.09		
Lassell	E	2036-10-26T12:17:23.550		49.30	-57.70	55200.04	41.82		
Arago	E	2036-10-26T12:18:10.071		49.12	-57.52	57200.02	44.13		
Galatea	E	2036-10-26T12:19:52.609		48.72	-57.12	61953.01	48.42		
Adams	E	2036-10-26T12:20:12.699		48.65	-57.05	62933.01	49.14		

```

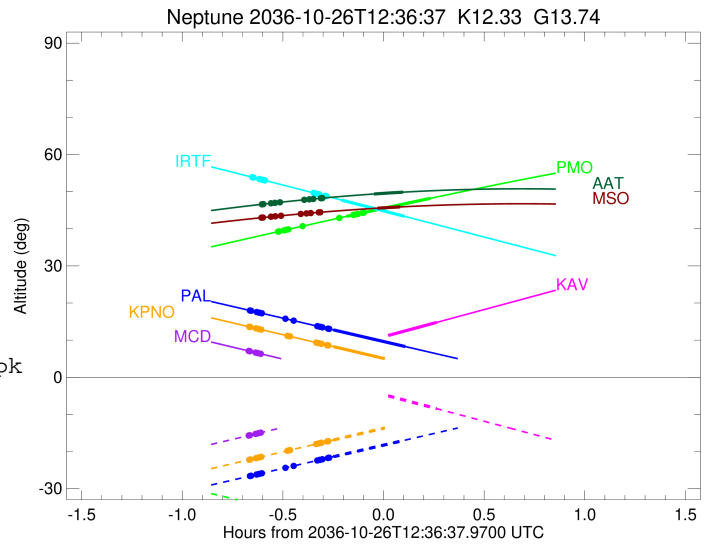
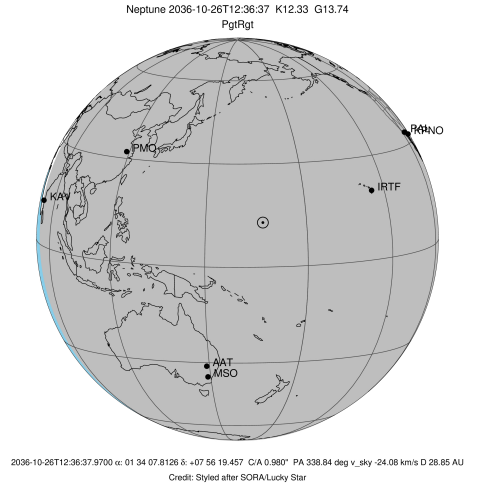
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2036-10-26T12:40:14.700
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code         : KAV
Location              : Kavalur Observatory
Latitude (deg)        : 12.57556
E. Longitude (deg)    : 78.83167
Altitude (km)         : 0.722
Gaia source ID        : 2565887099845330048
2Mass ID (if available) : 01340777+0756191
ICRS Star Coord at Epoch: 01h 34m 07.81260s +07:56:19.45741s
RUWE (>1.4 is poor) : 1.01
K magnitude           : 12.326
G magnitude           : 13.738
RP magnitude          : 13.247
BP magnitude          : 14.065
DUPflag               : 0
Distance (au)         : 28.846
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -24.08
Sun-Target sep (deg)  : 171.35
Sun-Moon sep (deg)    : 87.44
B (ring opening deg) : -9.81
PA of pole (deg)      : -47.60
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.821
C/A sky separation (km) : 17168.4
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	2036-10-26T12:06:50.610		3.68x	2.43x	62933.00	-54.61		
Galatea	I	2036-10-26T12:07:08.626		3.75x	2.35x	61953.00	-54.18		
Arago	I	2036-10-26T12:08:38.340		4.11x	2.00x	57200.00	-51.68		
Lassell	I	2036-10-26T12:09:17.522		4.27x	1.84x	55200.00	-50.38		
LeVerrier	I	2036-10-26T12:09:57.801		4.43x	1.69x	53200.00	-48.89		
Galle	I	2036-10-26T12:14:23.335		5.51	0.63x	42000.00	-33.66		
Neptune	I	2036-10-26T12:27:54.974		8.80	-2.59x	24762.93		-16.99	-17.55
Neptune	E	2036-10-26T12:52:33.202		14.80	-8.47	24753.19		-68.32	-68.98
Galle	E	2036-10-26T12:24:53.165		8.06	-1.86x	42000.20	33.78		
LeVerrier	E	2036-10-26T12:29:17.340	b	9.13	-2.91x	53200.00	49.24		
Lassell	E	2036-10-26T12:29:57.329	b	9.29	-3.07x	55200.00	50.77		
Arago	E	2036-10-26T12:30:36.207	b	9.45	-3.23x	57200.00	52.10		
Galatea	E	2036-10-26T12:32:05.140	b	9.81	-3.58x	61953.00	54.69		
Adams	E	2036-10-26T12:32:22.986	b	9.88	-3.65x	62933.00	55.14		

```

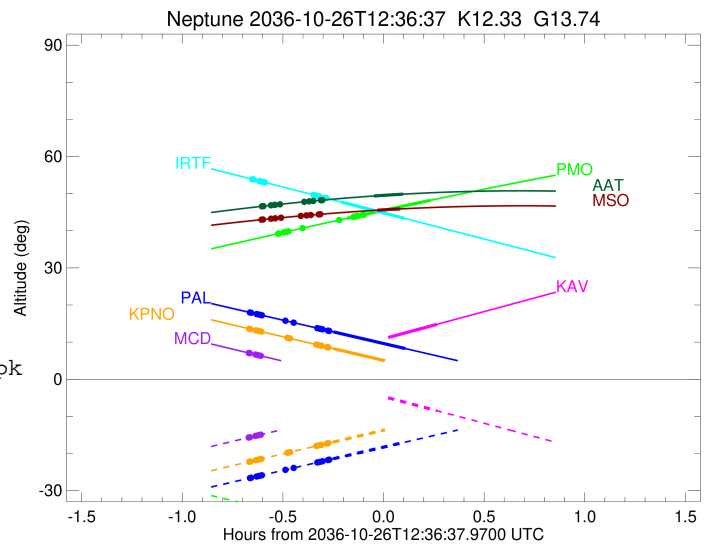
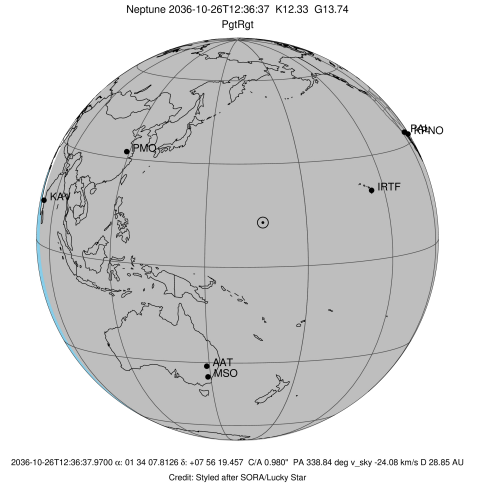
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2036-10-26T12:38:08.370
Event type           : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : AAT
Location             : Siding Spring (AAT)
Latitude (deg)       : -31.27703
E. Longitude (deg)   : 149.06608
Altitude (km)        : 1.164
Gaia source ID       : 2565887099845330048
2Mass ID (if available) : 01340777+0756191
ICRS Star Coord at Epoch: 01h 34m 07.81260s +07:56:19.45741s
RUWE (>1.4 is poor) : 1.01
K magnitude          : 12.326
G magnitude          : 13.738
RP magnitude         : 13.247
BP magnitude         : 14.065
DUPflag             : 0
Distance (au)        : 28.846
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : -24.08
Sun-Target sep (deg) : 171.35
Sun-Moon sep (deg)   : 87.98
B (ring opening deg) : -9.81
PA of pole (deg)     : -47.60
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 1.143
C/A sky separation (km) : 23910.2
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.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	2036-10-26T12:00:44.434		46.63	-39.21	62933.00	-41.03		
Galatea	I	2036-10-26T12:01:08.663		46.67	-39.26	61953.00	-39.86		
Arago	I	2036-10-26T12:03:19.471		46.89	-39.52	57200.00	-32.52		
Lassell	I	2036-10-26T12:04:25.324		47.00	-39.65	55200.00	-28.14		
LeVerrier	I	2036-10-26T12:05:44.505		47.13	-39.80	53200.00	-22.26		
Neptune	I	2036-10-26T12:33:45.643		49.37	-42.70	24757.26		-47.25	-48.22
Neptune	E	2036-10-26T12:42:30.304		49.87	-43.45	24752.37		-74.70	-75.19
LeVerrier	E	2036-10-26T12:14:12.668		47.91	-40.76	53206.45	22.31		
Lassell	E	2036-10-26T12:15:31.778		48.02	-40.90	55201.27	28.18		
Arago	E	2036-10-26T12:16:37.557		48.11	-41.02	57200.45	32.57		
Galatea	E	2036-10-26T12:18:48.172		48.29	-41.25	61953.08	39.93		
Adams	E	2036-10-26T12:19:12.357		48.33	-41.29	62933.06	41.11		


```

target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2036-10-26T12:38:12.080
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       : 2565887099845330048
2Mass ID (if available) : 01340777+0756191
ICRS Star Coord at Epoch: 01h 34m 07.81260s +07:56:19.45741s
RUWE (>1.4 is poor) : 1.01
K magnitude           : 12.326
G magnitude           : 13.738
RP magnitude         : 13.247
BP magnitude         : 14.065
DUPflag              : 0
Distance (au)        : 28.846
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -24.08
Sun-Target sep (deg) : 171.35
Sun-Moon sep (deg)   : 87.94
B (ring opening deg) : -9.81
PA of pole (deg)     : -47.60
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 1.159
C/A sky separation (km) : 24238.0
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.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	2036-10-26T12:00:36.463		43.02	-35.81	62933.00	-39.93		
Galatea	I	2036-10-26T12:01:01.385		43.06	-35.85	61953.00	-38.70		
Arago	I	2036-10-26T12:03:17.424		43.26	-36.10	57200.00	-30.86		
Lassell	I	2036-10-26T12:04:27.565		43.37	-36.23	55200.00	-26.07		
LeVerrier	I	2036-10-26T12:05:55.297		43.50	-36.38	53200.00	-19.39		
Neptune	I	2036-10-26T12:34:45.684		45.54	-39.09	24756.57		-50.44	-51.39
Neptune	E	2036-10-26T12:41:37.684		45.89	-39.61	24752.68		-72.08	-72.64
LeVerrier	E	2036-10-26T12:13:18.875		44.11	-37.15	53217.84	19.48		
Lassell	E	2036-10-26T12:14:46.538		44.22	-37.29	55202.18	26.11		
Arago	E	2036-10-26T12:15:56.608		44.31	-37.41	57200.67	30.90		
Galatea	E	2036-10-26T12:18:12.462		44.48	-37.63	61953.11	38.76		
Adams	E	2036-10-26T12:18:37.343		44.51	-37.67	62933.08	40.01		