

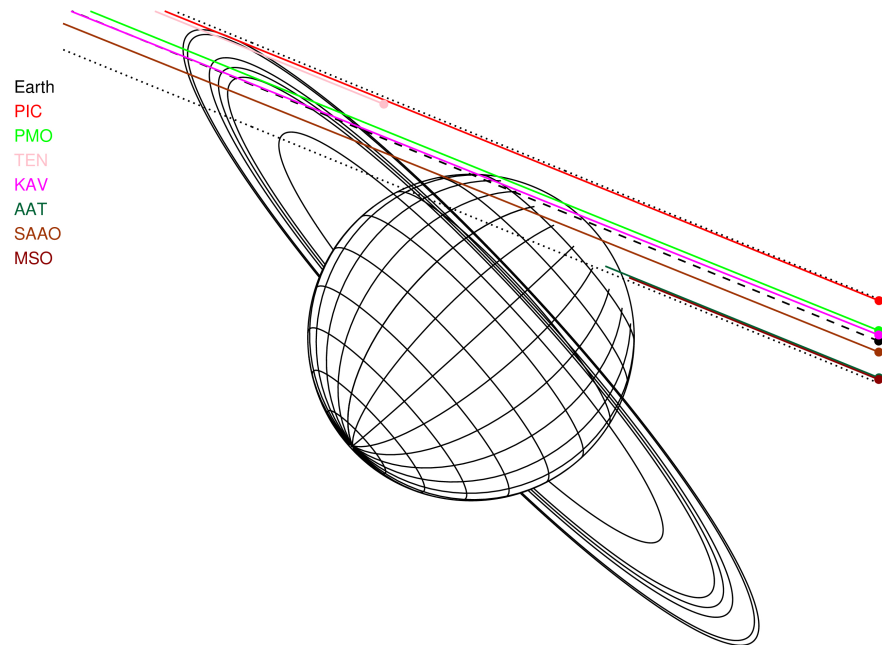
target : Neptune
 target radius (km) : 24764.00
 C/A epoch : 2035-10-03T19:31:59.920
 Event type : PgtRgt
 : Neptune occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 2566181077471735168
 2Mass ID (if available) : 01275411+0721224

ICRS Star Coord at Epoch: 01h 27m 54.18337s +07:21:22.20301s
 RUWE (>1.4 is poor) : 0.98
 K magnitude : 14.482
 G magnitude : 17.554
 RP magnitude : 16.595
 BP magnitude : 18.472
 DUPflag : 0
 Distance (au) : 28.860
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -23.62
 Sun-Target sep (deg) : 166.77
 Sun-Moon sep (deg) : 165.40
 B (ring opening deg) : -10.55
 PA of pole (deg) : -47.54



2035-10-03T19:31:59.9200 α: 01 27 54.1834 δ: +07 21 22.203 C/A 1.095° PA 157.76 deg v_sky -23.62 km/s D 28.86 AU
 Credit: Styled after SORA/Lucky Star

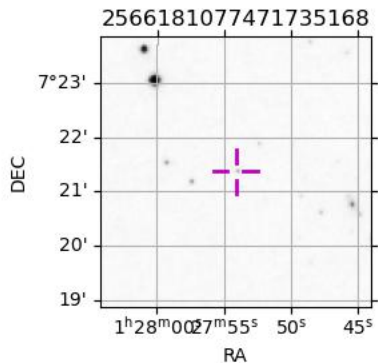
Neptune 2035-10-03T19:31:59 K14.48 G17.55 PgtRgt



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

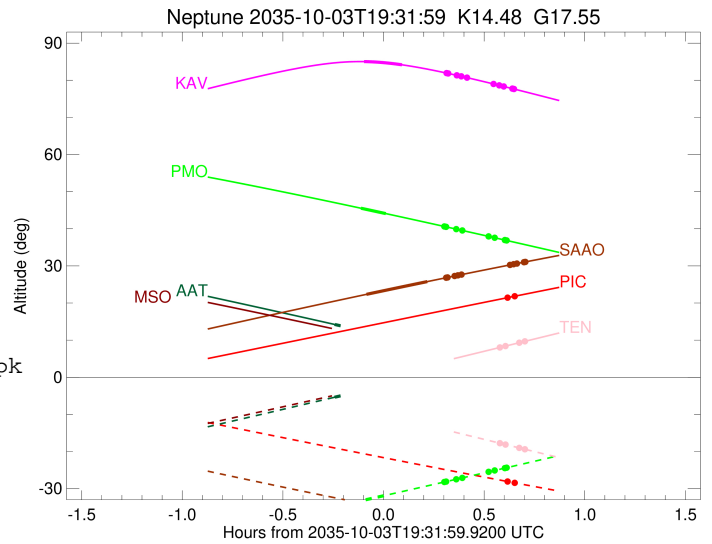
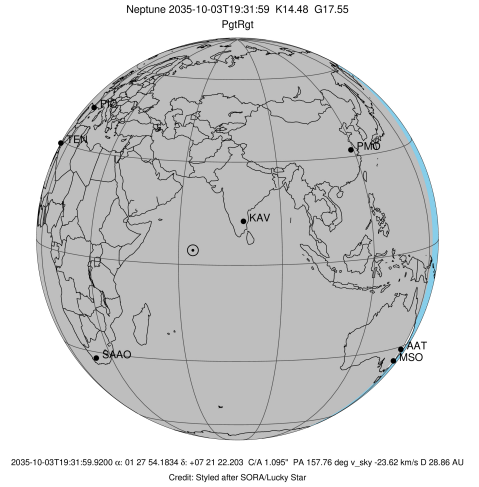
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1	+		+	OCT 03 20:04 - OCT 03 20:12	PnnRie
PAL	Palomar Mt (200")	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs. Nanki	32.1	118.8	+	+	+	OCT 03 19:25 - OCT 03 20:08	PieRie
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	+		+	OCT 03 20:04 - OCT 03 20:14	PnnRie
IRTF	Mauna Kea/IRTF	19.8	204.5					PnnRnn
KAV	Kavalur Observatory	12.6	78.8	+	+	+	OCT 03 19:26 - OCT 03 20:10	PieRie
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 03 19:17 - OCT 03 19:17	PinRnn
SAAO	So. Afr. Astro. Obs.	-32.4	20.8	+	+	+	OCT 03 19:26 - OCT 03 20:13	PieRie
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



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target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2035-10-03T19:33:55.700
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : PIC
Location              : Pic du Midi
Latitude (deg)       : 42.93656
E. Longitude (deg)   : 0.14231
Altitude (km)        : 2.890
Gaia source ID       : 2566181077471735168
2Mass ID (if available) : 01275411+0721224
ICRS Star Coord at Epoch: 01h 27m 54.18337s +07:21:22.20301s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 14.482
G magnitude           : 17.554
RP magnitude         : 16.595
BP magnitude         : 18.472
DUPflag              : 0
Distance (au)        : 28.860
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -23.62
Sun-Target sep (deg) : 166.77
Sun-Moon sep (deg)   : 165.97
B (ring opening deg) : -10.55
PA of pole (deg)     : -47.54
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 1.360
C/A sky separation (km) : 28466.5
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
    
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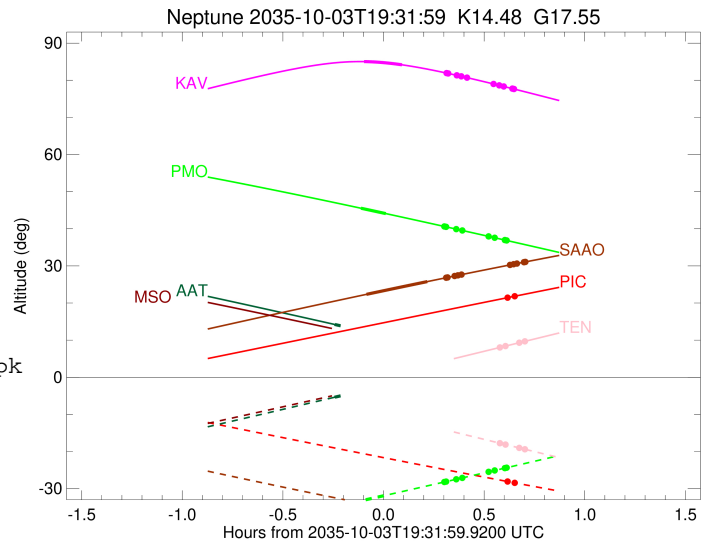
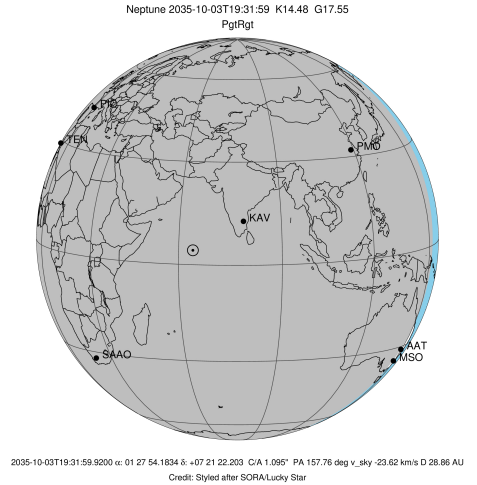


b: ring blocked by planet x: target alt < 5.0 deg or sun > -5.0 deg

Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
Adams	I	2035-10-03T20:04:47.245		20.68	-27.37	67885.00	-24.81		
No planet occultations									
Adams	E	2035-10-03T20:12:39.821		22.11	-28.71	62967.73	11.62		

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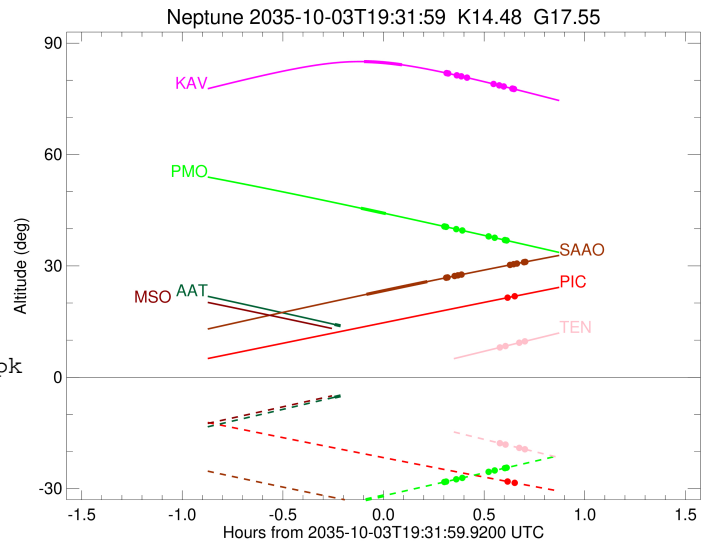
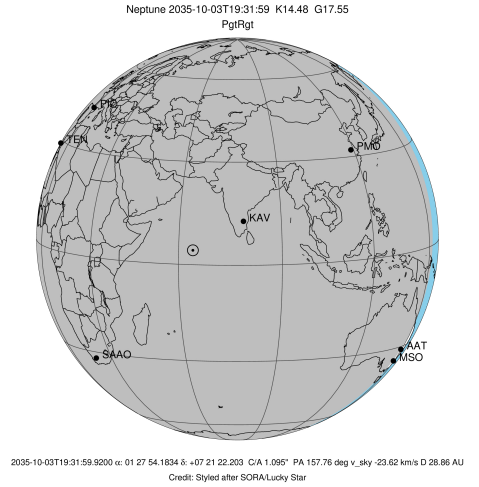
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2035-10-03T19:28:59.530
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : PMO
Location              : Purple Mtn Obs. Nanking
Latitude (deg)       : 32.06667
E. Longitude (deg)   : 118.82089
Altitude (km)        : 0.364
Gaia source ID       : 2566181077471735168
2Mass ID (if available) : 01275411+0721224
ICRS Star Coord at Epoch: 01h 27m 54.18337s +07:21:22.20301s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 14.482
G magnitude           : 17.554
RP magnitude          : 16.595
BP magnitude          : 18.472
DUPflag              : 0
Distance (au)        : 28.860
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -23.62
Sun-Target sep (deg) : 166.77
Sun-Moon sep (deg)   : 164.99
B (ring opening deg) : -10.55
PA of pole (deg)     : -47.54
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 1.155
C/A sky separation (km) : 24170.0
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
    
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Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
Adams	I	2035-10-03T19:49:10.268		40.82	-28.41	62933.10	-33.24		
Galatea	I	2035-10-03T19:49:40.304		40.72	-28.31	61953.15	-32.00		
Arago	I	2035-10-03T19:52:29.283		40.15	-27.73	57201.41	-23.93		
Lassell	I	2035-10-03T19:54:03.026		39.84	-27.41	55208.68	-18.67		
Neptune	I	2035-10-03T19:25:16.654		45.54	-33.29	24750.64		73.27	73.80
Neptune	E	2035-10-03T19:32:43.331		44.08	-31.78	24755.27		50.80	51.75
Lassell	E	2035-10-03T20:03:31.879		37.91	-25.44	55200.00	18.62		
Arago	E	2035-10-03T20:05:05.785		37.59	-25.12	57200.00	23.89		
Galatea	E	2035-10-03T20:07:55.186		37.02	-24.53	61953.00	31.91		
Adams	E	2035-10-03T20:08:25.315		36.91	-24.42	62933.00	33.14		

```

target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2035-10-03T19:34:54.020
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : TEN
Location              : Teide Obs./Tenerife
Latitude (deg)       : 28.30050
E. Longitude (deg)   : 343.48909
Altitude (km)        : 2.395
Gaia source ID       : 2566181077471735168
2Mass ID (if available) : 01275411+0721224
ICRS Star Coord at Epoch: 01h 27m 54.18337s +07:21:22.20301s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 14.482
G magnitude           : 17.554
RP magnitude          : 16.595
BP magnitude          : 18.472
DUPflag              : 0
Distance (au)         : 28.860
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -23.62
Sun-Target sep (deg) : 166.77
Sun-Moon sep (deg)   : 166.10
B (ring opening deg) : -10.55
PA of pole (deg)     : -47.54
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation ("): 1.329
C/A sky separation (km): 27825.6
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.urall1.tpc.Neptune
naif0012.tls
IAU_NEPTUNE_for_RINGFIT.tpc.BECAREFUL
earth_flat_IAU.spk
    
```



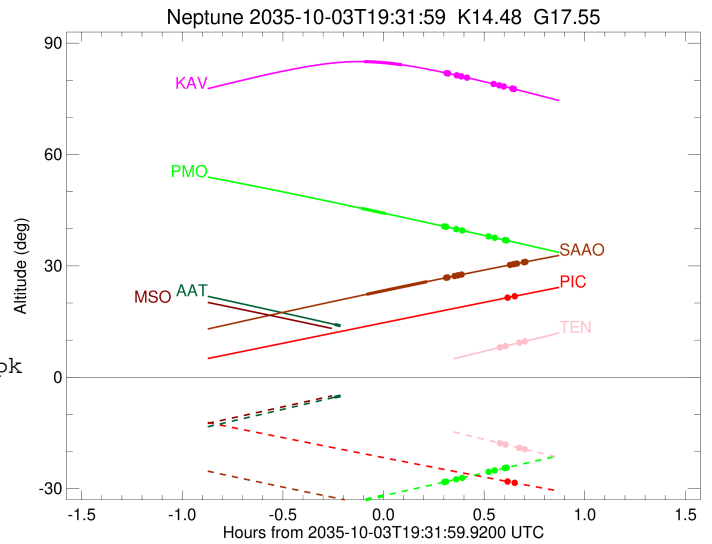
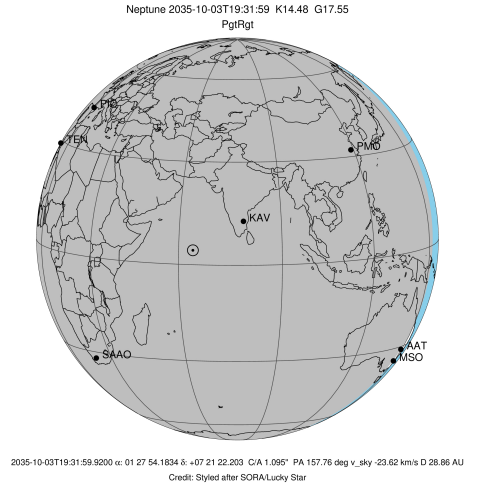
Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
Adams	I	2035-10-03T20:04:49.932		7.62	-17.35	62958.49	-16.48		
Galatea	I	2035-10-03T20:05:55.953		7.86	-17.59	62254.12	-14.04		

No planet occultations

Galatea	E	2035-10-03T20:13:26.118		9.52	-19.24	61955.35	12.86		
Adams	E	2035-10-03T20:14:33.048		9.76	-19.48	62933.03	16.42		

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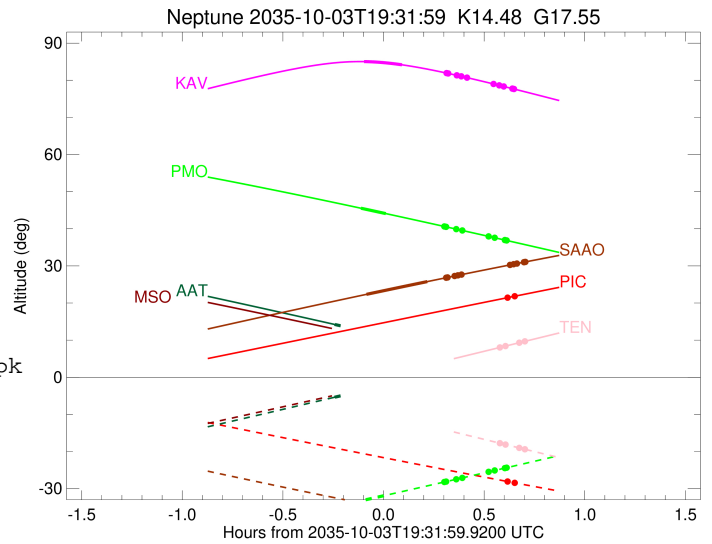
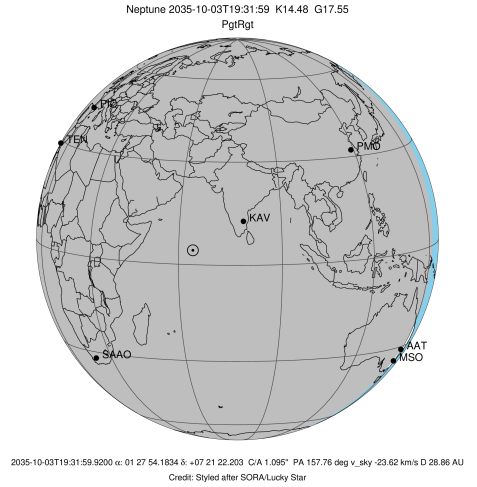
target                : Neptune
target radius (km)   : 24764.00
C/A epoch            : 2035-10-03T19:31:50.850
Event type           : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : KAV
Location             : Kavalur Observatory
Latitude (deg)       : 12.57556
E. Longitude (deg)   : 78.83167
Altitude (km)        : 0.722
Gaia source ID       : 2566181077471735168
2Mass ID (if available) : 01275411+0721224
ICRS Star Coord at Epoch: 01h 27m 54.18337s +07:21:22.20301s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 14.482
G magnitude           : 17.554
RP magnitude          : 16.595
BP magnitude          : 18.472
DUPflag              : 0
Distance (au)         : 28.860
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -23.62
Sun-Target sep (deg) : 166.77
Sun-Moon sep (deg)   : 165.59
B (ring opening deg) : -10.55
PA of pole (deg)     : -47.54
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation ("): 1.116
C/A sky separation (km): 23354.6
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	2035-10-03T19:49:57.070		82.11	-69.37	62933.04	-36.60		
Galatea	I	2035-10-03T19:50:24.231		82.02	-69.27	61953.06	-35.54		
Arago	I	2035-10-03T19:52:51.097		81.54	-68.71	57200.36	-28.92		
Lassell	I	2035-10-03T19:54:05.249		81.29	-68.43	55201.08	-24.96		
LeVerrier	I	2035-10-03T19:55:34.774		80.99	-68.09	53206.11	-19.64		
Neptune	I	2035-10-03T19:26:10.066		85.04	-74.55	24750.14		77.69	78.09
Neptune	E	2035-10-03T19:37:32.485		84.17	-72.13	24757.01		43.96	44.94
LeVerrier	E	2035-10-03T20:04:56.217		78.98	-65.94	53200.00	19.61		
Lassell	E	2035-10-03T20:06:25.846		78.65	-65.59	55200.00	24.93		
Arago	E	2035-10-03T20:07:40.107		78.38	-65.30	57200.00	28.87		
Galatea	E	2035-10-03T20:10:07.258		77.83	-64.73	61953.00	35.47		
Adams	E	2035-10-03T20:10:34.483		77.72	-64.63	62933.00	36.52		

```

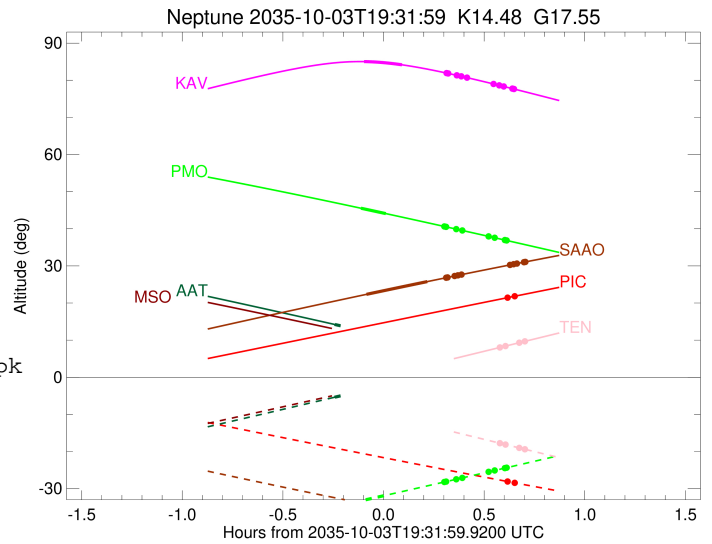
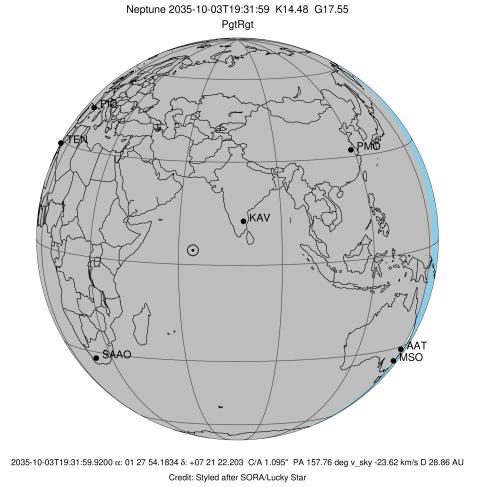
target                : Neptune
target radius (km)   : 24764.00
C/A epoch            : 2035-10-03T19:29:33.020
Event type          : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code       : AAT
Location            : Siding Spring (AAT)
Latitude (deg)      : -31.27703
E. Longitude (deg)  : 149.06608
Altitude (km)       : 1.164
Gaia source ID      : 2566181077471735168
2Mass ID (if available) : 01275411+0721224
ICRS Star Coord at Epoch: 01h 27m 54.18337s +07:21:22.20301s
RUWE (>1.4 is poor) : 0.98
K magnitude          : 14.482
G magnitude          : 17.554
RP magnitude         : 16.595
BP magnitude         : 18.472
DUPflag             : 0
Distance (au)        : 28.860
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : -23.62
Sun-Target sep (deg) : 166.77
Sun-Moon sep (deg)  : 164.79
B (ring opening deg) : -10.55
PA of pole (deg)    : -47.54
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.847
C/A sky separation (km) : 17727.6
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	2035-10-03T19:37:49.205	b	10.04	-1.04x	62933.00	-47.16		
Galatea	I	2035-10-03T19:38:10.088	b	9.96	-0.97x	61953.00	-46.69		
Arago	I	2035-10-03T19:39:54.817	b	9.60	-0.60x	57200.00	-43.97		
Lassell	I	2035-10-03T19:40:41.033	b	9.44	-0.43x	55200.01	-42.55		
LeVerrier	I	2035-10-03T19:41:28.932	b	9.28	-0.26x	53200.00	-40.92		
Galle	I	2035-10-03T19:47:08.332		8.10	0.95x	42001.16	-23.01		
Neptune	I	2035-10-03T19:17:26.284		14.23	-5.38	24751.43		68.42	69.07
Neptune	E	2035-10-03T19:41:40.943		9.24	-0.22x	24762.30		20.06	20.70
Galle	E	2035-10-03T19:56:14.665		6.20	2.89x	42000.00	22.96		
LeVerrier	E	2035-10-03T20:01:55.597		5.01	4.11x	53200.00	40.66		
Lassell	E	2035-10-03T20:02:43.827		4.84x	4.28x	55200.00	42.25		
Arago	E	2035-10-03T20:03:30.390		4.67x	4.45x	57200.00	43.63		
Galatea	E	2035-10-03T20:05:16.011		4.30x	4.82x	61953.00	46.27		
Adams	E	2035-10-03T20:05:37.089		4.23x	4.90x	62933.00	46.72		

```

target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2035-10-03T19:35:58.610
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : SAAO
Location              : So. Afr. Astro. Obs. (Sutherland)
Latitude (deg)       : -32.37953
E. Longitude (deg)   : 20.81070
Altitude (km)        : 1.768
Gaia source ID       : 2566181077471735168
2Mass ID (if available) : 01275411+0721224
ICRS Star Coord at Epoch: 01h 27m 54.18337s +07:21:22.20301s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 14.482
G magnitude           : 17.554
RP magnitude          : 16.595
BP magnitude          : 18.472
DUPflag              : 0
Distance (au)        : 28.860
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : -23.62
Sun-Target sep (deg) : 166.77
Sun-Moon sep (deg)   : 166.20
B (ring opening deg) : -10.55
PA of pole (deg)     : -47.54
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation ("): 1.008
C/A sky separation (km): 21093.7
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.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	2035-10-03T19:49:59.017		26.69	-38.18	62933.00	-41.64		
Galatea	I	2035-10-03T19:50:22.765		26.76	-38.25	61953.01	-40.89		
Arago	I	2035-10-03T19:52:25.401		27.14	-38.59	57200.04	-36.44		
Lassell	I	2035-10-03T19:53:22.140		27.31	-38.75	55200.07	-34.01		
LeVerrier	I	2035-10-03T19:54:23.549		27.50	-38.92	53200.16	-31.07		
Neptune	I	2035-10-03T19:26:54.656		22.34	-34.16	24750.10		77.91	78.30
Neptune	E	2035-10-03T19:45:03.044		25.77	-37.34	24759.87		32.20	33.09
LeVerrier	E	2035-10-03T20:09:30.323		30.23	-41.36	53200.00	31.06		
Lassell	E	2035-10-03T20:10:31.763		30.41	-41.52	55200.00	33.99		
Arago	E	2035-10-03T20:11:28.535		30.58	-41.67	57200.00	36.42		
Galatea	E	2035-10-03T20:13:31.269		30.94	-41.99	61953.00	40.85		
Adams	E	2035-10-03T20:13:55.040		31.01	-42.05	62933.00	41.60		