

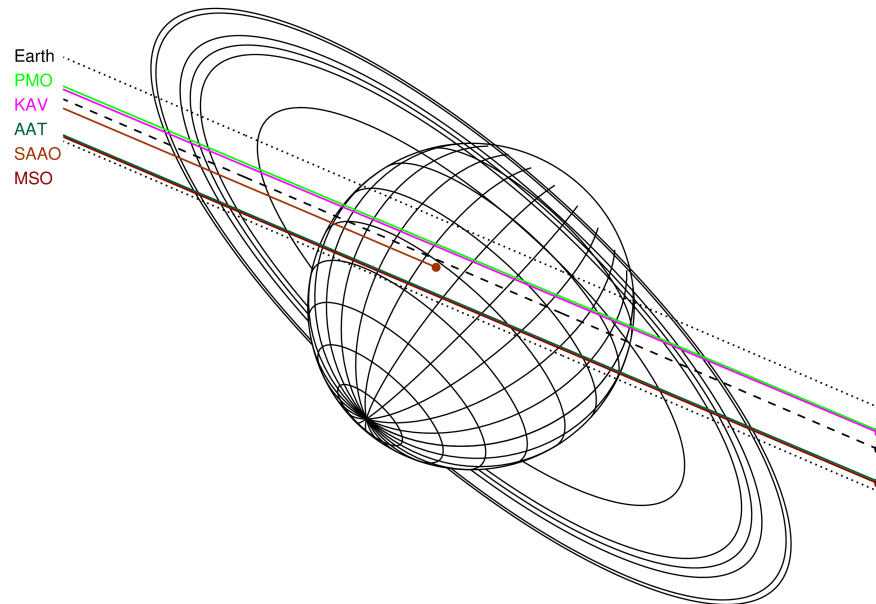
target : Neptune
 target radius (km) : 24764.00
 C/A epoch : 2025-10-07T16:53:36.650
 Event type : PgtRgt
 : Neptune occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 2449616081671057024
 2Mass ID (if available) : 00021201-0115344

Neptune 2025-10-07T16:53:36 K12.62 G14.79 PgtRgt

ICRS Star Coord at Epoch: 00h 02m 12.02238s -01:15:34.15602s
 RUWE (>1.4 is poor) : 2.97
 K magnitude : 12.624
 G magnitude : 14.794
 RP magnitude : 14.096
 BP magnitude : 15.318
 DUPflag : 0
 Distance (au) : 28.918
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -23.27
 Sun-Target sep (deg) : 165.61
 Sun-Moon sep (deg) : 22.34
 B (ring opening deg) : -19.82
 PA of pole (deg) : -42.90



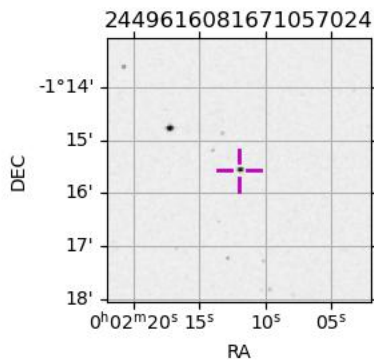
2025-10-07T16:53:36.6500 at: 00 02 12.0224 s: -01 15 34.156 C/A 0.213° PA 156.75 deg v_sky -23.27 km/s D 28.92 AU
 Credit: Styled after SORA/Lucky Star



#	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

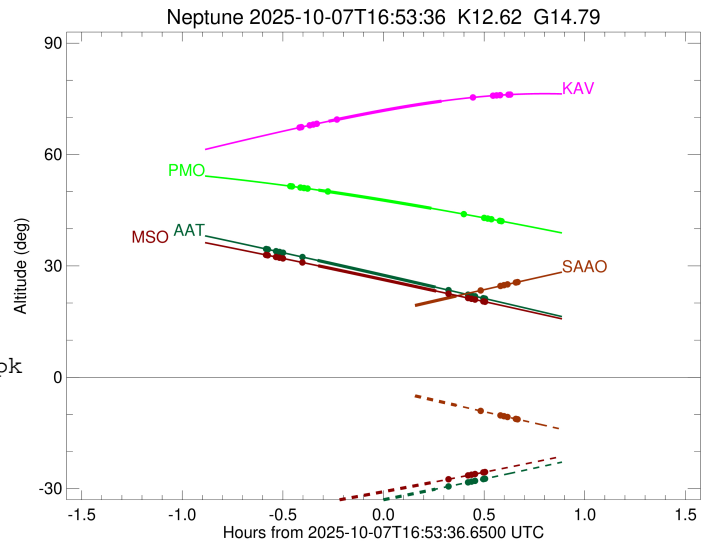
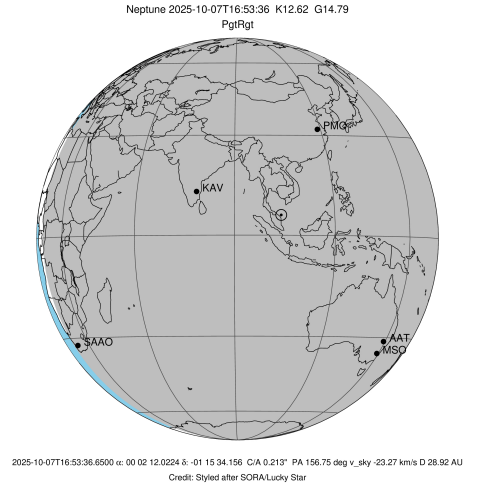
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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	+ + + + +	+ +	+ + + + + +	OCT 07 16:25 - OCT 07 17:28	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					PnnRnn
IRTF	Mauna Kea/IRTF	19.8	204.5					PnnRnn
KAV	Kavalur Observatory	12.6	78.8	+ + + + +	+ +	+ + + + + +	OCT 07 16:28 - OCT 07 17:31	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 07 16:18 - OCT 07 17:23	PieRie
SAAO	So. Afr. Astro. Obs.	-32.4	20.8		+	+ + + + + +	OCT 07 17:15 - OCT 07 17:33	PneRne
MSO	Mt. Stromlo Observato	-35.3	149.0	+ + + + + +	+ +	+ + + + + +	OCT 07 16:18 - OCT 07 17:23	PieRie



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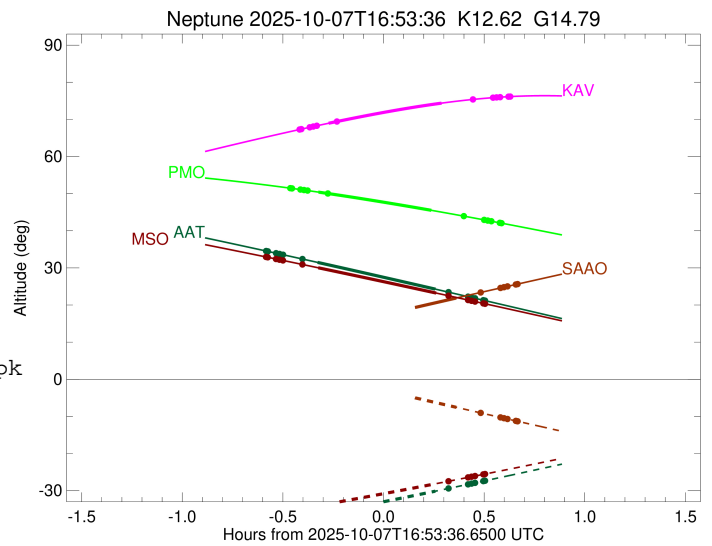
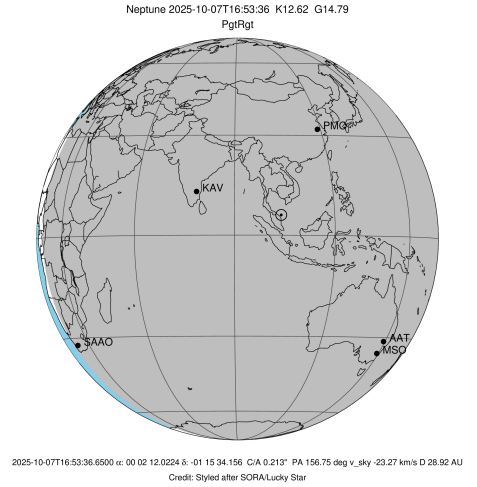
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2025-10-07T16:51:01.750
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code         : PMO
Location              : Purple Mtn Obs. Nanking
Latitude (deg)        : 32.06667
E. Longitude (deg)    : 118.82089
Altitude (km)         : 0.364
Gaia source ID        : 2449616081671057024
2Mass ID (if available) : 00021201-0115344
ICRS Star Coord at Epoch: 00h 02m 12.02238s -01:15:34.15602s
RUWE (>1.4 is poor) : 2.97
K magnitude           : 12.624
G magnitude           : 14.794
RP magnitude          : 14.096
BP magnitude          : 15.318
DUPflag              : 0
Distance (au)         : 28.918
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -23.27
Sun-Target sep (deg) : 165.61
Sun-Moon sep (deg)   : 22.02
B (ring opening deg) : -19.82
PA of pole (deg)     : -42.90
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.319
C/A sky separation (km) : 6683.5
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.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	2025-10-07T16:25:48.540		51.48	-62.75	62933.00	-31.65		
Galatea	I	2025-10-07T16:26:19.516		51.42	-62.71	61953.00	-31.62		
Arago	I	2025-10-07T16:28:50.221		51.11	-62.54	57200.00	-31.45		
Lassell	I	2025-10-07T16:29:53.903		50.97	-62.46	55200.00	-31.36		
LeVerrier	I	2025-10-07T16:30:57.772		50.84	-62.38	53200.00	-31.26		
Galle	I	2025-10-07T16:37:00.376	b	50.05	-61.89	42000.00	-30.40		
Neptune	I	2025-10-07T16:34:12.028		50.42	-62.12	24747.55		33.27	34.17
Neptune	E	2025-10-07T17:07:52.777		45.51	-58.50	24763.73		-4.07	-4.22
Galle	E	2025-10-07T17:17:24.736		43.97	-57.21	42000.00	30.51		
LeVerrier	E	2025-10-07T17:23:26.933		42.96	-56.34	53200.00	31.25		
Lassell	E	2025-10-07T17:24:30.847		42.78	-56.18	55200.00	31.33		
Arago	E	2025-10-07T17:25:34.597		42.60	-56.02	57200.00	31.41		
Galatea	E	2025-10-07T17:28:05.541		42.17	-55.64	61953.00	31.56		
Adams	E	2025-10-07T17:28:36.579		42.09	-55.56	62933.00	31.59		

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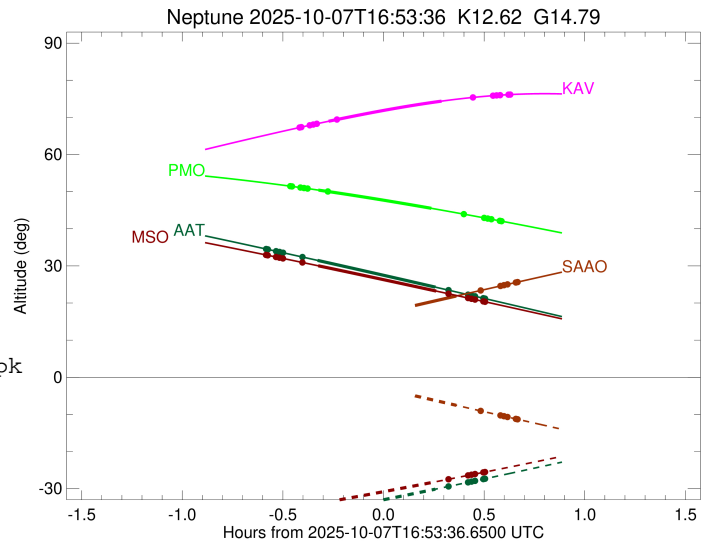
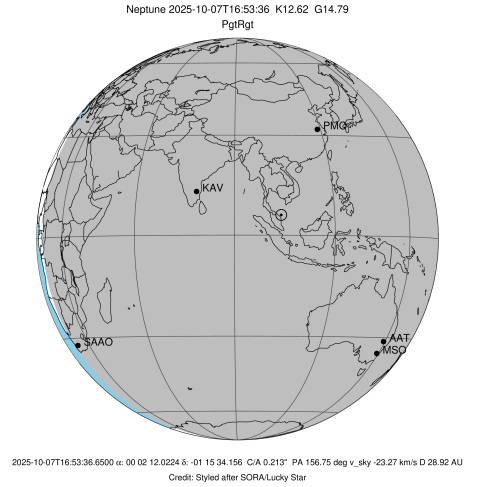
target                : Neptune
target radius (km)   : 24764.00
C/A epoch            : 2025-10-07T16:54:04.120
Event type           : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : KAV
Location             : Kavalur Observatory
Latitude (deg)       : 12.57556
E. Longitude (deg)   : 78.83167
Altitude (km)        : 0.722
Gaia source ID       : 2449616081671057024
2Mass ID (if available) : 00021201-0115344
ICRS Star Coord at Epoch: 00h 02m 12.02238s -01:15:34.15602s
RUWE (>1.4 is poor) : 2.97
K magnitude           : 12.624
G magnitude           : 14.794
RP magnitude         : 14.096
BP magnitude         : 15.318
DUPflag              : 0
Distance (au)        : 28.918
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : -23.27
Sun-Target sep (deg) : 165.61
Sun-Moon sep (deg)   : 22.74
B (ring opening deg) : -19.82
PA of pole (deg)     : -42.90
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.304
C/A sky separation (km) : 6368.9
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.urall1.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	2025-10-07T16:28:35.945		67.28	-58.74	62933.00	-31.85		
Galatea	I	2025-10-07T16:29:06.731		67.38	-58.87	61953.00	-31.82		
Arago	I	2025-10-07T16:31:36.444		67.88	-59.47	57200.00	-31.67		
Lassell	I	2025-10-07T16:32:39.673		68.08	-59.72	55200.00	-31.59		
LeVerrier	I	2025-10-07T16:33:43.065		68.29	-59.98	53200.00	-31.51		
Galle	I	2025-10-07T16:39:42.372	b	69.43	-61.41	42000.00	-30.74		
Neptune	I	2025-10-07T16:37:14.048		68.96	-60.82	24748.10		32.64	33.53
Neptune	E	2025-10-07T17:10:54.662		74.38	-68.82	24763.61		-4.86	-5.03
Galle	E	2025-10-07T17:20:07.954		75.37	-70.96	42000.00	30.92		
LeVerrier	E	2025-10-07T17:26:05.751		75.85	-72.33	53200.00	31.60		
Lassell	E	2025-10-07T17:27:08.951		75.92	-72.57	55200.00	31.68		
Arago	E	2025-10-07T17:28:12.001		75.98	-72.81	57200.00	31.76		
Galatea	E	2025-10-07T17:30:41.326		76.12	-73.37	61953.00	31.90		
Adams	E	2025-10-07T17:31:12.036		76.14	-73.49	62933.00	31.92		

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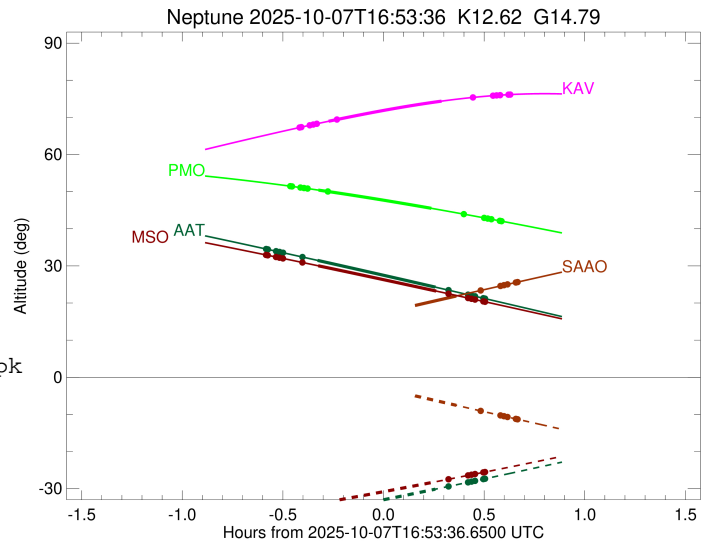
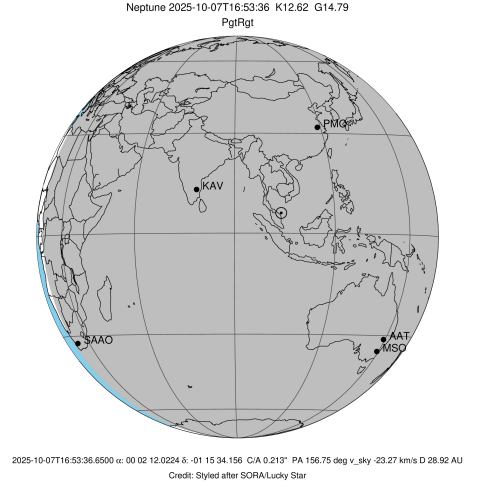
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2025-10-07T16:51:29.470
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : AAT
Location              : Siding Spring (AAT)
Latitude (deg)       : -31.27703
E. Longitude (deg)   : 149.06608
Altitude (km)        : 1.164
Gaia source ID       : 2449616081671057024
2Mass ID (if available) : 00021201-0115344
ICRS Star Coord at Epoch: 00h 02m 12.02238s -01:15:34.15602s
RUWE (>1.4 is poor) : 2.97
K magnitude           : 12.624
G magnitude           : 14.794
RP magnitude         : 14.096
BP magnitude         : 15.318
DUPflag              : 0
Distance (au)        : 28.918
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : -23.27
Sun-Target sep (deg) : 165.61
Sun-Moon sep (deg)   : 22.24
B (ring opening deg) : -19.82
PA of pole (deg)     : -42.90
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.015
C/A sky separation (km) : 310.0
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	2025-10-07T16:18:44.964		34.52	-39.04	62933.00	-32.32		
Galatea	I	2025-10-07T16:19:15.288		34.42	-38.96	61953.00	-32.32		
Arago	I	2025-10-07T16:21:42.387		33.94	-38.56	57200.00	-32.31		
Lassell	I	2025-10-07T16:22:44.299		33.73	-38.38	55200.00	-32.30		
LeVerrier	I	2025-10-07T16:23:46.220		33.52	-38.21	53200.00	-32.30		
Galle	I	2025-10-07T16:29:33.174		32.37	-37.23	42000.00	-32.26		
Neptune	I	2025-10-07T16:33:54.901		31.49	-36.49	24758.78		17.99	18.58
Neptune	E	2025-10-07T17:09:05.155		24.28	-30.14	24758.02		-19.30	-19.93
Galle	E	2025-10-07T17:12:53.998		23.49	-29.43	42000.00	32.13		
LeVerrier	E	2025-10-07T17:18:42.563		22.27	-28.33	53200.00	32.13		
Lassell	E	2025-10-07T17:19:44.808		22.05	-28.13	55200.00	32.13		
Arago	E	2025-10-07T17:20:47.055		21.84	-27.93	57200.00	32.13		
Galatea	E	2025-10-07T17:23:14.996		21.32	-27.46	61953.00	32.13		
Adams	E	2025-10-07T17:23:45.502		21.21	-27.36	62933.00	32.12		

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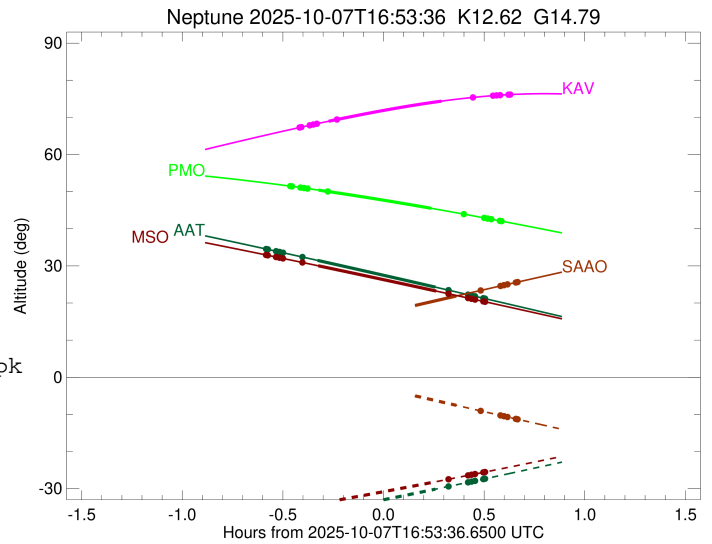
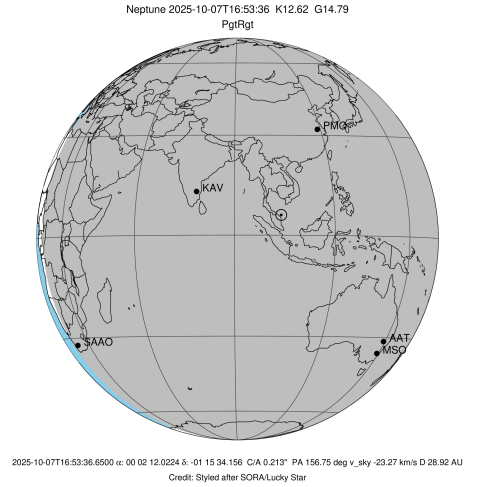
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2025-10-07T16:57:52.750
Event type           : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : SAAO
Location              : So. Afr. Astro. Obs. (Sutherland)
Latitude (deg)       : -32.37953
E. Longitude (deg)   : 20.81070
Altitude (km)        : 1.768
Gaia source ID       : 2449616081671057024
2Mass ID (if available) : 00021201-0115344
ICRS Star Coord at Epoch: 00h 02m 12.02238s -01:15:34.15602s
RUWE (>1.4 is poor) : 2.97
K magnitude           : 12.624
G magnitude           : 14.794
RP magnitude          : 14.096
BP magnitude          : 15.318
DUPflag              : 0
Distance (au)        : 28.918
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -23.27
Sun-Target sep (deg) : 165.61
Sun-Moon sep (deg)   : 23.34
B (ring opening deg) : -19.82
PA of pole (deg)     : -42.90
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.161
C/A sky separation (km) : 3385.6
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	2025-10-07T16:28:32.122		12.11	2.22x	62933.00	-31.75		
Galatea	I	2025-10-07T16:29:02.991		12.22	2.11x	61953.00	-31.74		
Arago	I	2025-10-07T16:31:32.805		12.75	1.59x	57200.00	-31.71		
Lassell	I	2025-10-07T16:32:35.903		12.97	1.37x	55200.00	-31.69		
LeVerrier	I	2025-10-07T16:33:39.043		13.19	1.14x	53200.00	-31.66		
Galle	I	2025-10-07T16:39:33.752		14.43	-0.10x	42000.00	-31.46		
Neptune	I	2025-10-07T16:40:24.339		14.61	-0.27x	24753.60		25.85	26.64
Neptune	E	2025-10-07T17:15:20.430		21.89	-7.56	24761.93		-11.21	-11.59
Galle	E	2025-10-07T17:22:27.159		23.36	-9.03	42000.00	31.65		
LeVerrier	E	2025-10-07T17:28:19.773		24.56	-10.24	53200.00	31.86		
Lassell	E	2025-10-07T17:29:22.529		24.78	-10.45	55200.00	31.88		
Arago	E	2025-10-07T17:30:25.236		24.99	-10.67	57200.00	31.91		
Galatea	E	2025-10-07T17:32:54.090		25.50	-11.18	61953.00	31.95		
Adams	E	2025-10-07T17:33:24.755		25.60	-11.28	62933.00	31.96		

```

target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2025-10-07T16:51:44.040
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       : 2449616081671057024
2Mass ID (if available) : 00021201-0115344
ICRS Star Coord at Epoch: 00h 02m 12.02238s -01:15:34.15602s
RUWE (>1.4 is poor) : 2.97
K magnitude           : 12.624
G magnitude           : 14.794
RP magnitude          : 14.096
BP magnitude          : 15.318
DUPflag              : 0
Distance (au)        : 28.918
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -23.27
Sun-Target sep (deg) : 165.61
Sun-Moon sep (deg)   : 22.29
B (ring opening deg) : -19.82
PA of pole (deg)     : -42.90
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.027
C/A sky separation (km) : 574.0
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	2025-10-07T16:18:43.847		32.93	-36.43	62933.00	-32.29		
Galatea	I	2025-10-07T16:19:14.196		32.83	-36.36	61953.00	-32.29		
Arago	I	2025-10-07T16:21:41.417		32.38	-35.98	57200.00	-32.28		
Lassell	I	2025-10-07T16:22:43.380		32.18	-35.83	55200.00	-32.27		
LeVerrier	I	2025-10-07T16:23:45.354		31.99	-35.67	53200.00	-32.27		
Galle	I	2025-10-07T16:29:32.612		30.90	-34.76	42000.00	-32.23		
Neptune	I	2025-10-07T16:34:09.240		30.03	-34.03	24759.10		17.41	17.98
Neptune	E	2025-10-07T17:09:19.885		23.22	-28.12	24757.68		-19.87	-20.50
Galle	E	2025-10-07T17:12:54.151		22.52	-27.49	42000.00	32.10		
LeVerrier	E	2025-10-07T17:18:42.984		21.36	-26.46	53200.00	32.11		
Lassell	E	2025-10-07T17:19:45.272		21.16	-26.27	55200.00	32.11		
Arago	E	2025-10-07T17:20:47.560		20.95	-26.08	57200.00	32.11		
Galatea	E	2025-10-07T17:23:15.595		20.46	-25.64	61953.00	32.11		
Adams	E	2025-10-07T17:23:46.119		20.36	-25.55	62933.00	32.11		