

target : Neptune
 target radius (km) : 24764.00
 C/A epoch : 2035-10-27T01:35:09.010
 Event type : PgtRgt
 : Neptune occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 2566145072760925568
 2Mass ID (if available) : 01252945+0706580

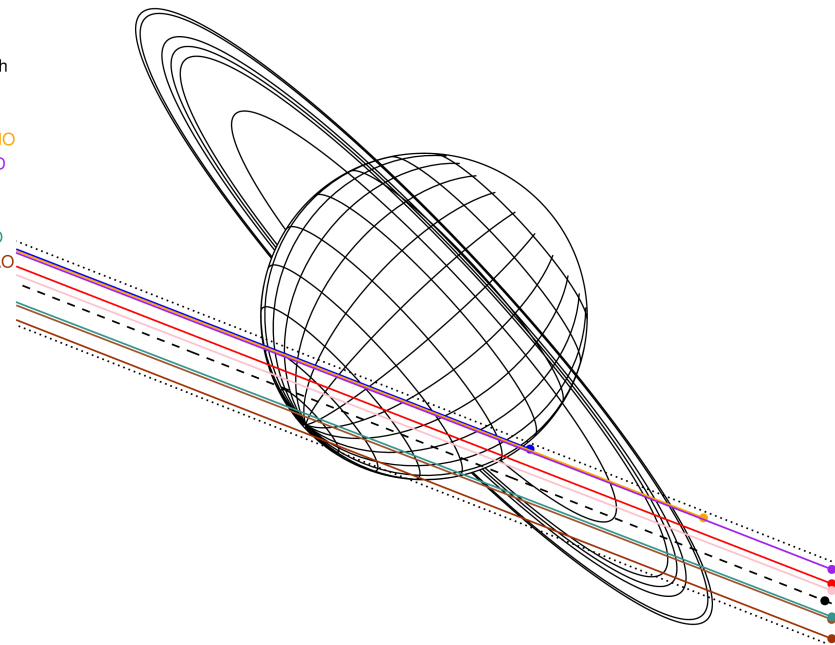
Neptune 2035-10-27T01:35:09 K13.34 G16.26 PgtRgt

ICRS Star Coord at Epoch: 01h 25m 29.50787s +07:06:57.11765s
 RUWE (>1.4 is poor) : 1.02
 K magnitude : 13.340
 G magnitude : 16.263
 RP magnitude : 15.355
 BP magnitude : 17.101
 DUPflag : 0
 Distance (au) : 28.857
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : -23.88
 Sun-Target sep (deg) : 169.30
 Sun-Moon sep (deg) : 141.36
 B (ring opening deg) : -10.83
 PA of pole (deg) : -47.51



2035-10-27T01:35:09.0100 α: 01 25 29.5079 β: +07 06 57.118 C/A 0.856° PA 338.55 deg v_sky -23.89 km/s D 28.86 AU
 Credit: Styled after SORA/Lucky Star

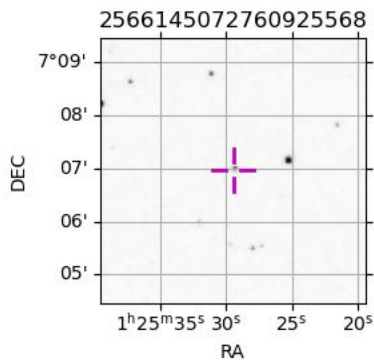
Earth
 PIC
 PAL
 KPNO
 MCD
 TEN
 RIO
 ESO
 SAAO



#	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

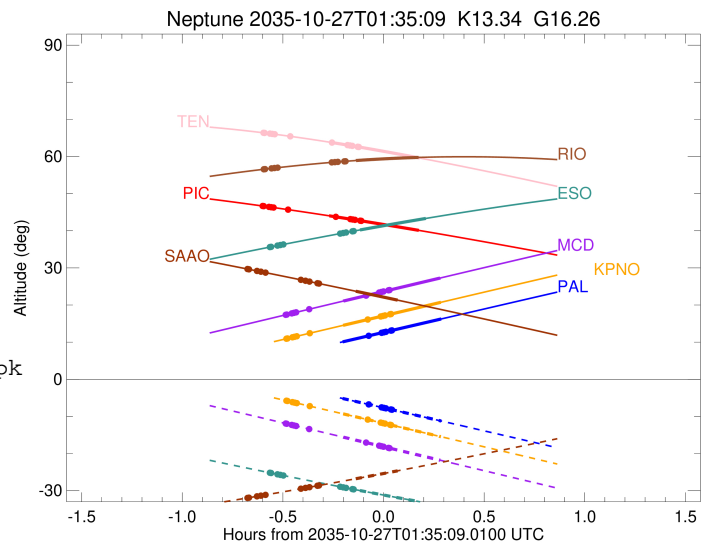
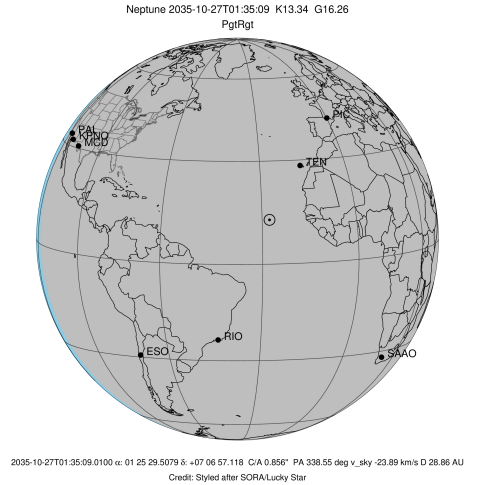
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1	+	+	+	OCT 27 00:59 - OCT 27 01:45	PieRin
PAL	Palomar Mt (200")	33.4	243.1				OCT 27 01:22 - OCT 27 01:52	PieRnn
PMO	Purple Mtn Obs. Nanki	32.1	118.8					PnnRnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	+	+	OCT 27 01:06 - OCT 27 01:52	PieRin
MCD	McDonald Obs. 2.7m	30.7	256.0	+	+	+	OCT 27 01:06 - OCT 27 01:52	PieRin
TEN	Teide Obs./Tenerife	28.3	343.5	+	+	+	OCT 27 00:59 - OCT 27 01:45	PieRie
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	+	+	+	OCT 27 00:59 - OCT 27 01:45	PieRie
ESO	European Southern Obs	-29.3	289.3	+	+	+	OCT 27 01:01 - OCT 27 01:47	PieRie
AAT	Siding Spring (AAT)	-31.3	149.1					PnnRnn
SAAO	So. Afr. Astro. Obs.	-32.4	20.8	+	+	+	OCT 27 00:54 - OCT 27 01:39	PieRie
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



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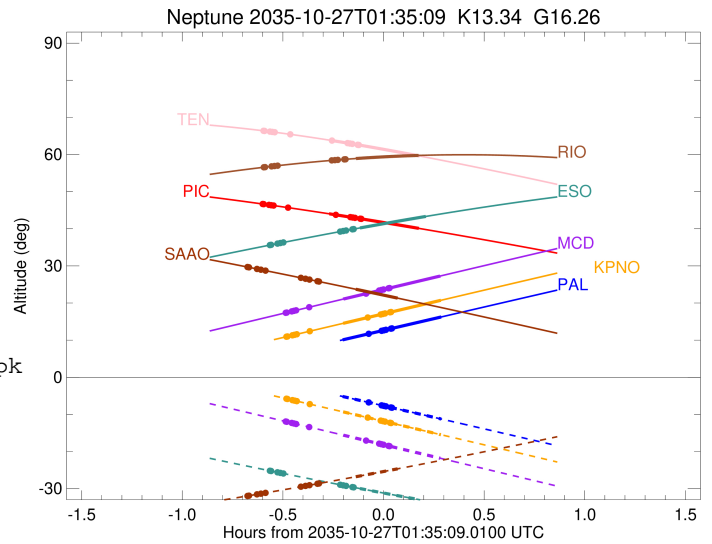
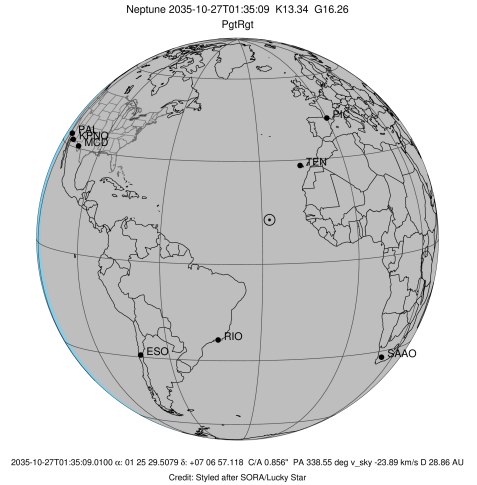
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2035-10-27T01:32:19.930
Event type           : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code        : PIC
Location             : Pic du Midi
Latitude (deg)       : 42.93656
E. Longitude (deg)   : 0.14231
Altitude (km)        : 2.890
Gaia source ID       : 2566145072760925568
2Mass ID (if available) : 01252945+0706580
ICRS Star Coord at Epoch: 01h 25m 29.50787s +07:06:57.11765s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 13.340
G magnitude           : 16.263
RP magnitude         : 15.355
BP magnitude         : 17.101
DUPflag              : 0
Distance (au)        : 28.857
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : -23.88
Sun-Target sep (deg) : 169.30
Sun-Moon sep (deg)   : 142.23
B (ring opening deg) : -10.83
PA of pole (deg)     : -47.51
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.735
C/A sky separation (km) : 15378.5
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	2035-10-27T00:59:28.124		46.63	-55.70	62933.00	-52.18		
Galatea	I	2035-10-27T00:59:46.958		46.59	-55.67	61953.00	-51.88		
Arago	I	2035-10-27T01:01:20.074		46.39	-55.50	57200.00	-50.14		
Lassell	I	2035-10-27T01:02:00.315		46.31	-55.43	55200.00	-49.24		
LeVerrier	I	2035-10-27T01:02:41.343		46.22	-55.36	53200.00	-48.23		
Galle	I	2035-10-27T01:06:56.137		45.67	-54.90	42000.00	-38.54		
Neptune	I	2035-10-27T01:18:56.323		44.04	-53.50	24763.35		-11.93	-12.33
Neptune	E	2035-10-27T01:45:43.317		40.10	-49.96	24751.92		-62.57	-63.36
Galle	E	2035-10-27T01:21:26.167	b	43.69	-53.19	42000.01	38.70		
LeVerrier	E	2035-10-27T01:25:39.589	b	43.09	-52.66	53200.00	48.56		
Lassell	E	2035-10-27T01:26:20.329	b	42.99	-52.58	55200.00	49.60		
Arago	E	2035-10-27T01:27:00.278	b	42.89	-52.49	57200.00	50.51		
Galatea	E	2035-10-27T01:28:32.709	b	42.67	-52.29	61953.00	52.26		
Adams	E	2035-10-27T01:28:51.409	b	42.62	-52.25	62933.00	52.55		

```

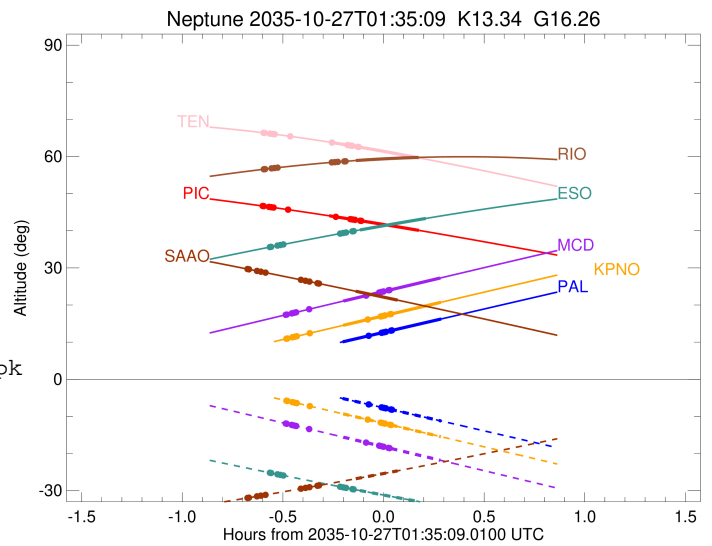
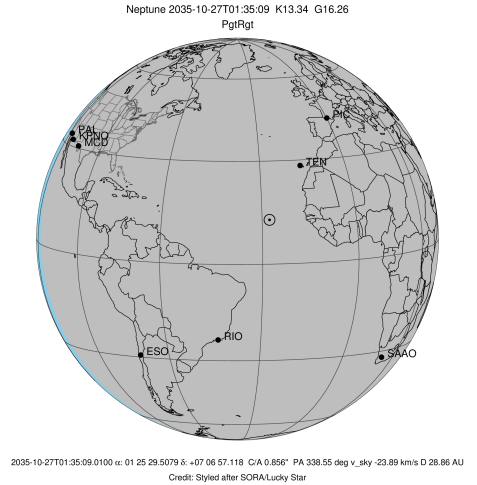
target                : Neptune
target radius (km)   : 24764.00
C/A epoch            : 2035-10-27T01:37:40.720
Event type          : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code       : PAL
Location            : Palomar Mt (200")
Latitude (deg)      : 33.35622
E. Longitude (deg)  : 243.13601
Altitude (km)       : 1.706
Gaia source ID      : 2566145072760925568
2Mass ID (if available) : 01252945+0706580
ICRS Star Coord at Epoch: 01h 25m 29.50787s +07:06:57.11765s
RUWE (>1.4 is poor) : 1.02
K magnitude          : 13.340
G magnitude          : 16.263
RP magnitude         : 15.355
BP magnitude         : 17.101
DUPflag             : 0
Distance (au)        : 28.857
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : -23.88
Sun-Target sep (deg) : 169.30
Sun-Moon sep (deg)  : 141.05
B (ring opening deg) : -10.83
PA of pole (deg)    : -47.51
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation ("): 0.616
C/A sky separation (km) : 12900.9
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	2035-10-27T01:06:36.499		6.65	-1.84x	62933.00	-54.14		
Galatea	I	2035-10-27T01:06:54.634		6.71	-1.90x	61953.00	-53.94		
Arago	I	2035-10-27T01:08:23.647		7.02	-2.20x	57200.00	-52.81		
Lassell	I	2035-10-27T01:09:01.723		7.16	-2.33x	55200.00	-52.23		
LeVerrier	I	2035-10-27T01:09:40.246		7.29	-2.46x	53200.00	-51.59		
Galle	I	2035-10-27T01:13:28.891		8.09	-3.24x	42000.00	-45.68		
Neptune	I	2035-10-27T01:22:57.315		10.07	-5.17	24763.88		-5.08	-5.26
Neptune	E	2035-10-27T01:52:22.808		16.25	-11.24	24753.44		-56.08	-56.97
Galle	E	2035-10-27T01:31:04.323	b	11.78	-6.84	42000.00	46.26		
LeVerrier	E	2035-10-27T01:34:49.682	b	12.57	-7.61	53200.00	52.37		
Lassell	E	2035-10-27T01:35:27.644	b	12.70	-7.74	55200.00	52.99		
Arago	E	2035-10-27T01:36:05.198	b	12.83	-7.87	57200.00	53.51		
Galatea	E	2035-10-27T01:37:33.208	b	13.14	-8.18	61953.00	54.44		
Adams	E	2035-10-27T01:37:51.185	b	13.20	-8.24	62933.00	54.59		

```

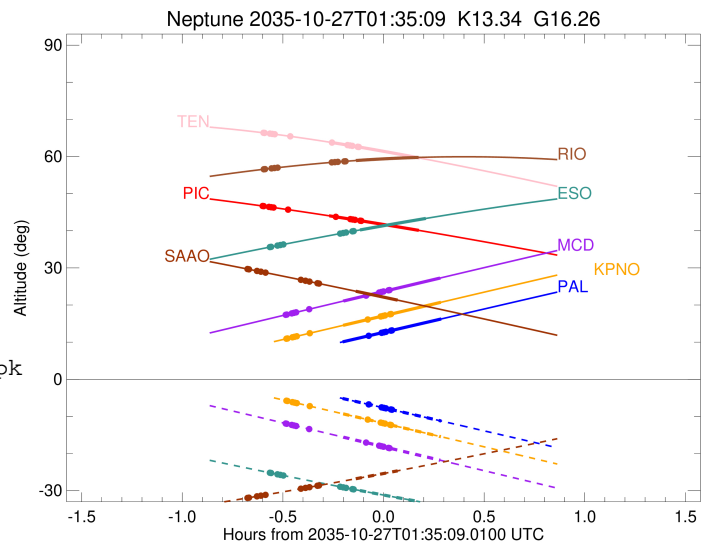
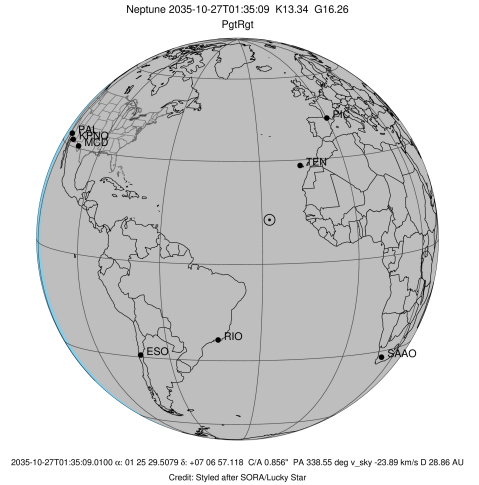
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2035-10-27T01:37:41.970
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code         : KPNO
Location              : Kitt Peak Natl Obs
Latitude (deg)        : 31.96333
E. Longitude (deg)    : 248.40000
Altitude (km)         : 2.120
Gaia source ID        : 2566145072760925568
2Mass ID (if available) : 01252945+0706580
ICRS Star Coord at Epoch: 01h 25m 29.50787s +07:06:57.11765s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 13.340
G magnitude           : 16.263
RP magnitude          : 15.355
BP magnitude          : 17.101
DUPflag              : 0
Distance (au)         : 28.857
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -23.88
Sun-Target sep (deg)  : 169.30
Sun-Moon sep (deg)    : 141.09
B (ring opening deg) : -10.83
PA of pole (deg)      : -47.51
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.626
C/A sky separation (km) : 13092.8
NAIF SPICE kernels    : RAJobs_U111+rgf16.spk
URKALLv1.spk
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
earthstns_itrfr93_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	2035-10-27T01:06:31.582		10.99	-5.85	62933.00	-54.09		
Galatea	I	2035-10-27T01:06:49.735		11.06	-5.91	61953.00	-53.88		
Arago	I	2035-10-27T01:08:18.871		11.37	-6.22	57200.00	-52.71		
Lassell	I	2035-10-27T01:08:57.022		11.51	-6.36	55200.00	-52.12		
LeVerrier	I	2035-10-27T01:09:35.639		11.65	-6.49	53200.00	-51.45		
Galle	I	2035-10-27T01:13:25.398		12.46	-7.29	42000.00	-45.32		
Neptune	I	2035-10-27T01:23:04.760		14.52	-9.31	24763.86		-5.56	-5.76
Neptune	E	2035-10-27T01:52:17.865		20.74	-15.47	24753.31		-56.60	-57.49
Galle	E	2035-10-27T01:30:47.652	b	16.16	-10.93	42000.00	45.86		
LeVerrier	E	2035-10-27T01:34:34.229	b	16.97	-11.73	53200.00	52.22		
Lassell	E	2035-10-27T01:35:12.287	b	17.10	-11.86	55200.00	52.87		
Arago	E	2035-10-27T01:35:49.912	b	17.24	-12.00	57200.00	53.43		
Galatea	E	2035-10-27T01:37:18.005	b	17.55	-12.30	61953.00	54.42		
Adams	E	2035-10-27T01:37:35.987	b	17.61	-12.37	62933.00	54.58		

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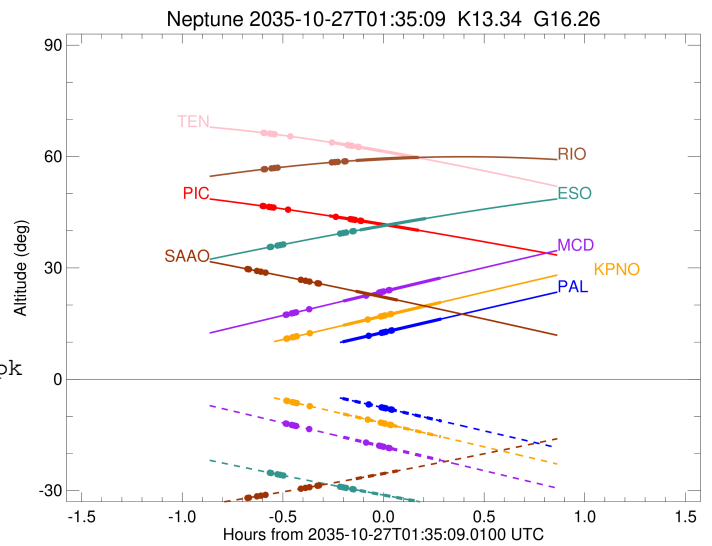
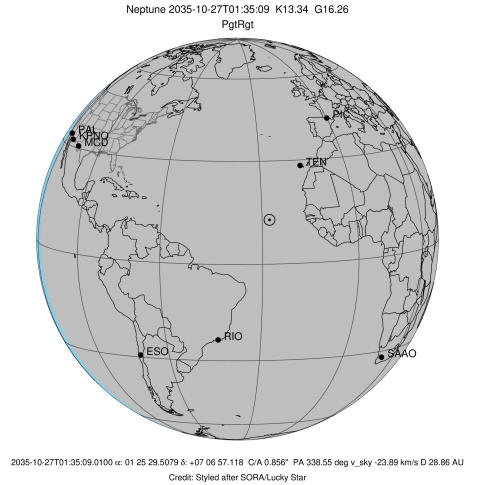
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2035-10-27T01:37:37.860
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code         : MCD
Location               : McDonald Obs. 2.7m
Latitude (deg)        : 30.67158
E. Longitude (deg)    : 255.97844
Altitude (km)         : 2.075
Gaia source ID        : 2566145072760925568
2Mass ID (if available) : 01252945+0706580
ICRS Star Coord at Epoch: 01h 25m 29.50787s +07:06:57.11765s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 13.340
G magnitude           : 16.263
RP magnitude          : 15.355
BP magnitude          : 17.101
DUPflag               : 0
Distance (au)         : 28.857
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -23.88
Sun-Target sep (deg)  : 169.30
Sun-Moon sep (deg)   : 141.17
B (ring opening deg) : -10.83
PA of pole (deg)     : -47.51
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.638
C/A sky separation (km) : 13353.3
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.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	2035-10-27T01:06:19.396		17.43	-11.99	62933.00	-54.02		
Galatea	I	2035-10-27T01:06:37.571		17.50	-12.05	61953.00	-53.81		
Arago	I	2035-10-27T01:08:06.875		17.82	-12.37	57200.00	-52.59		
Lassell	I	2035-10-27T01:08:45.131		17.96	-12.51	55200.00	-51.96		
LeVerrier	I	2035-10-27T01:09:23.877		18.10	-12.65	53200.00	-51.26		
Galle	I	2035-10-27T01:13:15.212		18.93	-13.47	42000.00	-44.81		
Neptune	I	2035-10-27T01:23:09.277		21.06	-15.59	24763.82		-6.22	-6.44
Neptune	E	2035-10-27T01:52:05.161		27.28	-21.81	24753.14		-57.30	-58.18
Galle	E	2035-10-27T01:30:19.149	b	22.61	-17.13	42000.00	45.30		
LeVerrier	E	2035-10-27T01:34:07.457	b	23.42	-17.95	53200.00	52.00		
Lassell	E	2035-10-27T01:34:45.655	b	23.56	-18.08	55200.00	52.70		
Arago	E	2035-10-27T01:35:23.386	b	23.70	-18.22	57200.00	53.30		
Galatea	E	2035-10-27T01:36:51.615	b	24.01	-18.54	61953.00	54.38		
Adams	E	2035-10-27T01:37:09.607	b	24.08	-18.60	62933.00	54.55		

```

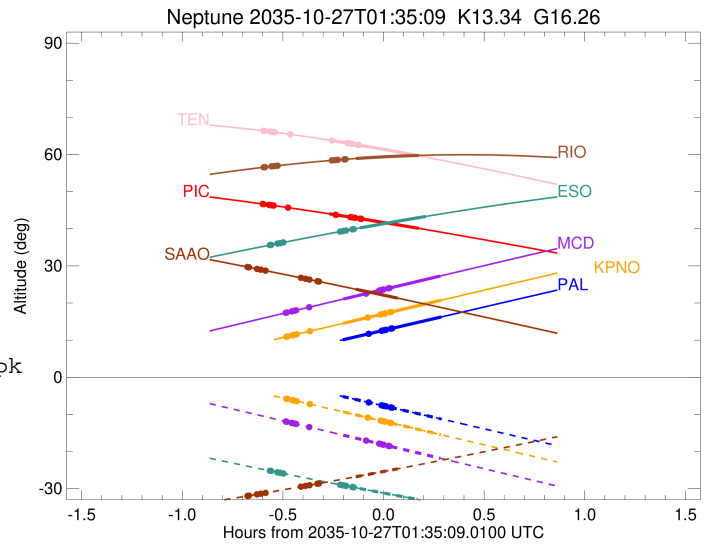
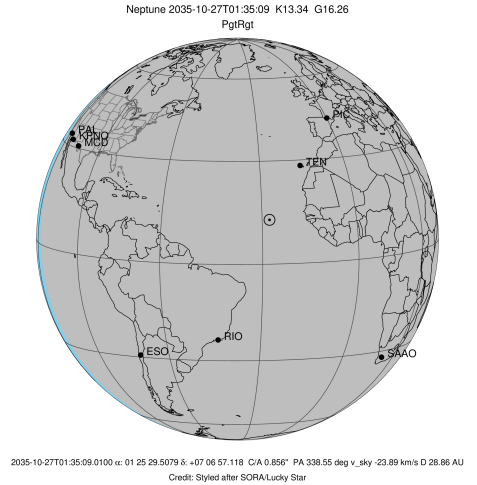
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2035-10-27T01:33:14.400
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code         : TEN
Location               : Teide Obs./Tenerife
Latitude (deg)        : 28.30050
E. Longitude (deg)    : 343.48909
Altitude (km)         : 2.395
Gaia source ID        : 2566145072760925568
2Mass ID (if available) : 01252945+0706580
ICRS Star Coord at Epoch: 01h 25m 29.50787s +07:06:57.11765s
RUWE (>1.4 is poor)  : 1.02
K magnitude           : 13.340
G magnitude           : 16.263
RP magnitude          : 15.355
BP magnitude          : 17.101
DUPflag               : 0
Distance (au)         : 28.857
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -23.88
Sun-Target sep (deg)  : 169.30
Sun-Moon sep (deg)    : 142.20
B (ring opening deg) : -10.83
PA of pole (deg)      : -47.51
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.787
C/A sky separation (km) : 16467.2
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	2035-10-27T00:59:43.393		66.35	-74.36	62933.00	-51.20		
Galatea	I	2035-10-27T01:00:02.598		66.32	-74.35	61953.00	-50.85		
Arago	I	2035-10-27T01:01:37.925		66.13	-74.29	57200.00	-48.79		
Lassell	I	2035-10-27T01:02:19.359		66.05	-74.26	55200.00	-47.73		
LeVerrier	I	2035-10-27T01:03:01.790		65.97	-74.23	53200.00	-46.52		
Galle	I	2035-10-27T01:07:33.383		65.42	-73.99	42000.00	-34.55		
Neptune	I	2035-10-27T01:20:31.796		63.66	-72.96	24762.98		-15.05	-15.55
Neptune	E	2035-10-27T01:45:56.587		59.60	-69.75	24751.28		-65.64	-66.37
Galle	E	2035-10-27T01:20:22.406		63.68	-72.97	42000.05	34.65		
LeVerrier	E	2035-10-27T01:24:52.900	b	63.02	-72.51	53200.00	46.77		
Lassell	E	2035-10-27T01:25:35.093	b	62.91	-72.43	55200.00	48.01		
Arago	E	2035-10-27T01:26:16.278	b	62.81	-72.36	57200.00	49.09		
Galatea	E	2035-10-27T01:27:50.991	b	62.56	-72.18	61953.00	51.19		
Adams	E	2035-10-27T01:28:10.069	b	62.51	-72.14	62933.00	51.55		

```

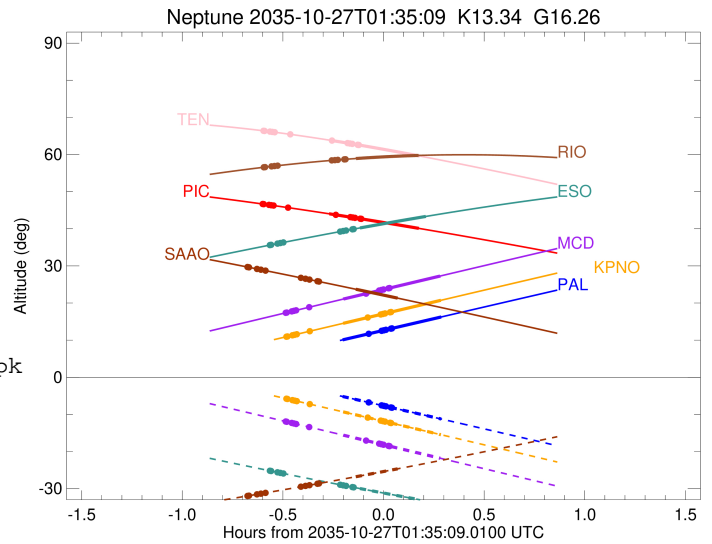
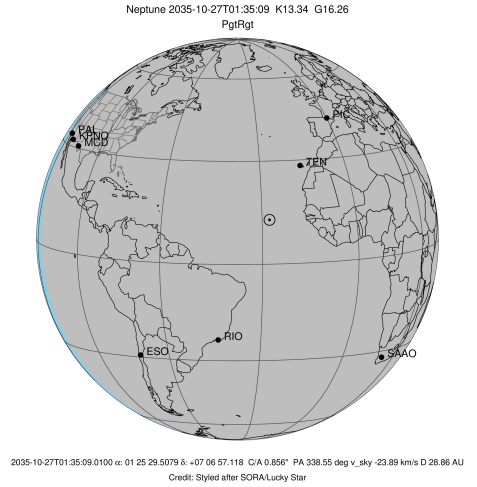
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2035-10-27T01:36:14.850
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code         : RIO
Location              : Rio de Janeiro
Latitude (deg)        : -22.89506
E. Longitude (deg)    : 316.77708
Altitude (km)         : 0.033
Gaia source ID        : 2566145072760925568
2Mass ID (if available) : 01252945+0706580
ICRS Star Coord at Epoch: 01h 25m 29.50787s +07:06:57.11765s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 13.340
G magnitude           : 16.263
RP magnitude          : 15.355
BP magnitude          : 17.101
DUPflag              : 0
Distance (au)         : 28.857
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -23.88
Sun-Target sep (deg) : 169.30
Sun-Moon sep (deg)   : 141.67
B (ring opening deg) : -10.83
PA of pole (deg)     : -47.51
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.987
C/A sky separation (km) : 20667.0
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	2035-10-27T00:59:49.531		56.61	-47.36	62933.00	-44.50		
Galatea	I	2035-10-27T01:00:11.711		56.65	-47.41	61953.00	-43.85		
Arago	I	2035-10-27T01:02:04.847		56.84	-47.67	57200.00	-40.01		
Lassell	I	2035-10-27T01:02:56.129		56.93	-47.78	55200.00	-37.95		
LeVerrier	I	2035-10-27T01:03:50.553		57.02	-47.90	53200.00	-35.50		
Neptune	I	2035-10-27T01:26:53.195		58.92	-50.66	24760.27		-29.55	-30.40
Neptune	E	2035-10-27T01:45:35.647		59.76	-52.42	24749.42		-77.16	-77.58
LeVerrier	E	2035-10-27T01:20:27.129		58.48	-49.95	53200.05	35.59		
Lassell	E	2035-10-27T01:21:21.418		58.55	-50.05	55200.03	38.05		
Arago	E	2035-10-27T01:22:12.556		58.61	-50.15	57200.02	40.14		
Galatea	E	2035-10-27T01:24:05.317		58.74	-50.36	61953.01	44.02		
Adams	E	2035-10-27T01:24:27.414		58.76	-50.40	62933.00	44.68		

```

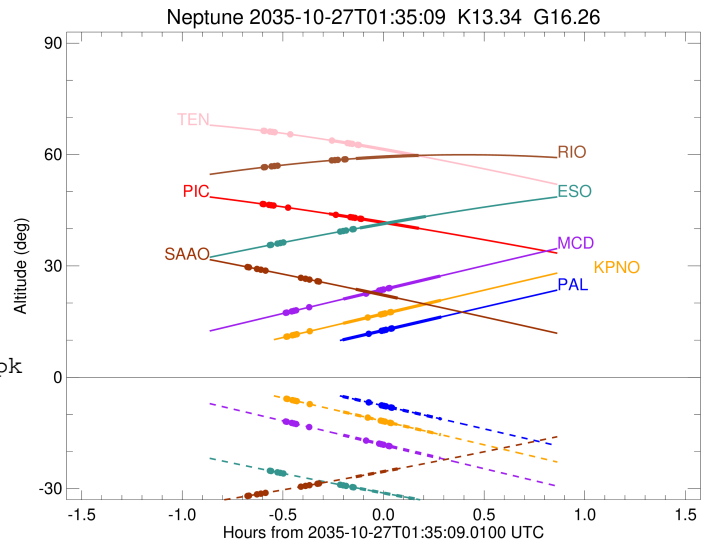
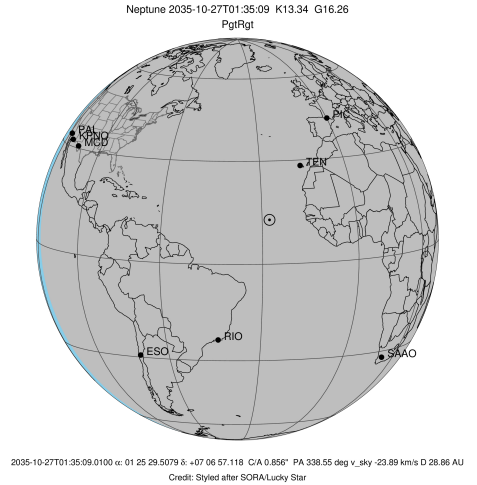
target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2035-10-27T01:37:57.440
Event type            : PgtRgt
: Neptune occs: geocentric, topocentric
: Ring occs: geocentric, topocentric
Observer code         : ESO
Location              : European Southern Obs. (3.6m)
Latitude (deg)        : -29.26097
E. Longitude (deg)    : 289.26831
Altitude (km)         : 2.400
Gaia source ID        : 2566145072760925568
2Mass ID (if available) : 01252945+0706580
ICRS Star Coord at Epoch: 01h 25m 29.50787s +07:06:57.11765s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 13.340
G magnitude           : 16.263
RP magnitude          : 15.355
BP magnitude          : 17.101
DUPflag              : 0
Distance (au)         : 28.857
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -23.88
Sun-Target sep (deg)  : 169.30
Sun-Moon sep (deg)    : 141.26
B (ring opening deg)  : -10.83
PA of pole (deg)      : -47.51
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.967
C/A sky separation (km) : 20228.6
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	2035-10-27T01:01:38.208		35.67	-25.25	62933.00	-45.04		
Galatea	I	2035-10-27T01:02:00.113		35.74	-25.32	61953.00	-44.43		
Arago	I	2035-10-27T01:03:51.391		36.07	-25.66	57200.00	-40.85		
Lassell	I	2035-10-27T01:04:41.500		36.21	-25.81	55200.00	-38.94		
LeVerrier	I	2035-10-27T01:05:34.361		36.37	-25.97	53200.00	-36.69		
Neptune	I	2035-10-27T01:28:07.142		40.22	-29.98	24760.67		-27.82	-28.64
Neptune	E	2035-10-27T01:47:46.725		43.33	-33.28	24749.56		-76.10	-76.55
LeVerrier	E	2035-10-27T01:22:55.795		39.36	-29.08	53200.04	36.82		
Lassell	E	2035-10-27T01:23:48.462		39.51	-29.23	55200.02	39.09		
Arago	E	2035-10-27T01:24:38.366		39.65	-29.38	57200.01	41.03		
Galatea	E	2035-10-27T01:26:29.114		39.95	-29.70	61953.01	44.67		
Adams	E	2035-10-27T01:26:50.903		40.01	-29.76	62933.01	45.28		


```

target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2035-10-27T01:33:07.150
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        : 2566145072760925568
2Mass ID (if available) : 01252945+0706580
ICRS Star Coord at Epoch: 01h 25m 29.50787s +07:06:57.11765s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 13.340
G magnitude           : 16.263
RP magnitude          : 15.355
BP magnitude          : 17.101
DUPflag               : 0
Distance (au)         : 28.857
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -23.88
Sun-Target sep (deg) : 169.30
Sun-Moon sep (deg)   : 141.93
B (ring opening deg) : -10.83
PA of pole (deg)     : -47.51
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation ("): 1.101
C/A sky separation (km): 23049.1
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	2035-10-27T00:54:55.897		29.64	-31.92	62933.00	-38.31		
Galatea	I	2035-10-27T00:55:21.788		29.56	-31.85	61953.00	-37.37		
Arago	I	2035-10-27T00:57:39.123		29.15	-31.50	57200.00	-31.61		
Lassell	I	2035-10-27T00:58:45.828		28.94	-31.33	55200.00	-28.29		
LeVerrier	I	2035-10-27T01:00:02.113		28.71	-31.14	53200.00	-24.06		
Neptune	I	2035-10-27T01:26:52.134		23.72	-26.80	24757.27		-41.51	-42.49
Neptune	E	2035-10-27T01:39:21.405		21.32	-24.67	24749.31		-78.18	-78.56
LeVerrier	E	2035-10-27T01:11:35.840		26.59	-29.31	53201.20	24.07		
Lassell	E	2035-10-27T01:12:52.133		26.35	-29.11	55200.37	28.29		
Arago	E	2035-10-27T01:13:58.844		26.15	-28.93	57200.16	31.61		
Galatea	E	2035-10-27T01:16:16.184		25.72	-28.55	61953.03	37.38		
Adams	E	2035-10-27T01:16:42.075		25.64	-28.48	62933.03	38.32		