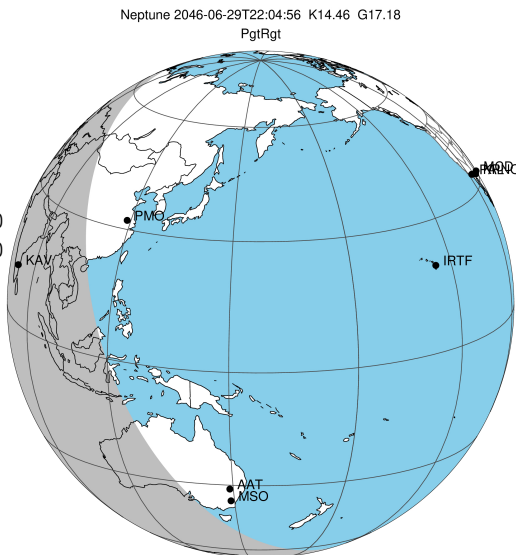


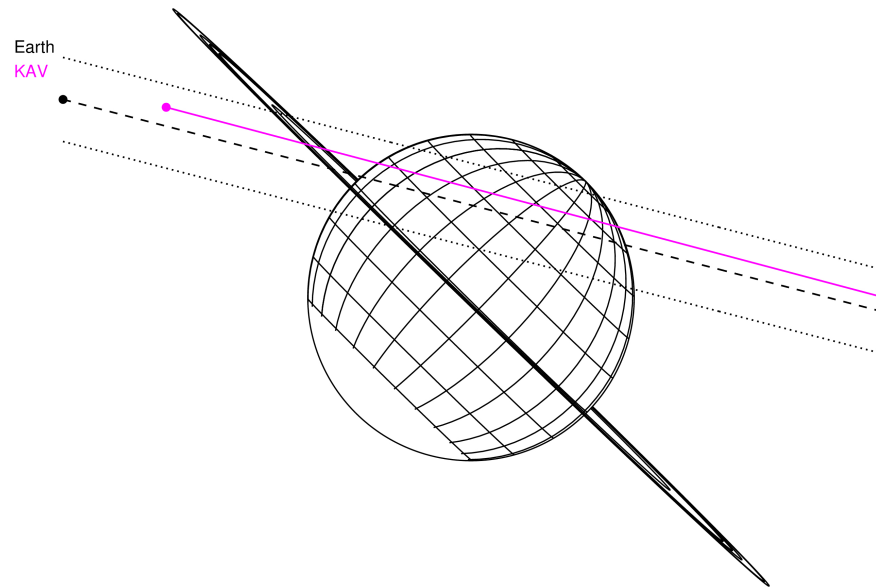
target : Neptune
 target radius (km) : 24764.00
 C/A epoch : 2046-06-29T22:04:56.460
 Event type : PgtRgt
 : Neptune occs: geocentric, topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 33957488911066752
 2Mass ID (if available) : 03040015+1531289

Neptune 2046-06-29T22:04:56 K14.46 G17.18 PgtRgt

ICRS Star Coord at Epoch: 03h 04m 00.15392s +15:31:28.47010s
 RUWE (>1.4 is poor) : 1.20
 K magnitude : 14.463
 G magnitude : 17.176
 RP magnitude : 16.360
 BP magnitude : 17.886
 DUPflag : 0
 Distance (au) : 30.460
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 24.48
 Sun-Target sep (deg) : 49.75
 Sun-Moon sep (deg) : 6.94
 B (ring opening deg) : 0.93
 PA of pole (deg) : -44.58
 # a(km) ring



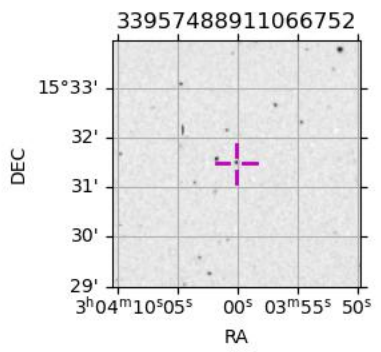
2046-06-29T22:04:56.4600 cc: 03 04 00.1539 2: +15 31 28.470 C/A 0.614° PA 165.48 deg v_sky +24.48 km/s D 30.46 AU
 Credit: Styled after SORA/Lucky Star



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

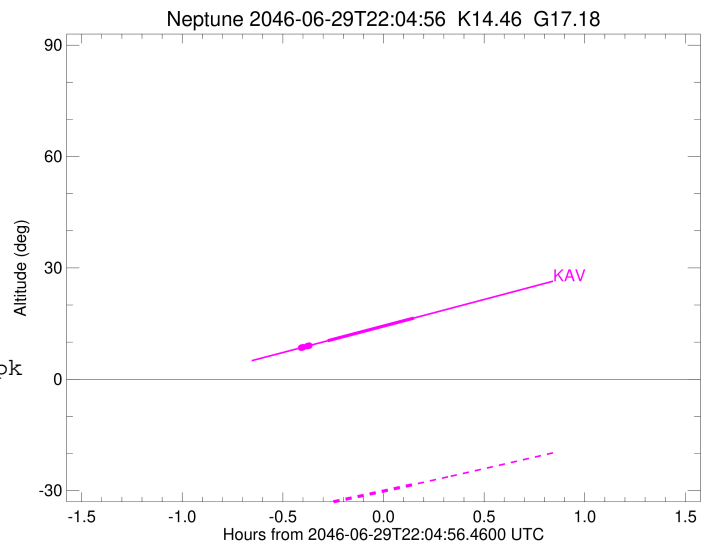
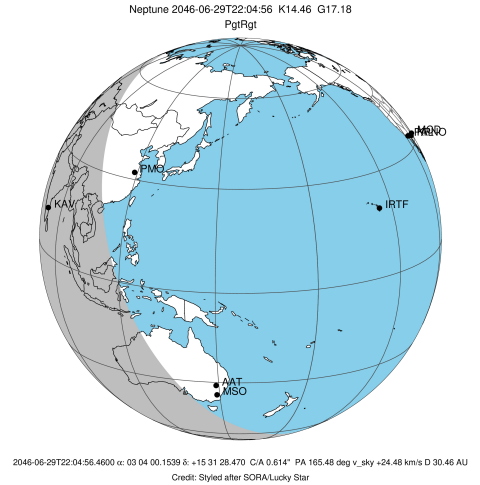
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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					PnnRnn					
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	+	+	+	+	+	+	+	+	JUN 29 21:40 - JUN 29 22:14	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					PnnRnn					
SAAO	So. Afr. Astro. Obs.	-32.4	20.8					PnnRnn					
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn					



```

target                : Neptune
target radius (km)   : 24764.00
C/A epoch             : 2046-06-29T22:01:08.230
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       : 33957488911066752
2Mass ID (if available) : 03040015+1531289
ICRS Star Coord at Epoch: 03h 04m 00.15392s +15:31:28.47010s
RUWE (>1.4 is poor) : 1.20
K magnitude           : 14.463
G magnitude           : 17.176
RP magnitude          : 16.360
BP magnitude          : 17.886
DUPflag              : 0
Distance (au)        : 30.460
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : 24.48
Sun-Target sep (deg) : 49.75
Sun-Moon sep (deg)   : 6.49
B (ring opening deg) : 0.93
PA of pole (deg)     : -44.58
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.727
C/A sky separation (km) : 16070.2
NAIF SPICE kernels   : RAJobs_U111+rgf16.spk
URKALLv1.spk
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
earthstns_itrf93_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	2046-06-29T21:40:47.433		8.59	-34.74	62933.43	-642.34		
Galatea	I	2046-06-29T21:40:48.963		8.60	-34.74	61953.54	-638.62		
Arago	I	2046-06-29T21:40:56.524		8.63	-34.72	57201.05	-617.40		
Lassell	I	2046-06-29T21:40:59.791		8.64	-34.71	55201.40	-606.52		
LeVerrier	I	2046-06-29T21:41:03.121		8.65	-34.70	53201.96	-594.15		
Galle	I	2046-06-29T21:41:23.770		8.74	-34.63	42016.73	-476.49		
Neptune	I	2046-06-29T21:48:17.369		10.37	-33.33	24764.00		10.71	11.08
Neptune	E	2046-06-29T22:13:59.962		16.49	-28.32	24763.91		70.17	70.79
Galle	E	2046-06-29T21:42:35.049		9.02	-34.41	42860.15	490.79		
LeVerrier	E	2046-06-29T21:42:55.669		9.10	-34.34	53232.63	594.84		
Lassell	E	2046-06-29T21:42:58.999		9.11	-34.33	55220.81	607.09		
Arago	E	2046-06-29T21:43:02.265		9.12	-34.32	57213.58	617.90		
Galatea	E	2046-06-29T21:43:09.825		9.15	-34.30	61958.35	639.03		
Adams	E	2046-06-29T21:43:11.354		9.16	-34.30	62937.45	642.73		