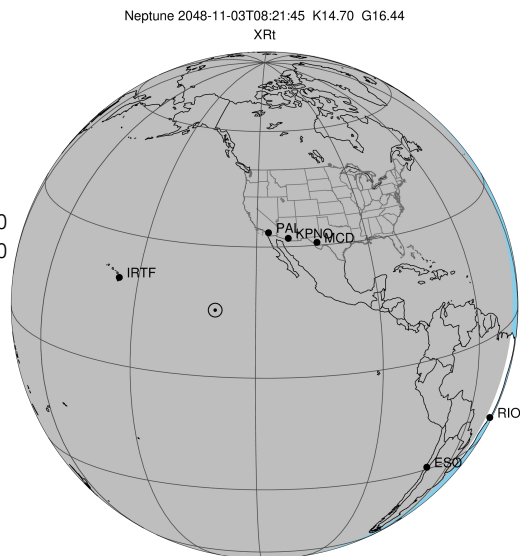


target : Neptune  
 target radius (km) : 24764.00  
 C/A epoch : 2048-11-03T08:21:45.030  
 Event type : XRT  
 : No Neptune occs  
 : Ring occs: topocentric, not geocentric  
 Gaia source ID : 55319183068334592  
 2Mass ID (if available) : 03203329+1632372

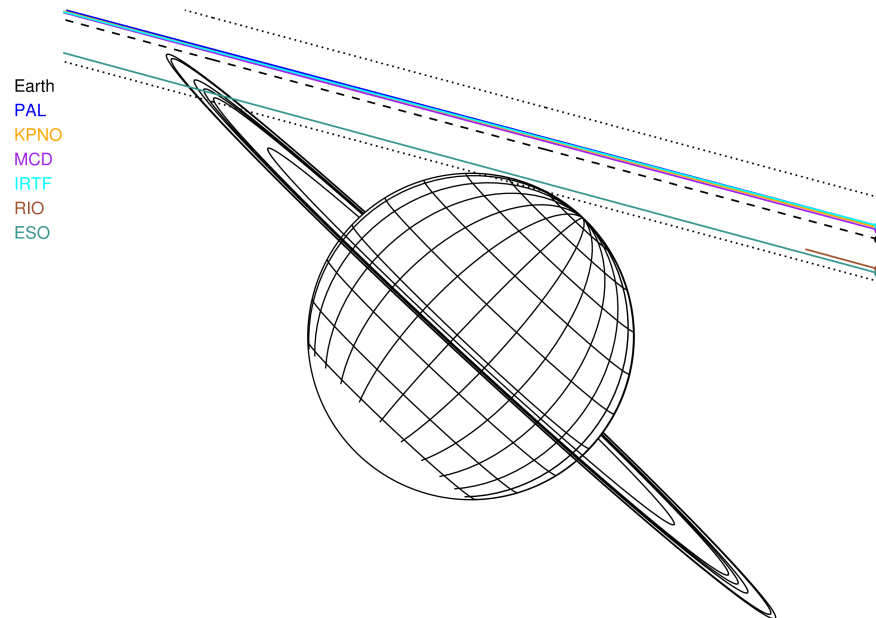
ICRS Star Coord at Epoch: 03h 20m 33.31874s +16:32:36.84920s  
 RUWE (>1.4 is poor) : 1.04  
 K magnitude : 14.703  
 G magnitude : 16.443  
 RP magnitude : 15.838  
 BP magnitude : 16.870  
 DUPflag : 0  
 Distance (au) : 28.843  
 f0 (km) : 0.000  
 g0 (km) : 0.000  
 skyplane vel. (km/s) : -24.06  
 Sun-Target sep (deg) : 168.70  
 Sun-Moon sep (deg) : 130.69  
 B (ring opening deg) : 2.95  
 PA of pole (deg) : -43.32

#	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



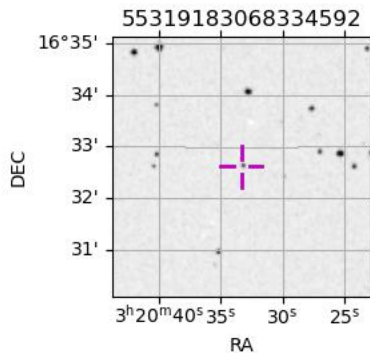
2048-11-03T08:21:45.0300 cc: 03 20 33.3187 s: +16 32 36.849 C/A 1.450° PA 164.90 deg v\_sky -24.06 km/s D 28.84 AU  
 Credit: Styled after SORA/Lucky Star

Neptune 2048-11-03T08:21:45 K14.70 G16.44 XRT



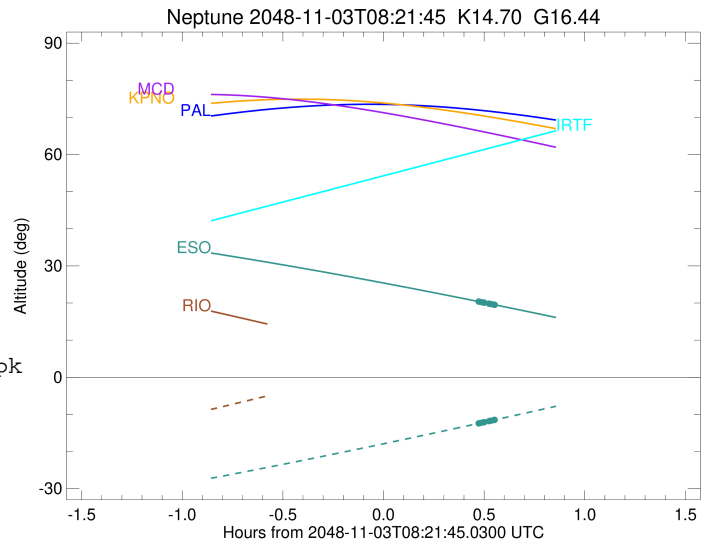
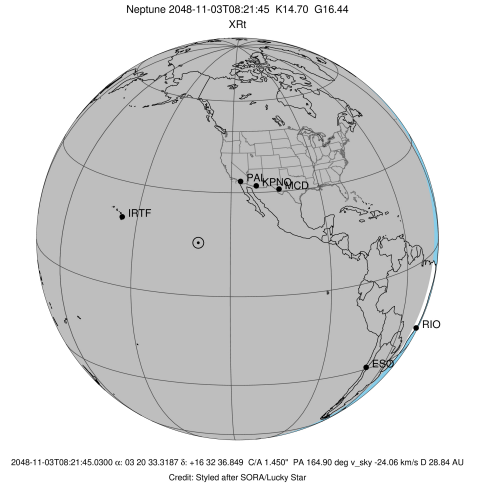
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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					PnnRnn
RIO	Rio de Janeiro	-22.9	316.8					PnnRnn
ESO	European Southern Obs	-29.3	289.3	+	+	+	NOV 03 08:49 - NOV 03 08:54	PnnRie
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             : 2048-11-03T08:19:45.170
Event type            : XRT
: No Neptune occs
: Ring occs: topocentric, not geocentric
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        : 55319183068334592
2Mass ID (if available) : 03203329+1632372
ICRS Star Coord at Epoch: 03h 20m 33.31874s +16:32:36.84920s
RUWE (>1.4 is poor) : 1.04
K magnitude           : 14.703
G magnitude           : 16.443
RP magnitude          : 15.838
BP magnitude          : 16.870
DUPflag               : 0
Distance (au)         : 28.843
f0 (km)               : 0.000
g0 (km)               : 0.000
skyplane vel. (km/s) : -24.06
Sun-Target sep (deg)  : 168.70
Sun-Moon sep (deg)   : 131.36
B (ring opening deg) : 2.95
PA of pole (deg)     : -43.32
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 1.213
C/A sky separation (km) : 25364.6
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	2048-11-03T08:49:21.372		20.53	-12.57	62952.43	-118.07		
Galatea	I	2048-11-03T08:49:29.856		20.51	-12.54	61979.80	-113.09		
Arago	I	2048-11-03T08:50:18.923		20.36	-12.38	57498.19	-81.96		
Lassell	I	2048-11-03T08:50:04.589		20.40	-12.43	72870.10	-152.21		

No planet occultations

Lassell	E	2048-11-03T08:52:49.443		19.90	-11.89	55203.85	55.05		
Arago	E	2048-11-03T08:53:19.181		19.81	-11.79	57204.25	79.21		
Galatea	E	2048-11-03T08:54:08.337		19.66	-11.63	61955.00	112.94		
Adams	E	2048-11-03T08:54:16.827		19.64	-11.60	62934.71	117.95		