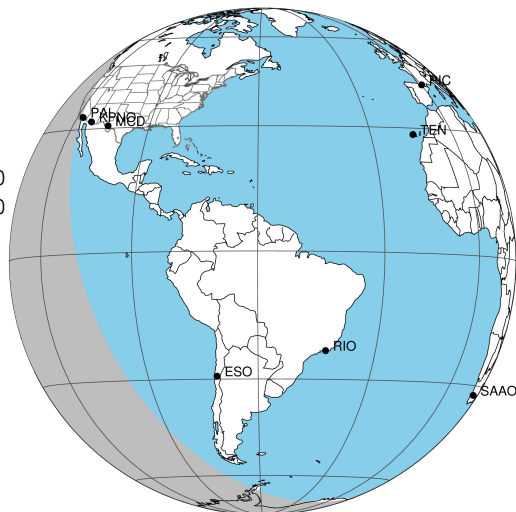


target : Neptune
 target radius (km) : 24764.00
 C/A epoch : 2023-05-03T13:00:52.170
 Event type : PgRgt
 : Neptune occs: geocentric, not topocentric
 : Ring occs: geocentric, topocentric
 Gaia source ID : 2447704782568325504
 2Mass ID (if available) : 23485925-0229122

Neptune 2023-05-03T13:00:52 K9.62 G11.12 PgRgt

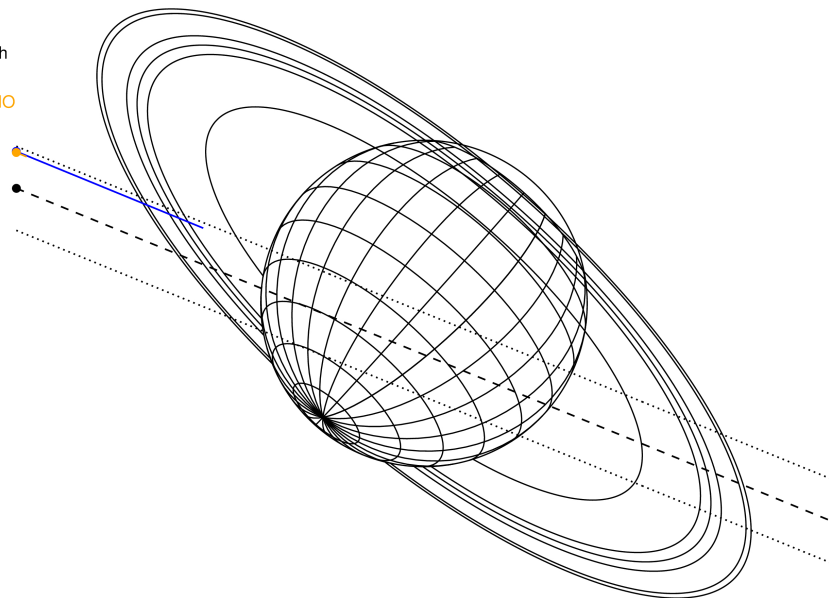
ICRS Star Coord at Epoch: 23h 48m 59.15652s -02:29:12.98091s
 RUWE (>1.4 is poor) : 0.96
 K magnitude : 9.623
 G magnitude : 11.116
 RP magnitude : 10.610
 BP magnitude : 11.453
 DUPflag : 0
 Distance (au) : 30.600
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 26.29
 Sun-Target sep (deg) : 46.06
 Sun-Moon sep (deg) : 160.60
 B (ring opening deg) : -21.13
 PA of pole (deg) : -41.58

Neptune 2023-05-03T13:00:52 K9.62 G11.12
 PgRgt



2023-05-03T13:00:52.1700 ra: 23 48 59.1565 s: -02 29 12.981 C/A 0.3257 PA 337.80 deg v_sky +26.29 km/s D 30.60 AU
 Credit: Styled after SORA/Lucky Star

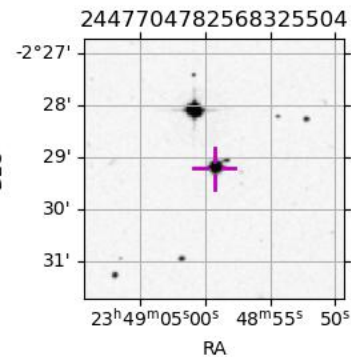
Earth
 PAL
 KPNO



#	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

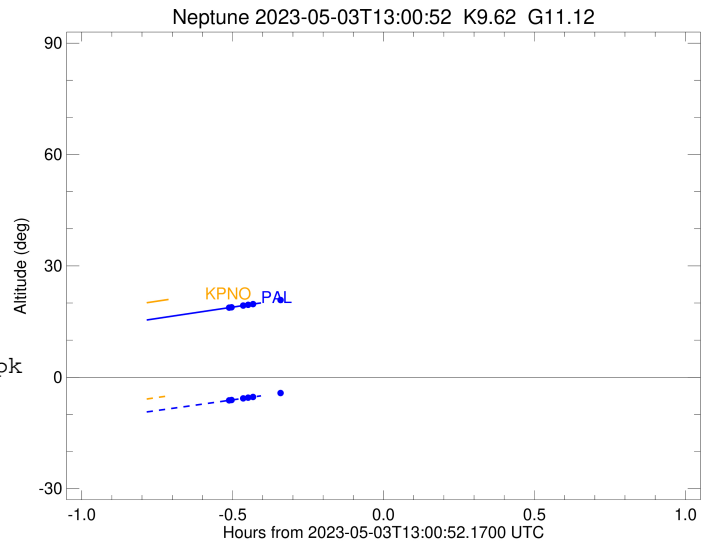
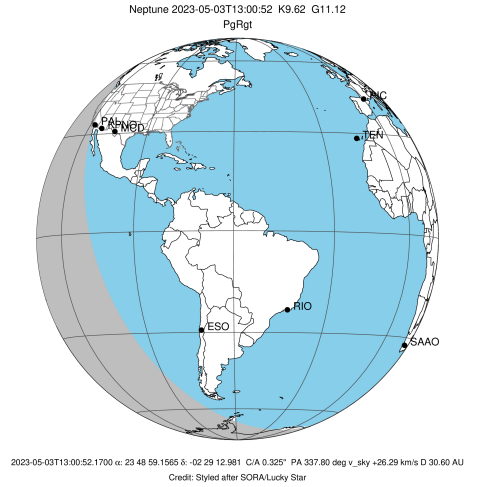
Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

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	+			MAY 03 12:30 - MAY 03 12:35	PnnRin
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					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            : 2023-05-03T12:59:03.630
Event type           : PgRgt
: Neptune occs: geocentric, not 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       : 2447704782568325504
2Mass ID (if available) : 23485925-0229122
ICRS Star Coord at Epoch: 23h 48m 59.15652s -02:29:12.98091s
RUWE (>1.4 is poor) : 0.96
K magnitude          : 9.623
G magnitude          : 11.116
RP magnitude         : 10.610
BP magnitude         : 11.453
DUPflag              : 0
Distance (au)        : 30.600
f0 (km)              : 0.000
g0 (km)              : 0.000
skyplane vel. (km/s) : 26.29
Sun-Target sep (deg) : 46.06
Sun-Moon sep (deg)  : 161.11
B (ring opening deg) : -21.13
PA of pole (deg)    : -41.58
Pole direction: RA (deg): 299.33374
Dec (deg): 42.95036
C/A sky separation (") : 0.097
C/A sky separation (km) : 2147.7
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.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	2023-05-03T12:30:16.305		18.77	-6.21	62933.00	-34.27		
Galatea	I	2023-05-03T12:30:44.901		18.87	-6.12	61953.00	-34.27		
Arago	I	2023-05-03T12:33:03.664		19.33	-5.67	57200.00	-34.24		
Lassell	I	2023-05-03T12:34:02.090		19.53	-5.48	55200.00	-34.22		
LeVerrier	I	2023-05-03T12:35:00.540		19.72	-5.29	53200.00	-34.21		
Galle	I	2023-05-03T12:40:28.460		20.82	-4.23x	42000.00	-34.09		
Neptune	I	2023-05-03T12:43:19.216		21.39	-3.68x	24754.79		-22.50	-23.20
Neptune	E	2023-05-03T13:14:49.181		27.57	2.54x	24760.69		13.27	13.72
Galle	E	2023-05-03T13:21:00.035		28.76	3.78x	42000.00	34.00		
LeVerrier	E	2023-05-03T13:26:29.048		29.80	4.89x	53200.00	34.07		
Lassell	E	2023-05-03T13:27:27.740		29.98	5.08x	55200.00	34.08		
Arago	E	2023-05-03T13:28:26.419		30.17	5.28x	57200.00	34.09		
Galatea	E	2023-05-03T13:30:45.832		30.61	5.75x	61953.00	34.10		
Adams	E	2023-05-03T13:31:14.571		30.70	5.85x	62933.00	34.10		