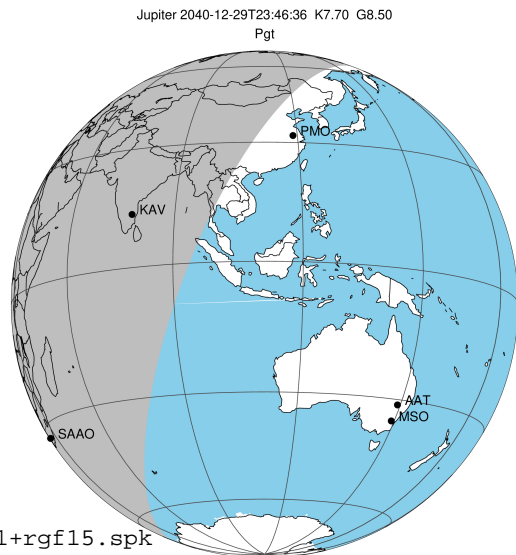


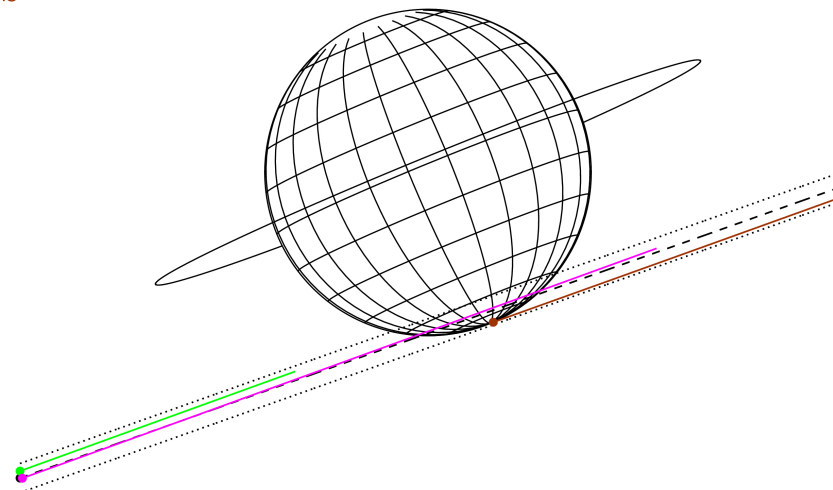
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2040-12-29T23:46:36.630
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3617284717265457152
 2Mass ID (if available) : 13453748-0935419

Jupiter 2040-12-29T23:46:36 K7.70 G8.50 Pgt

ICRS Star Coord at Epoch: 13h 45m 37.59239s -09:35:43.12417s
 RUWE (>1.4 is poor) : 1.15
 K magnitude : 7.699
 G magnitude : 8.500
 RP magnitude : 8.196
 BP magnitude : 8.667
 DUPflag : 0
 Distance (au) : 5.704
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 22.43
 Sun-Target sep (deg) : 70.37
 Sun-Moon sep (deg) : 19.34
 B (ring opening deg) : -2.93
 PA of pole (deg) : 22.30
 Pole direction: RA (deg): 268.05622
 Dec (deg): 64.49717
 C/A sky separation (") : 16.056
 C/A sky separation (km) : 66417.1
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl1.spk
 naif0012.tls
 nep097.bsp
 nep101.bsp
 sat4401.bsp



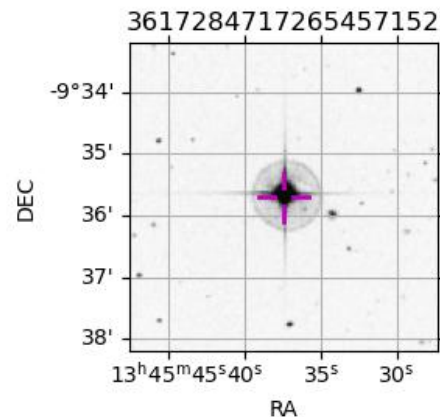
Earth
 PMO
 KAV
 SAAO



2040-12-29T23:46:36.6300 α: 13 45 37.5924 δ: -09 35 43.124 C/A ***** PA 19.53 deg v_sky +22.43 km/s D 05.70 AU
 Credit: Styled after SORA/Lucky Star

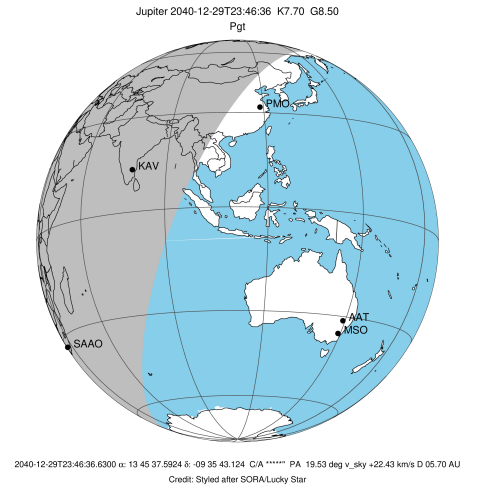
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1			Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4			Pnn
MCD	McDonald Obs. 2.7m	30.7	256.0			Pnn
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5			Pnn
KAV	Kavalur Observatory	12.6	78.8	+ +	DEC 29 23:22 - DEC 30 00:05	Pie
RIO	Rio de Janeiro	-22.9	316.8			Pnn
ESO	European Southern Obs. (3.6m)	-29.3	289.3			Pnn
AAT	Siding Spring (AAT)	-31.3	149.1			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn

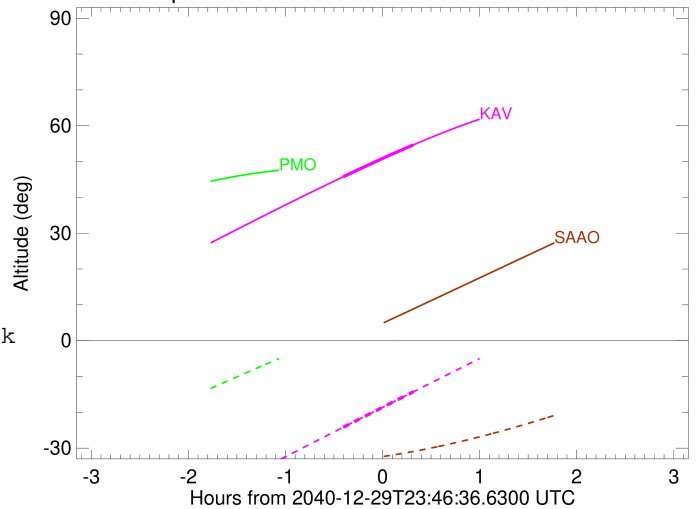


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2040-12-29T23:44:02.520
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : KAV
Location              : Kavalur Observatory
Latitude (deg)        : 12.57556
E. Longitude (deg)   : 78.83167
Altitude (km)         : 0.722
Gaia source ID        : 3617284717265457152
2Mass ID (if available) : 13453748-0935419
ICRS Star Coord at Epoch: 13h 45m 37.59239s -09:35:43.12417s
RUWE (>1.4 is poor) : 1.15
K magnitude           : 7.699
G magnitude           : 8.500
RP magnitude          : 8.196
BP magnitude          : 8.667
DUPflag              : 0
Distance (au)         : 5.704
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 22.43
Sun-Target sep (deg) : 70.37
Sun-Moon sep (deg)   : 20.16
B (ring opening deg) : -2.93
PA of pole (deg)     : 22.30
Pole direction: RA (deg): 268.05622
Dec (deg): 64.49717
C/A sky separation (") : 15.817
C/A sky separation (km) : 65428.2
NAIF SPICE kernels   : RAJobs_U111+rgf15.spk
URKALLv1.spk
naif0012.tls
nep097.bsp
nep101.bsp
sat4401.bsp
de440.bsp
earth_720101_070426.bpc
jup365.bsp
urall6.bsp
IAU_SATURN_for_RINGFIT.tpc
pck00010.tpc
earth_200101_990628_predict.bpc
uranus_ringframes_rfrench20220627_v1.tf
neptune_ringframes_rfrench20220702a_v1.tf
earth_flat_IAU.spk
    
```



Jupiter 2040-12-29T23:46:36 K7.70 G8.50



x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2040-12-29T23:22:20.042	45.75	-24.18	71482.5	-63.75	-66.53
Jupiter	E	2040-12-30T00:05:46.724	54.67	-14.25	71481.8	-68.40	-70.77