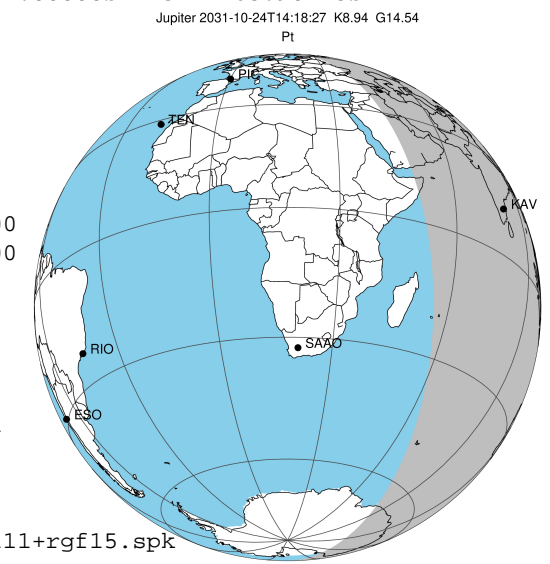


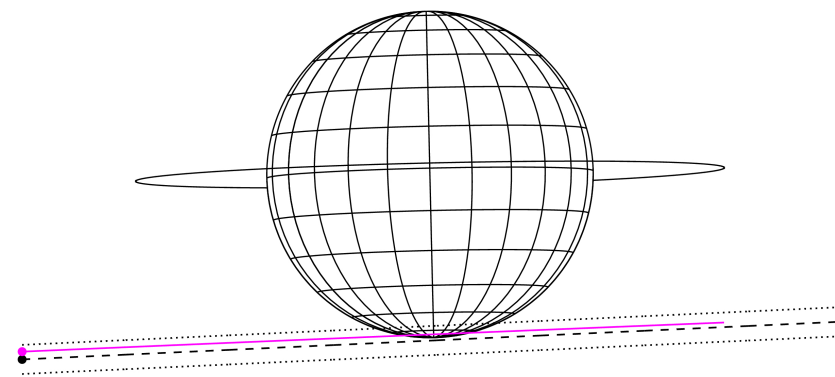
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-10-24T14:18:27.350
 Event type : Pt
 : Jupiter occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 4116517280369630592
 2Mass ID (if available) : 17395489-2314059

Jupiter 2031-10-24T14:18:27 K8.94 G14.54 Pt

ICRS Star Coord at Epoch: 17h 39m 54.88888s -23:14:05.98215s
 RUWE (>1.4 is poor) : 0.88
 K magnitude : 8.936
 G magnitude : 14.540
 RP magnitude : 13.108
 BP magnitude : 17.133
 DUPflag : 0
 Distance (au) : 5.744
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 30.34
 Sun-Target sep (deg) : 54.85
 Sun-Moon sep (deg) : 52.19
 B (ring opening deg) : -2.24
 PA of pole (deg) : 1.33
 Pole direction: RA (deg): 268.05681
 Dec (deg): 64.49652
 C/A sky separation (") : 17.452
 C/A sky separation (km) : 72700.6
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLv1.spk
 naif0012.tls
 nep097.bsp
 nep101.bsp
 sat4401.bsp



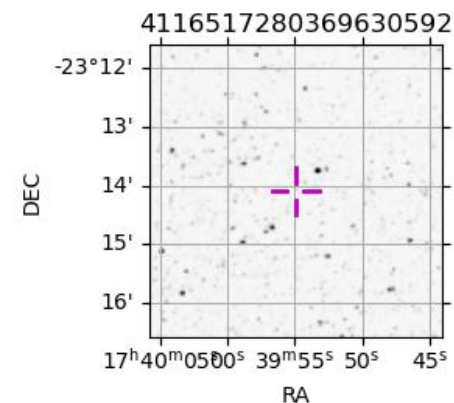
Earth
 KAV



2031-10-24T14:18:27.3500 α: 17 39 54.8889 δ: -23 14 05.982 C/A ***** PA 2.64 deg v_sky +30.34 km/s D 05.74 AU
 Credit: Styled after SORA/Lucky Star

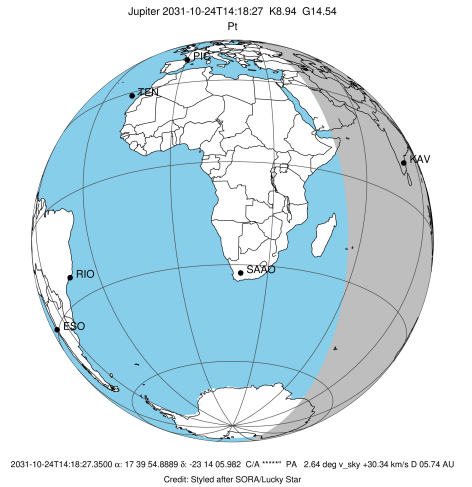
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	OCT 24 14:13 - OCT 24 14:29	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

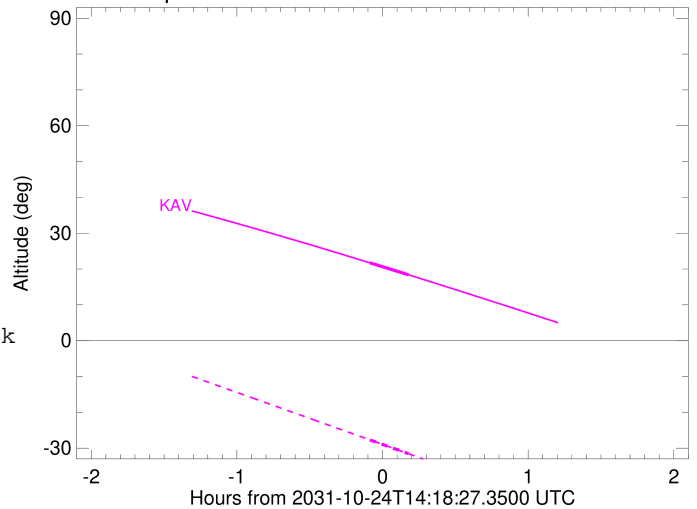


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-10-24T14:21:12.700
Event type          : Pt
                    : Jupiter occs: topocentric, not geocentric
                    : 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      : 4116517280369630592
2Mass ID (if available) : 17395489-2314059
ICRS Star Coord at Epoch: 17h 39m 54.88888s -23:14:05.98215s
RUWE (>1.4 is poor) : 0.88
K magnitude          : 8.936
G magnitude          : 14.540
RP magnitude         : 13.108
BP magnitude         : 17.133
DUPflag             : 0
Distance (au)       : 5.744
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 30.34
Sun-Target sep (deg) : 54.85
Sun-Moon sep (deg)  : 51.93
B (ring opening deg) : -2.24
PA of pole (deg)    : 1.33
Pole direction: RA (deg): 268.05681
Dec (deg): 64.49652
C/A sky separation ("): 16.811
C/A sky separation (km) : 70028.9
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 2031-10-24T14:18:27 K8.94 G14.54



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	2031-10-24T14:13:16.094	21.73	-27.69	71485.4	-79.21	-80.47
Jupiter	E	2031-10-24T14:29:09.073	18.39	-31.55	71485.5	-77.19	-78.67