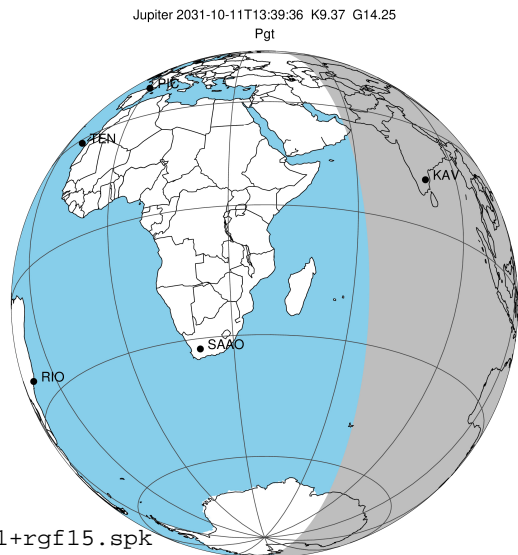


target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2031-10-11T13:39:36.960  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4111430011867754240  
 2Mass ID (if available) : 17304059-2306490

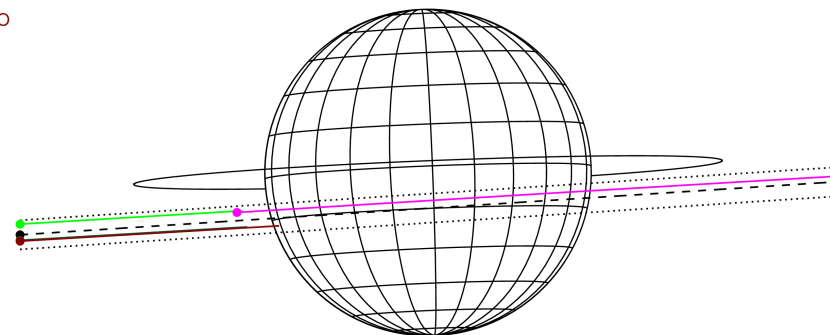
Jupiter 2031-10-11T13:39:36 K9.37 G14.25 Pgt

ICRS Star Coord at Epoch: 17h 30m 40.60788s -23°06'49.26154s  
 RUWE (>1.4 is poor) : 0.97  
 K magnitude : 9.374  
 G magnitude : 14.253  
 RP magnitude : 13.026  
 BP magnitude : 15.883  
 DUPflag : 0  
 Distance (au) : 5.571  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 25.39  
 Sun-Target sep (deg) : 65.66  
 Sun-Moon sep (deg) : 121.42  
 B (ring opening deg) : -2.29  
 PA of pole (deg) : 2.32  
 Pole direction: RA (deg): 268.05682  
 Dec (deg): 64.49652  
 C/A sky separation (") : 3.876  
 C/A sky separation (km) : 15660.2  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk



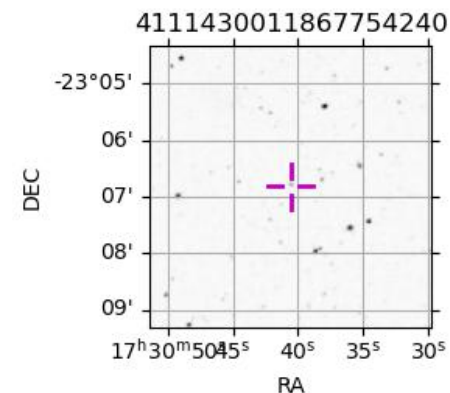
2031-10-11T13:39:36.9600 @: 17 30 40.60788 @: -23 06 49.262 C/A 3.884" PA 3.71 deg v\_sky +25.39 km/s D 05.57 AU  
 Credit: Styled after SORA/Lucky Star

Earth  
 PMO  
 KAV  
 AAT  
 MSO



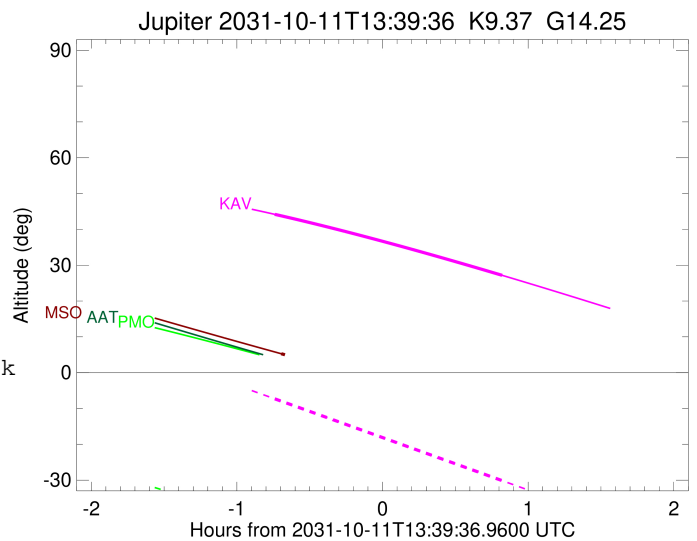
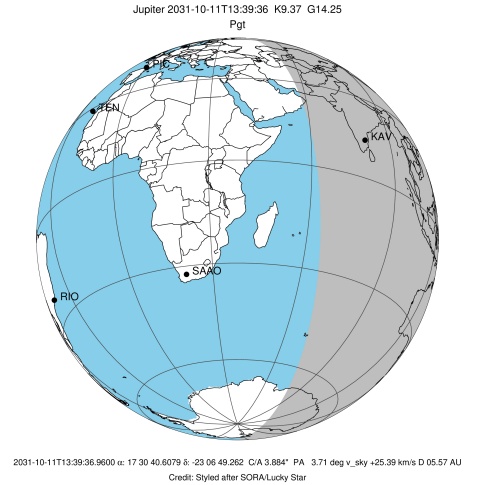
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEncode
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 11 12:55 - OCT 11 14:28	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	+	OCT 11 12:57 - OCT 11 12:57	Pin



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-10-11T13:42:08.690
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      : 4111430011867754240
2Mass ID (if available) : 17304059-2306490
ICRS Star Coord at Epoch: 17h 30m 40.60788s -23:06:49.26154s
RUWE (>1.4 is poor) : 0.97
K magnitude          : 9.374
G magnitude          : 14.253
RP magnitude         : 13.026
BP magnitude         : 15.883
DUPflag             : 0
Distance (au)       : 5.571
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 25.39
Sun-Target sep (deg) : 65.66
Sun-Moon sep (deg)  : 121.57
B (ring opening deg) : -2.29
PA of pole (deg)    : 2.32
Pole direction: RA (deg): 268.05682
Dec (deg): 64.49652
C/A sky separation (") : 3.045
C/A sky separation (km) : 12304.1
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
    
```

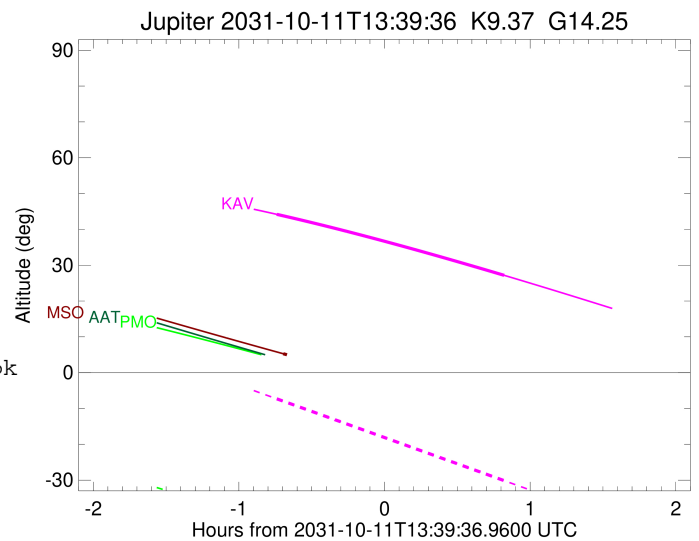
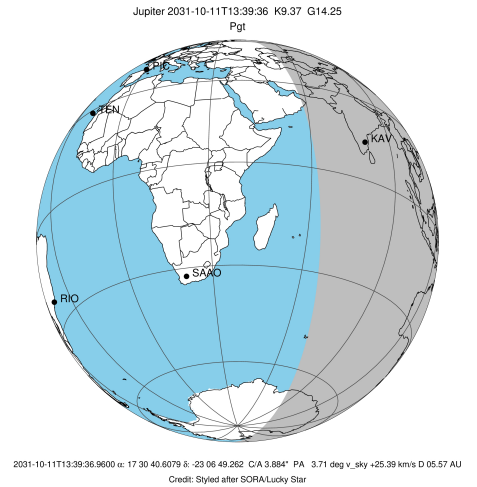


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-10-11T12:55:13.420	44.19	-7.30	71491.7	-11.12	-12.66
Jupiter	E	2031-10-11T14:28:55.638	27.17	-30.14	71491.8	-8.76	-9.99

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-10-11T13:42:53.010
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : MSO
Location              : Mt. Stromlo Observatory
Latitude (deg)       : -35.32000
E. Longitude (deg)   : 149.00833
Altitude (km)        : 0.770
Gaia source ID       : 4111430011867754240
2Mass ID (if available) : 17304059-2306490
ICRS Star Coord at Epoch: 17h 30m 40.60788s -23:06:49.26154s
RUWE (>1.4 is poor) : 0.97
K magnitude           : 9.374
G magnitude           : 14.253
RP magnitude         : 13.026
BP magnitude         : 15.883
DUPflag              : 0
Distance (au)        : 5.571
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 25.39
Sun-Target sep (deg) : 65.66
Sun-Moon sep (deg)   : 121.05
B (ring opening deg) : -2.29
PA of pole (deg)     : 2.32
Pole direction: RA (deg): 268.05682
Dec (deg): 64.49652
C/A sky separation (") : 4.821
C/A sky separation (km) : 19478.9
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
    
```



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	2031-10-11T12:57:53.717	5.28	-46.00	71491.4	-16.86	-19.10
Jupiter	E	2031-10-11T14:27:43.465	-10.43x	-46.88	71491.5	-14.72	-16.72