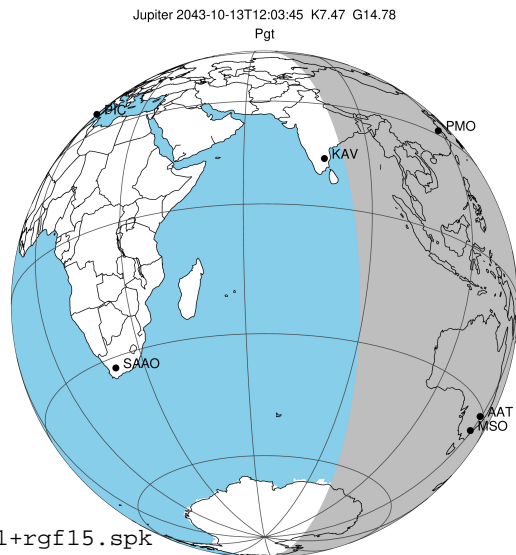


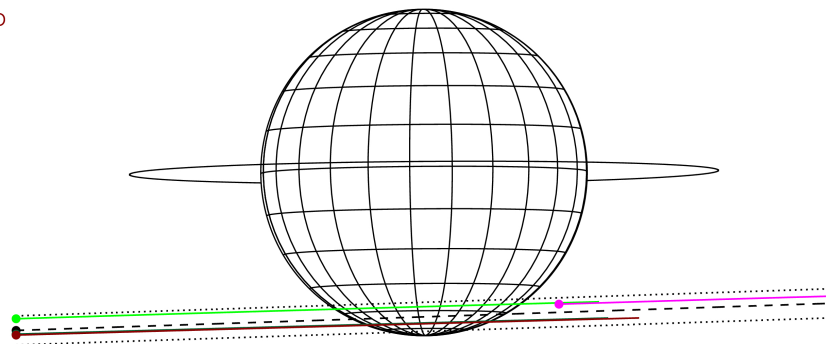
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-10-13T12:03:45.800  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4068767384536786432  
 2Mass ID (if available) : 17482194-2321002

Jupiter 2043-10-13T12:03:45 K7.47 G14.78 Pgt

ICRS Star Coord at Epoch: 17h 48m 21.93716s -23:21:00.61897s  
 RUWE (>1.4 is poor) : 0.94  
 K magnitude : 7.471  
 G magnitude : 14.777  
 RP magnitude : 13.174  
 BP magnitude : 18.513  
 DUPflag : 0  
 Distance (au) : 5.519  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 24.37  
 Sun-Target sep (deg) : 67.89  
 Sun-Moon sep (deg) : 47.66  
 B (ring opening deg) : -2.15  
 PA of pole (deg) : 0.42  
 Pole direction: RA (deg): 268.05675  
 Dec (deg): 64.49731  
 C/A sky separation (") : 15.789  
 C/A sky separation (km) : 63203.0  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk  
 URKALLvl.spk  
 naif0012.tls  
 nep097.bsp  
 nep101.bsp  
 sat4401.bsp



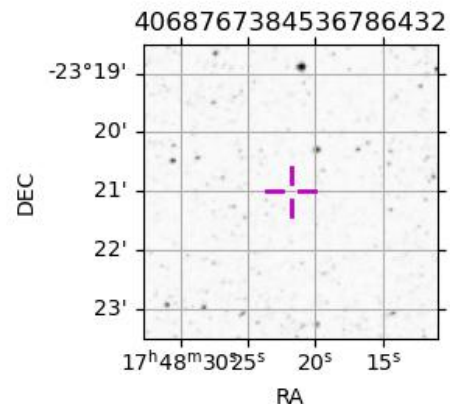
Earth  
 PMO  
 KAV  
 AAT  
 MSO



2043-10-13T12:03:45.8000 α: 17 48 21.9372 δ: -23 21 00.619 C/A \*\*\*\*\* PA 1.91 deg v\_sky +24.37 km/s D 05.52 AU  
 Credit: Styled after SORA/Lucky Star

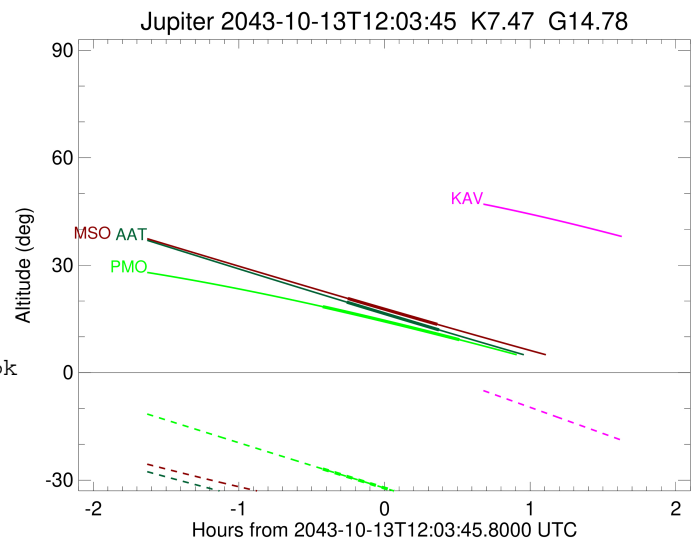
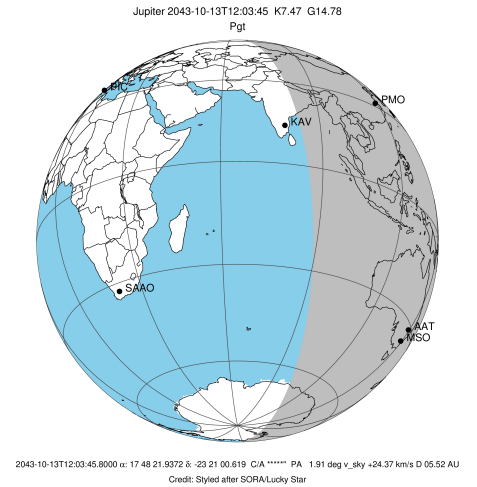
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	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	+ +	OCT 13 11:38 - OCT 13 12:34	Pie
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			Pnn
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	+ +	OCT 13 11:48 - OCT 13 12:26	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	OCT 13 11:48 - OCT 13 12:25	Pie



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-13T12:06:29.620
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : PMO
Location            : Purple Mtn Obs. Nanking
Latitude (deg)      : 32.06667
E. Longitude (deg)  : 118.82089
Altitude (km)       : 0.364
Gaia source ID      : 4068767384536786432
2Mass ID (if available) : 17482194-2321002
ICRS Star Coord at Epoch: 17h 48m 21.93716s -23:21:00.61897s
RUWE (>1.4 is poor) : 0.94
K magnitude          : 7.471
G magnitude          : 14.777
RP magnitude         : 13.174
BP magnitude         : 18.513
DUPflag             : 0
Distance (au)       : 5.519
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 24.37
Sun-Target sep (deg) : 67.89
Sun-Moon sep (deg)  : 47.44
B (ring opening deg) : -2.15
PA of pole (deg)    : 0.42
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (" ) : 14.676
C/A sky separation (km) : 58747.3
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
    
```

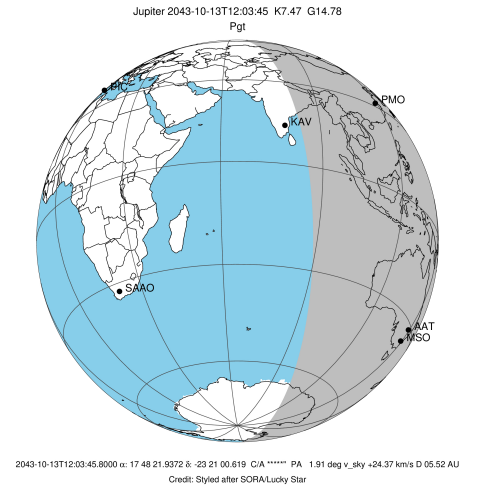


x: target alt < 5.0 deg or sun > -5.0 deg

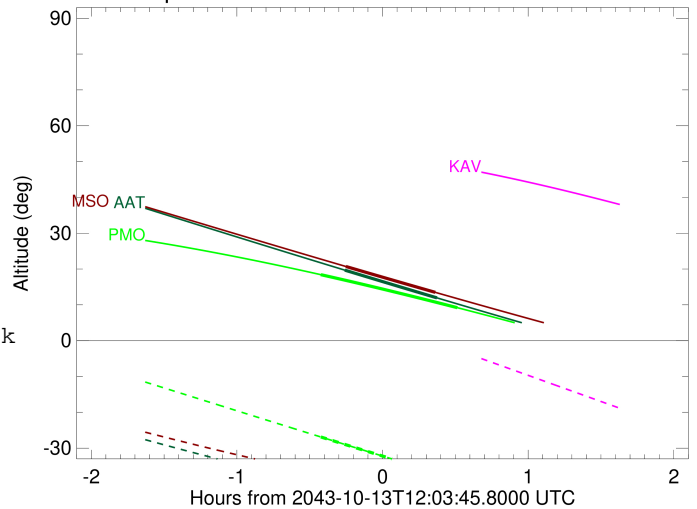
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-13T11:38:21.456	18.42	-26.88	71487.6	-56.42	-59.71
Jupiter	E	2043-10-13T12:34:34.491	9.21	-38.54	71487.8	-54.02	-57.44

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-13T12:07:14.760
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : AAT
Location             : Siding Spring (AAT)
Latitude (deg)       : -31.27703
E. Longitude (deg)   : 149.06608
Altitude (km)        : 1.164
Gaia source ID       : 4068767384536786432
2Mass ID (if available) : 17482194-2321002
ICRS Star Coord at Epoch: 17h 48m 21.93716s -23:21:00.61897s
RUWE (>1.4 is poor) : 0.94
K magnitude           : 7.471
G magnitude           : 14.777
RP magnitude          : 13.174
BP magnitude          : 18.513
DUPflag              : 0
Distance (au)        : 5.519
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 24.37
Sun-Target sep (deg) : 67.89
Sun-Moon sep (deg)   : 47.28
B (ring opening deg) : -2.15
PA of pole (deg)     : 0.42
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation ("): 16.459
C/A sky separation (km): 65885.4
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 2043-10-13T12:03:45 K7.47 G14.78

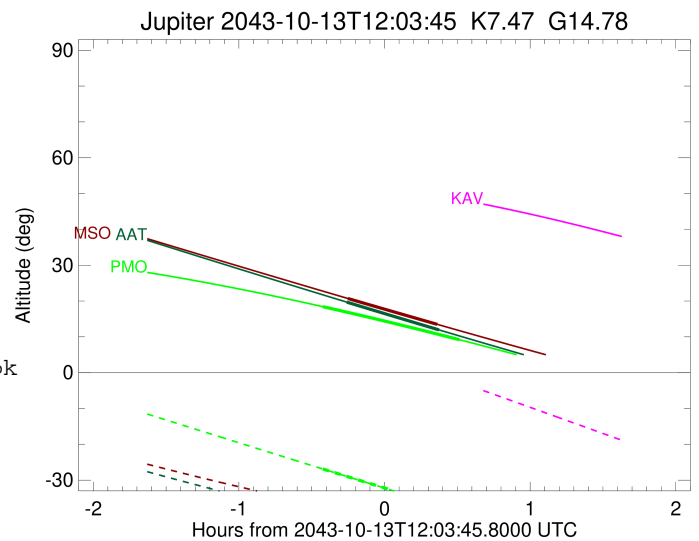
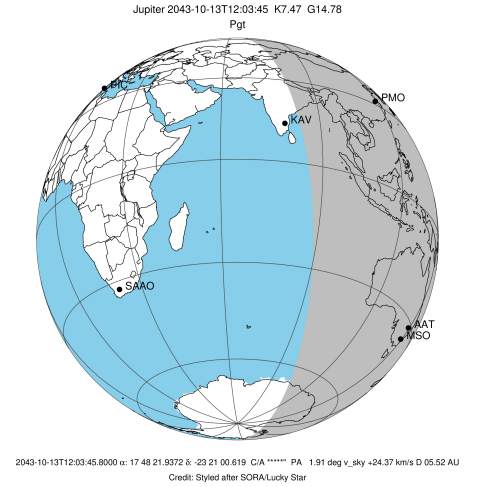


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-13T11:48:14.188	19.68	-41.38	71486.5	-68.19	-70.58
Jupiter	E	2043-10-13T12:26:13.550	11.94	-46.20	71486.7	-65.96	-68.55

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-13T12:07:05.760
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      : 4068767384536786432
2Mass ID (if available) : 17482194-2321002
ICRS Star Coord at Epoch: 17h 48m 21.93716s -23:21:00.61897s
RUWE (>1.4 is poor) : 0.94
K magnitude          : 7.471
G magnitude          : 14.777
RP magnitude         : 13.174
BP magnitude         : 18.513
DUPflag             : 0
Distance (au)       : 5.519
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 24.37
Sun-Target sep (deg) : 67.89
Sun-Moon sep (deg)  : 47.32
B (ring opening deg) : -2.15
PA of pole (deg)    : 0.42
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (" ) : 16.548
C/A sky separation (km) : 66240.9
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	2043-10-13T11:48:40.672	20.71	-38.36	71486.5	-68.95	-71.27
Jupiter	E	2043-10-13T12:25:29.253	13.49	-42.61	71486.6	-66.68	-69.21