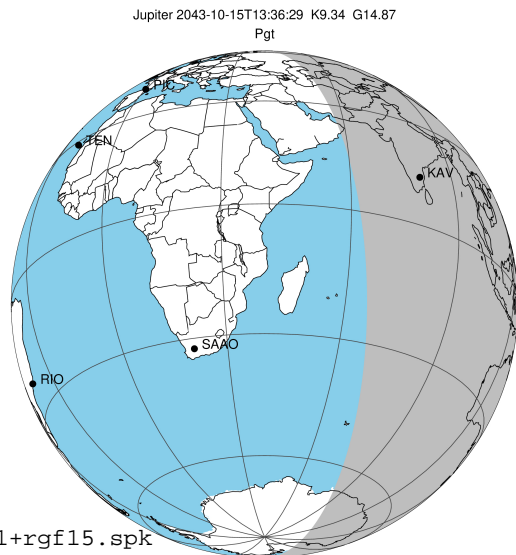


target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-10-15T13:36:29.990  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4068670558825603968  
 2Mass ID (if available) : 17494196-2321221

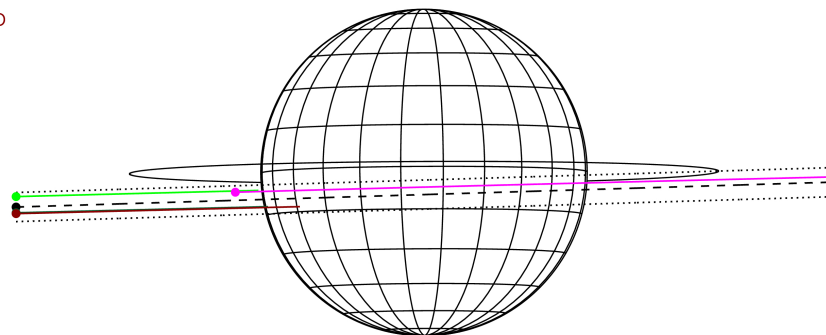
Jupiter 2043-10-15T13:36:29 K9.34 G14.87 Pgt

ICRS Star Coord at Epoch: 17h 49m 41.93895s -23:21:22.40790s  
 RUWE (>1.4 is poor) : 0.85  
 K magnitude : 9.344  
 G magnitude : 14.870  
 RP magnitude : 13.516  
 BP magnitude : 17.088  
 DUPflag : 0  
 Distance (au) : 5.548  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 25.21  
 Sun-Target sep (deg) : 66.15  
 Sun-Moon sep (deg) : 74.72  
 B (ring opening deg) : -2.15  
 PA of pole (deg) : 0.27  
 Pole direction: RA (deg): 268.05675  
 Dec (deg): 64.49731  
 C/A sky separation (") : 2.404  
 C/A sky separation (km) : 9674.8  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk



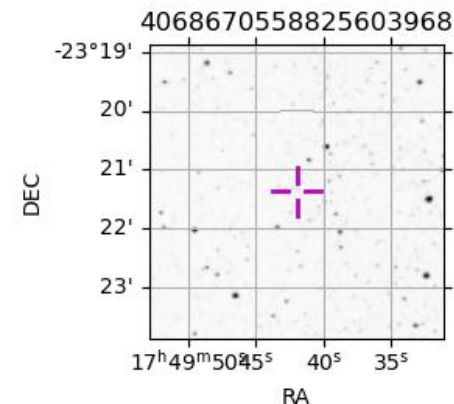
2043-10-15T13:36:29.9900 @: 17 49 41.9390 @: -23 21 22.408 C/A 2.412" PA 1.75 deg v\_sky +25.21 km/s D 05.55 AU  
 Credit: Styled after SORA/Lucky Star

Earth  
 PMO  
 KAV  
 AAT  
 MSO



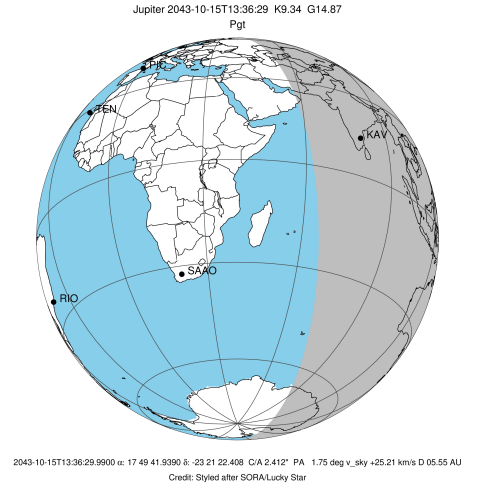
Observable events with sun below -5 deg and altitude above 5 deg

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 15 12:51 - OCT 15 14:26	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	+	OCT 15 12:53 - OCT 15 12:53	Pin
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	OCT 15 12:53 - OCT 15 12:53	Pin

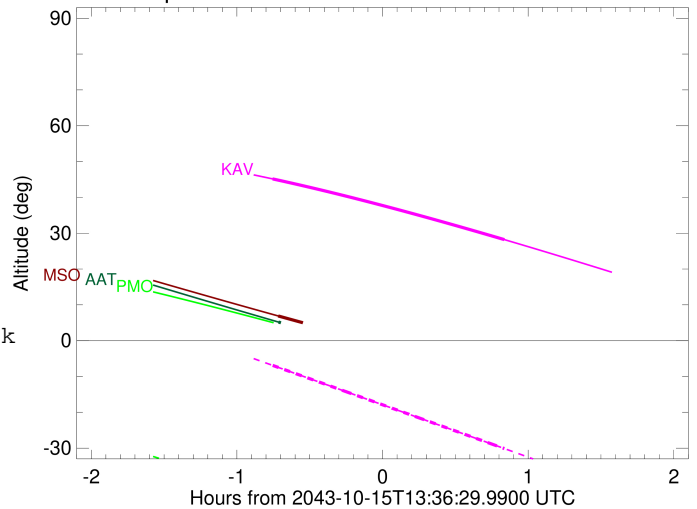


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-15T13:39:02.750
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       : 4068670558825603968
2Mass ID (if available) : 17494196-2321221
ICRS Star Coord at Epoch: 17h 49m 41.93895s -23:21:22.40790s
RUWE (>1.4 is poor) : 0.85
K magnitude           : 9.344
G magnitude           : 14.870
RP magnitude         : 13.516
BP magnitude         : 17.088
DUPflag              : 0
Distance (au)        : 5.548
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 25.21
Sun-Target sep (deg) : 66.15
Sun-Moon sep (deg)   : 75.15
B (ring opening deg) : -2.15
PA of pole (deg)     : 0.27
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation ("): 1.591
C/A sky separation (km): 6401.5
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 2043-10-15T13:36:29 K9.34 G14.87

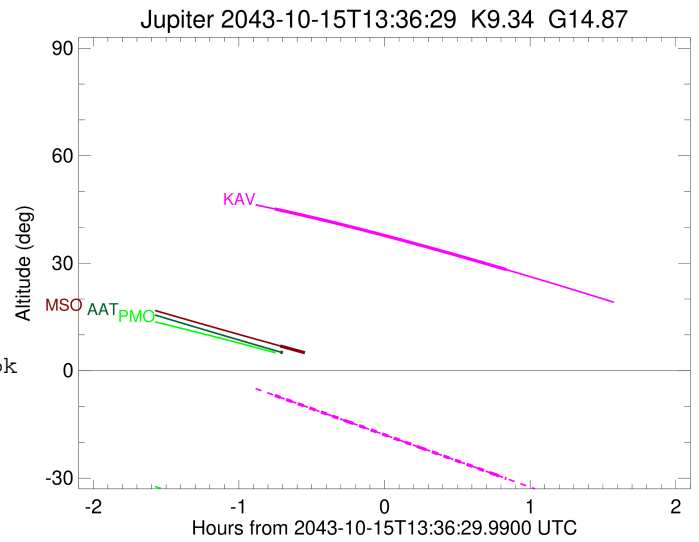
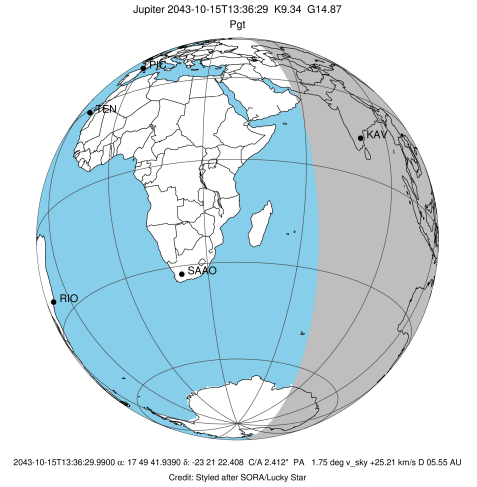


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-15T12:51:14.564	45.15	-6.90	71491.9	-6.40	-7.31
Jupiter	E	2043-10-15T14:26:42.313	28.21	-30.11	71492.0	-3.94	-4.50

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-15T13:39:54.070
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      : 4068670558825603968
2Mass ID (if available) : 17494196-2321221
ICRS Star Coord at Epoch: 17h 49m 41.93895s -23:21:22.40790s
RUWE (>1.4 is poor) : 0.85
K magnitude          : 9.344
G magnitude          : 14.870
RP magnitude         : 13.516
BP magnitude         : 17.088
DUPflag             : 0
Distance (au)       : 5.548
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 25.21
Sun-Target sep (deg) : 66.15
Sun-Moon sep (deg)  : 74.46
B (ring opening deg) : -2.15
PA of pole (deg)    : 0.27
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (" ) : 3.306
C/A sky separation (km) : 13302.8
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
    
```

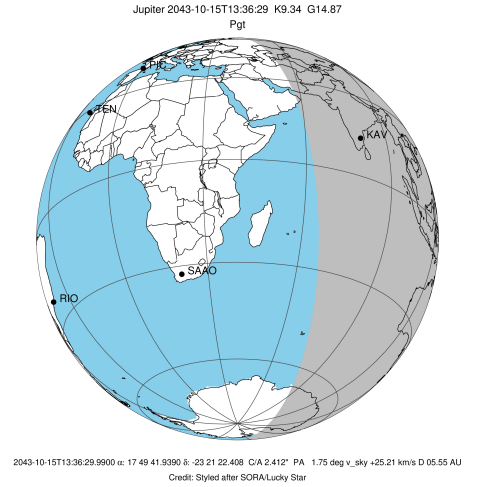


x: target alt < 5.0 deg or sun > -5.0 deg

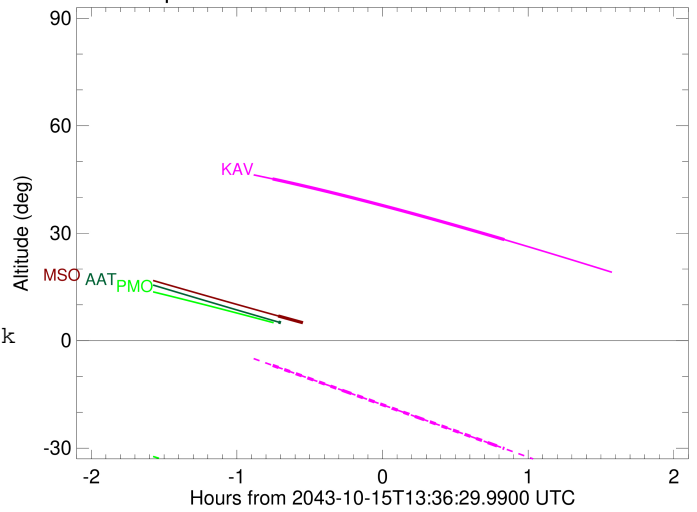
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-15T12:53:37.441	5.20	-48.11	71491.7	-11.84	-13.48
Jupiter	E	2043-10-15T14:26:00.841	-11.89x	-49.32	71491.8	-9.57	-10.91

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-15T13:39:45.380
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      : 4068670558825603968
2Mass ID (if available) : 17494196-2321221
ICRS Star Coord at Epoch: 17h 49m 41.93895s -23:21:22.40790s
RUWE (>1.4 is poor) : 0.85
K magnitude          : 9.344
G magnitude          : 14.870
RP magnitude         : 13.516
BP magnitude         : 17.088
DUPflag             : 0
Distance (au)       : 5.548
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 25.21
Sun-Target sep (deg) : 66.15
Sun-Moon sep (deg)  : 74.50
B (ring opening deg) : -2.15
PA of pole (deg)    : 0.27
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (" ) : 3.384
C/A sky separation (km) : 13615.9
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 2043-10-15T13:36:29 K9.34 G14.87



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	2043-10-15T12:53:30.596	6.90	-44.30	71491.7	-12.11	-13.78
Jupiter	E	2043-10-15T14:25:50.690	-9.38x	-45.42	71491.8	-9.81	-11.19