

target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-10-11T12:12:25.310
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4111432966805279872
 2Mass ID (if available) : 17303823-2306436

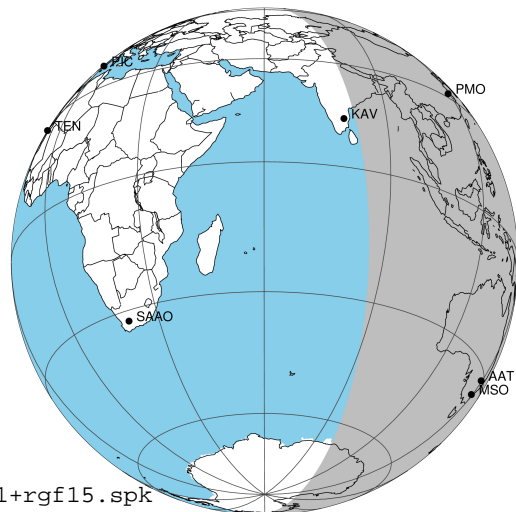
Jupiter 2031-10-11T12:12:25 K8.05 G13.60 Pgt

ICRS Star Coord at Epoch: 17h 30m 38.24572s -23:06:43.90376s

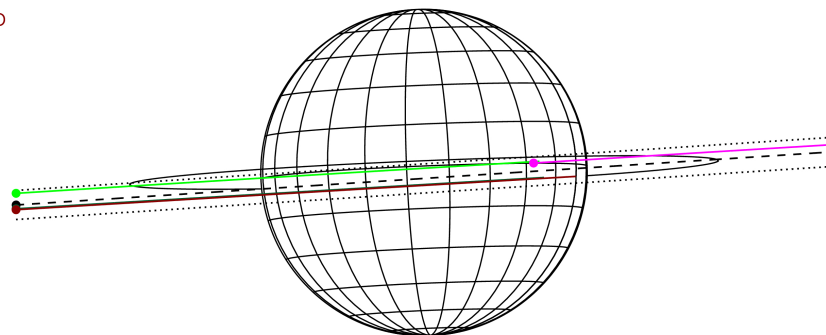
RUWE (>1.4 is poor) : 0.96
 K magnitude : 8.050
 G magnitude : 13.600
 RP magnitude : 12.220
 BP magnitude : 15.971
 DUPflag : 0
 Distance (au) : 5.570
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 25.37
 Sun-Target sep (deg) : 65.71
 Sun-Moon sep (deg) : 122.14
 B (ring opening deg) : -2.29
 PA of pole (deg) : 2.32
 Pole direction: RA (deg): 268.05682
 Dec (deg): 64.49652
 C/A sky separation (") : 0.643
 C/A sky separation (km) : 2596.6
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2031-10-11T12:12:25 K8.05 G13.60

Pgt



Earth
 PMO
 KAV
 AAT
 MSO

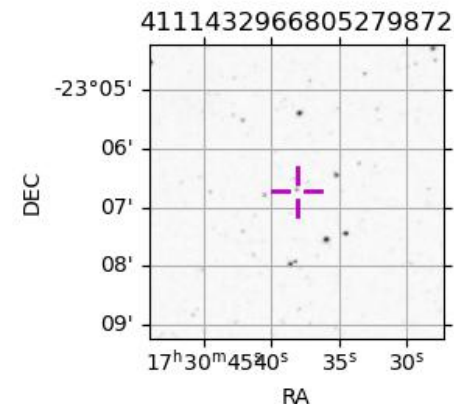


2031-10-11T12:12:25.3100 a: 17 30 38.2457 & -23 06 43.904 C/A 0.6511 PA 3.72 deg v_sky +25.37 km/s D 05.57 AU

Credit: Styled after SORA/Lucky Star

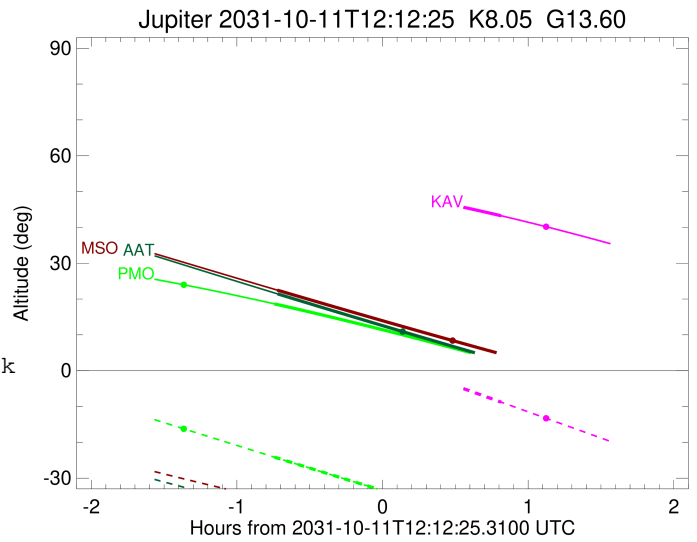
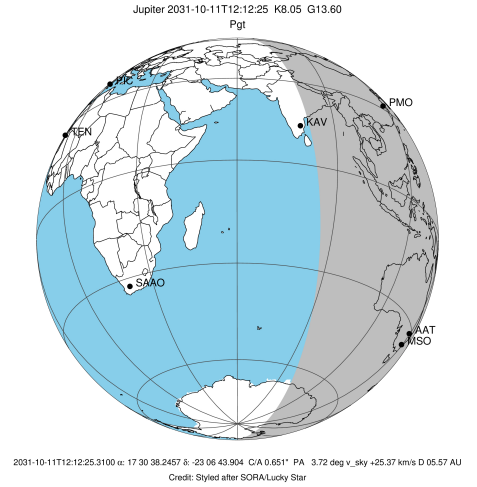
Observable events with sun below -5 deg and altitude above 5 deg

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	+	OCT 11 11:27 - OCT 11 11:27	Pin
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 13:01 - OCT 11 13:01	Pne
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 11 11:29 - OCT 11 11:29	Pin
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	OCT 11 11:29 - OCT 11 11:29	Pin



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-10-11T12:15:18.750
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       : 4111432966805279872
2Mass ID (if available) : 17303823-2306436
ICRS Star Coord at Epoch: 17h 30m 38.24572s -23:06:43.90376s
RUWE (>1.4 is poor) : 0.96
K magnitude           : 8.050
G magnitude           : 13.600
RP magnitude         : 12.220
BP magnitude         : 15.971
DUPflag              : 0
Distance (au)        : 5.570
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 25.37
Sun-Target sep (deg) : 65.71
Sun-Moon sep (deg)  : 121.92
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 (") : 0.460
C/A sky separation (km) : 1860.2
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
    
```

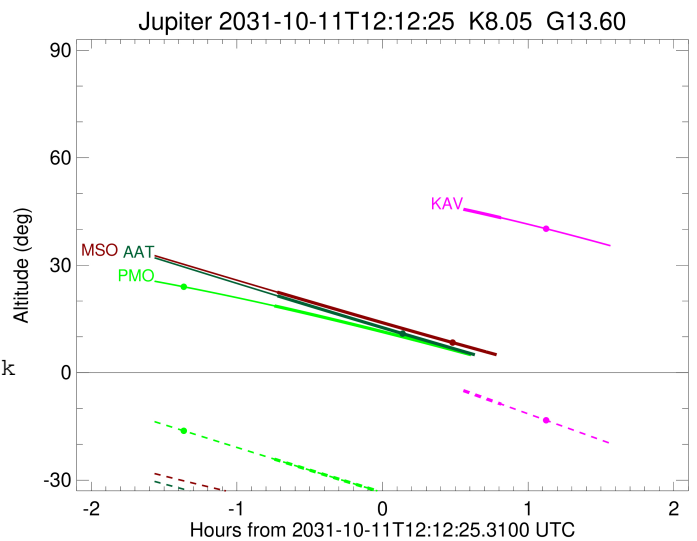
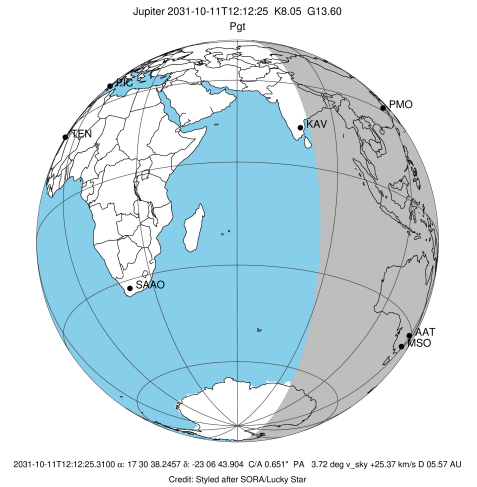


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-10-11T11:27:53.893	18.64	-24.14	71492.0	0.34	0.39
Jupiter	E	2031-10-11T13:02:34.077	2.49x	-43.55	71492.0	2.59	2.96

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-10-11T12:13:36.380
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        : 4111432966805279872
2Mass ID (if available) : 17303823-2306436
ICRS Star Coord at Epoch: 17h 30m 38.24572s -23:06:43.90376s
RUWE (>1.4 is poor) : 0.96
K magnitude           : 8.050
G magnitude           : 13.600
RP magnitude          : 12.220
BP magnitude          : 15.971
DUPflag              : 0
Distance (au)         : 5.570
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 25.37
Sun-Target sep (deg)  : 65.71
Sun-Moon sep (deg)    : 122.56
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 (") : 0.273
C/A sky separation (km) : 1103.3
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
    
```

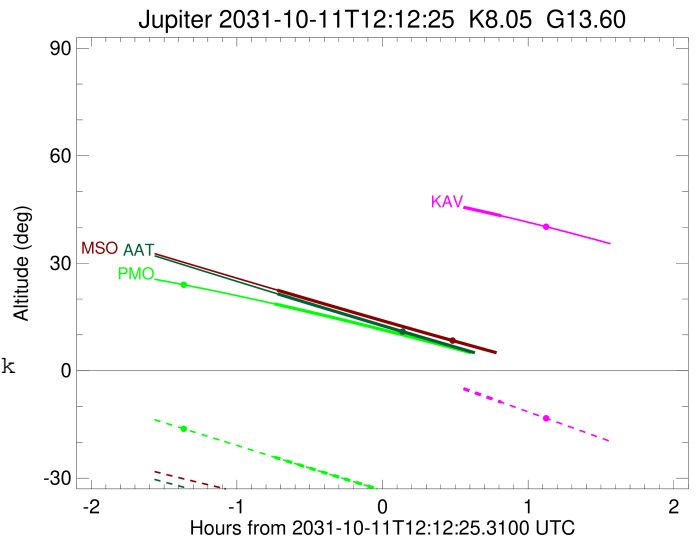
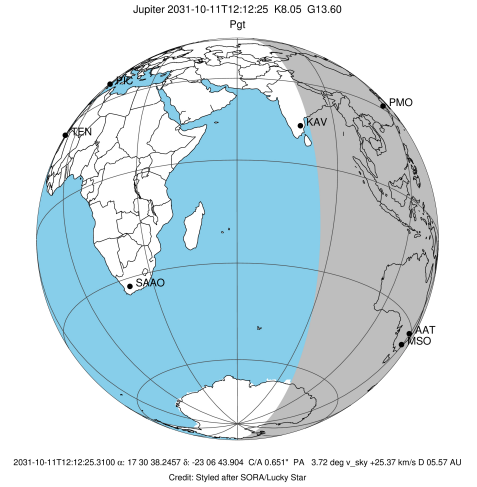


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-10-11T11:25:47.788	53.72	14.31x	71492.0	-0.48	-0.55
Jupiter	E	2031-10-11T13:01:19.916	43.24	-8.79	71492.0	2.16	2.48

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-10-11T12:16:06.040
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      : 4111432966805279872
2Mass ID (if available) : 17303823-2306436
ICRS Star Coord at Epoch: 17h 30m 38.24572s -23:06:43.90376s
RUWE (>1.4 is poor) : 0.96
K magnitude          : 8.050
G magnitude          : 13.600
RP magnitude         : 12.220
BP magnitude         : 15.971
DUPflag             : 0
Distance (au)       : 5.570
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 25.37
Sun-Target sep (deg) : 65.71
Sun-Moon sep (deg)  : 121.91
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 (" ) : 1.306
C/A sky separation (km) : 5277.6
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
    
```

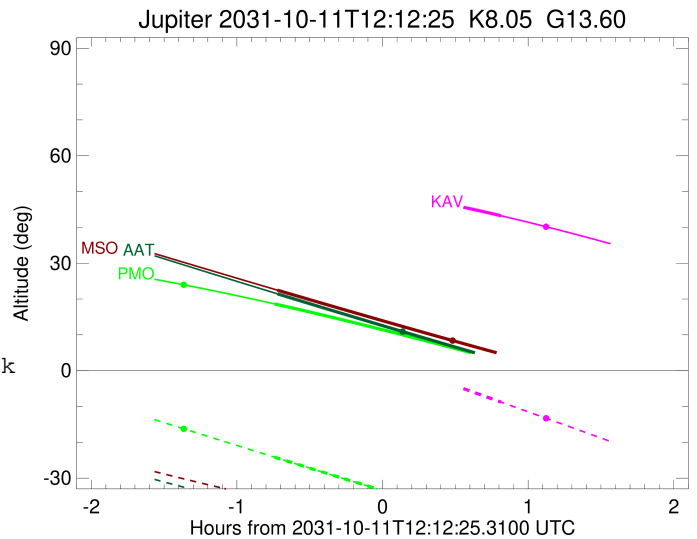
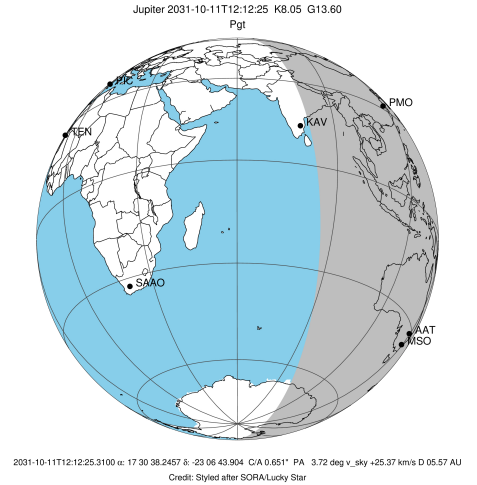


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-10-11T11:29:09.469	21.44	-39.04	71491.9	-5.28	-6.04
Jupiter	E	2031-10-11T13:02:51.958	2.58x	-50.16	71492.0	-3.19	-3.65

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-10-11T12:15:57.150
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        : 4111432966805279872
2Mass ID (if available) : 17303823-2306436
ICRS Star Coord at Epoch: 17h 30m 38.24572s -23:06:43.90376s
RUWE (>1.4 is poor)  : 0.96
K magnitude           : 8.050
G magnitude           : 13.600
RP magnitude          : 12.220
BP magnitude          : 15.971
DUPflag              : 0
Distance (au)         : 5.570
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s)  : 25.37
Sun-Target sep (deg)  : 65.71
Sun-Moon sep (deg)    : 121.95
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 (") : 1.394
C/A sky separation (km) : 5633.4
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
    
```



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	2031-10-11T11:29:01.832	22.49	-36.21	71491.9	-5.58	-6.38
Jupiter	E	2031-10-11T13:02:42.220	4.39x	-46.30	71492.0	-3.46	-3.95