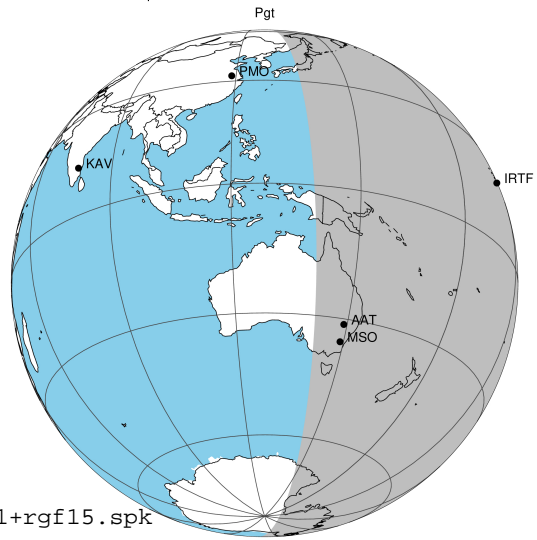


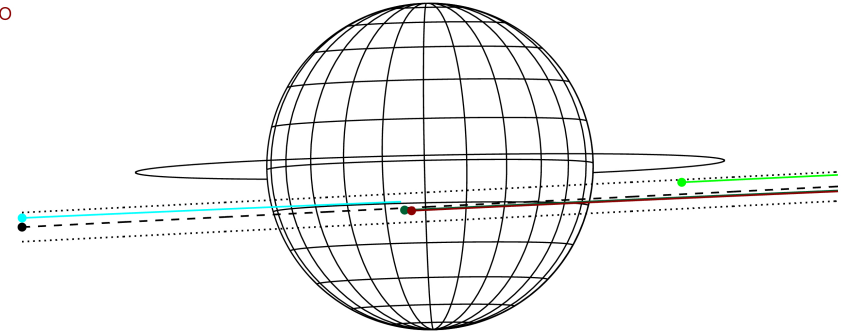
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-10-01T08:33:29.810
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116487735434041600
 2Mass ID (if available) : 17412073-2316492

Jupiter 2043-10-01T08:33:29 K9.12 G14.39 Pgt

ICRS Star Coord at Epoch: 17h 41m 20.73969s -23:16:49.49913s
 RUWE (>1.4 is poor) : 0.92
 K magnitude : 9.115
 G magnitude : 14.386
 RP magnitude : 13.087
 BP magnitude : 16.349
 DUPflag : 0
 Distance (au) : 5.341
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 19.17
 Sun-Target sep (deg) : 78.26
 Sun-Moon sep (deg) : 98.87
 B (ring opening deg) : -2.20
 PA of pole (deg) : 1.17
 Pole direction: RA (deg): 268.05674
 Dec (deg): 64.49731
 C/A sky separation (") : 4.547
 C/A sky separation (km) : 17615.1
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



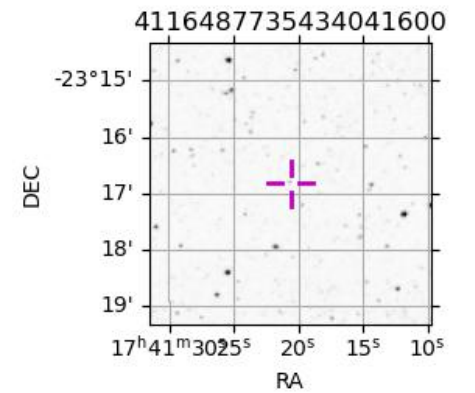
Earth
 PMO
 IRTF
 AAT
 MSO



2043-10-01T08:33:29.8100 a: 17 41 20.7397 s: -23 16 49.499 C/A 4.556" PA 2.85 deg v_sky +19.17 km/s D 05.34 AU
 Credit: Styled after SORA/Lucky Star

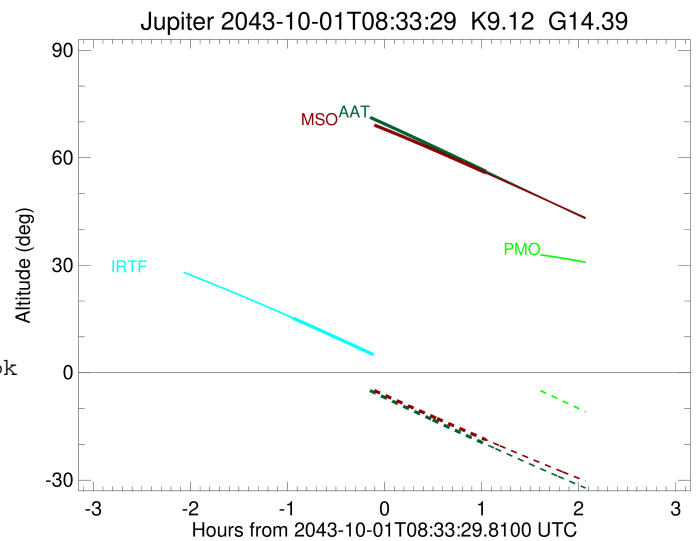
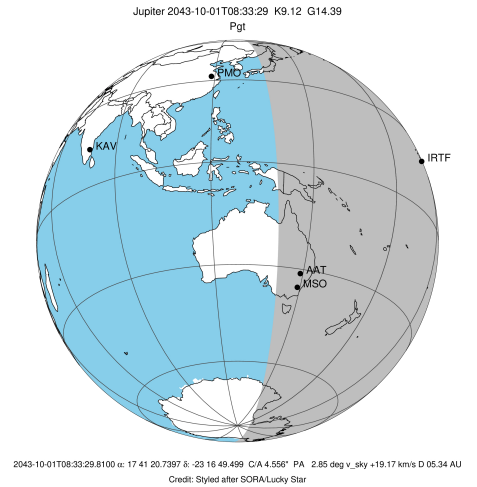
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
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	+	OCT 01 07:37 - OCT 01 07:37	Pin
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 01 09:36 - OCT 01 09:36	Pne
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	OCT 01 09:36 - OCT 01 09:36	Pne



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-01T08:38:23.550
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : IRTF
Location              : Mauna Kea/IRTF
Latitude (deg)       : 19.82622
E. Longitude (deg)   : 204.52800
Altitude (km)        : 4.168
Gaia source ID       : 4116487735434041600
2Mass ID (if available) : 17412073-2316492
ICRS Star Coord at Epoch: 17h 41m 20.73969s -23:16:49.49913s
RUWE (>1.4 is poor) : 0.92
K magnitude           : 9.115
G magnitude           : 14.386
RP magnitude         : 13.087
BP magnitude         : 16.349
DUPflag              : 0
Distance (au)        : 5.341
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 19.17
Sun-Target sep (deg) : 78.26
Sun-Moon sep (deg)   : 98.80
B (ring opening deg) : -2.20
PA of pole (deg)     : 1.17
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 3.843
C/A sky separation (km) : 14888.5
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
    
```

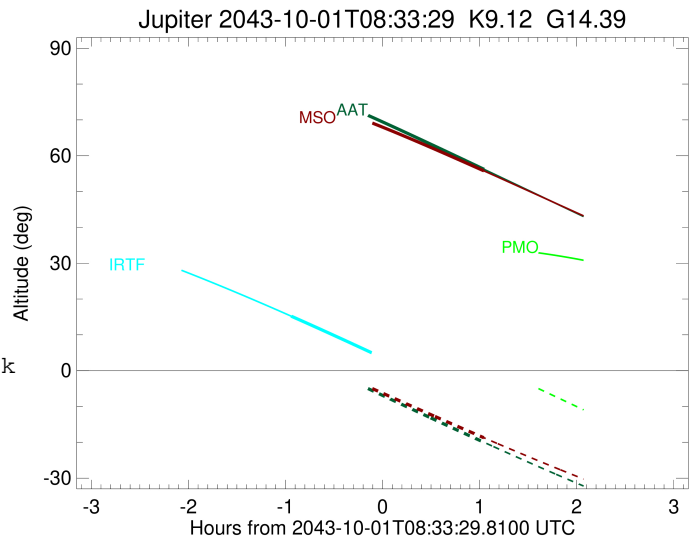
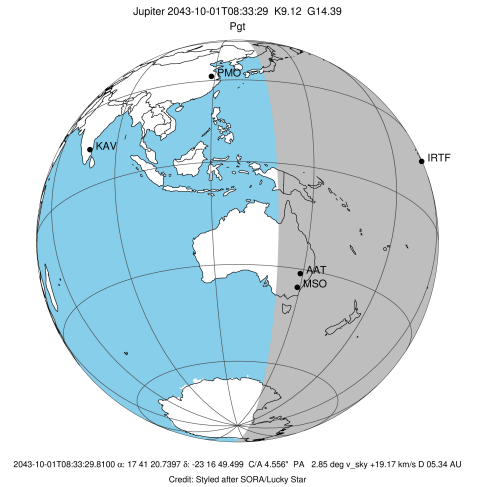


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-01T07:37:05.443	15.21	-48.87	71491.7	-13.22	-15.03
Jupiter	E	2043-10-01T09:39:15.943	-10.63x	-71.73	71491.8	-10.84	-12.35

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-01T08:35:16.040
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       : 4116487735434041600
2Mass ID (if available) : 17412073-2316492
ICRS Star Coord at Epoch: 17h 41m 20.73969s -23:16:49.49913s
RUWE (>1.4 is poor) : 0.92
K magnitude           : 9.115
G magnitude           : 14.386
RP magnitude          : 13.087
BP magnitude          : 16.349
DUPflag              : 0
Distance (au)        : 5.341
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 19.17
Sun-Target sep (deg) : 78.26
Sun-Moon sep (deg)   : 99.69
B (ring opening deg) : -2.20
PA of pole (deg)     : 1.17
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (" ) : 4.787
C/A sky separation (km) : 18543.4
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
    
```

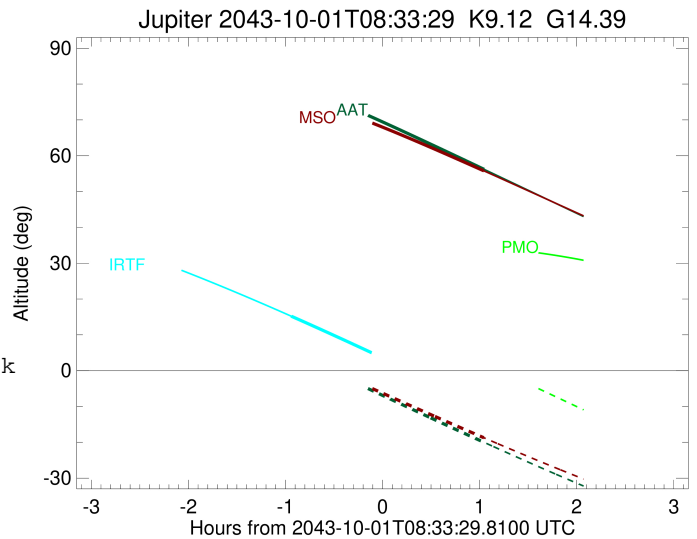
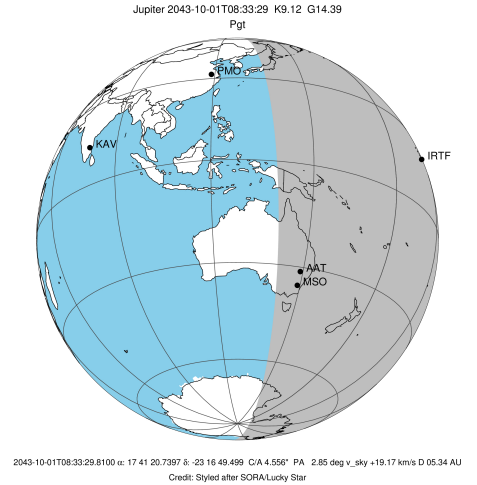


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-01T07:33:59.603	80.27	5.79x	71491.5	-16.64	-18.85
Jupiter	E	2043-10-01T09:36:21.014	56.18	-20.02	71491.6	-13.53	-15.38

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-01T08:35:12.000
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       : 4116487735434041600
2Mass ID (if available) : 17412073-2316492
ICRS Star Coord at Epoch: 17h 41m 20.73969s -23:16:49.49913s
RUWE (>1.4 is poor) : 0.92
K magnitude           : 9.115
G magnitude           : 14.386
RP magnitude          : 13.087
BP magnitude          : 16.349
DUPflag              : 0
Distance (au)        : 5.341
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 19.17
Sun-Target sep (deg) : 78.26
Sun-Moon sep (deg)   : 99.68
B (ring opening deg) : -2.20
PA of pole (deg)     : 1.17
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 4.900
C/A sky separation (km) : 18980.9
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	2043-10-01T07:34:05.268	76.88	5.82x	71491.4	-17.01	-19.26
Jupiter	E	2043-10-01T09:36:07.703	55.78	-18.72	71491.6	-13.89	-15.78