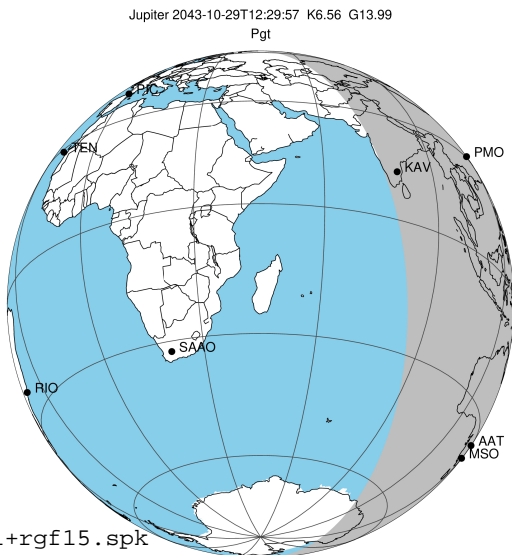


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-10-29T12:29:57.770
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4069140771748932096
 2Mass ID (if available) : 17593877-2324040

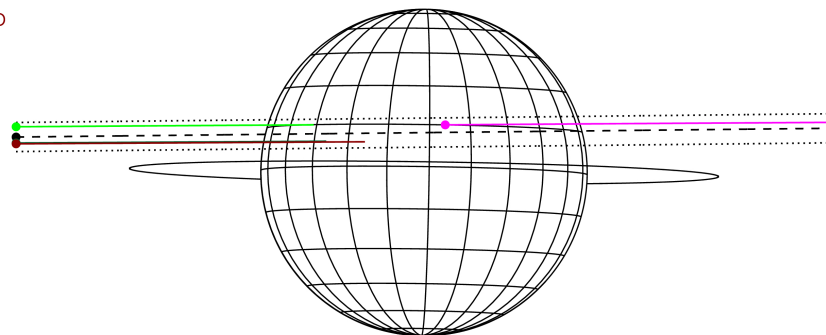
Jupiter 2043-10-29T12:29:57 K6.56 G13.99 Pgt

ICRS Star Coord at Epoch: 17h 59m 38.76378s -23:24:04.12761s
 RUWE (>1.4 is poor) : 0.98
 K magnitude : 6.561
 G magnitude : 13.992
 RP magnitude : 12.464
 BP magnitude : 17.280
 DUPflag : 0
 Distance (au) : 5.733
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 30.51
 Sun-Target sep (deg) : 54.55
 Sun-Moon sep (deg) : 91.58
 B (ring opening deg) : -2.09
 PA of pole (deg) : -0.80
 Pole direction: RA (deg): 268.05676
 Dec (deg): 64.49731
 C/A sky separation (") : 4.198
 C/A sky separation (km) : 17457.8
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLv1.spk
 naif0012.tls
 nep097.bsp
 nep101.bsp
 sat4401.bsp



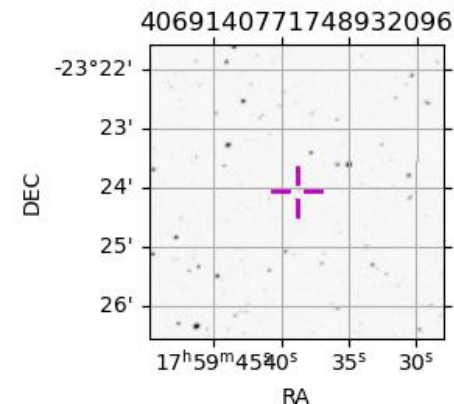
2043-10-29T12:29:57.7700 ex: 17 59 38.7638 s: -23 24 04.128 C/A 4.191" PA 180.62 deg v_sky +30.51 km/s D 05.73 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PMO
 KAV
 AAT
 MSO



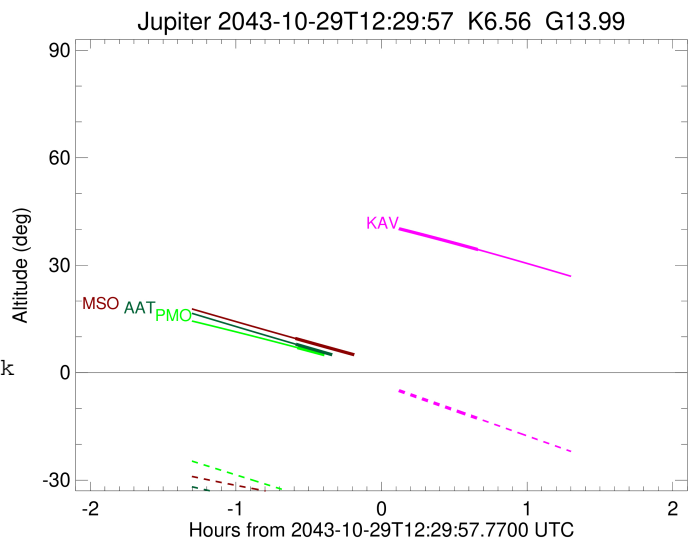
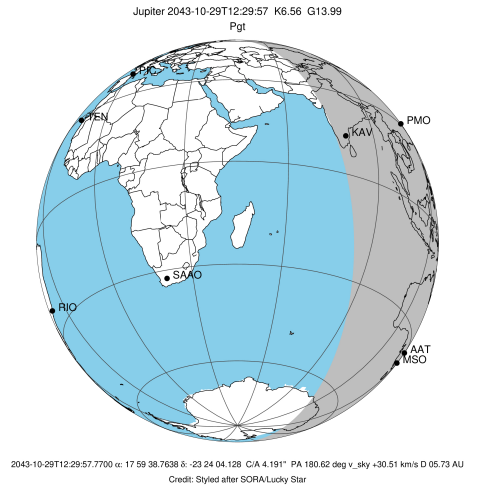
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	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 29 11:55 - OCT 29 11:55	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 29 13:09 - OCT 29 13:09	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 29 11:54 - OCT 29 11:54	Pin
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	OCT 29 11:54 - OCT 29 11:54	Pin



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-29T12:32:51.110
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       : 4069140771748932096
2Mass ID (if available) : 17593877-2324040
ICRS Star Coord at Epoch: 17h 59m 38.76378s -23:24:04.12761s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 6.561
G magnitude           : 13.992
RP magnitude          : 12.464
BP magnitude          : 17.280
DUPflag              : 0
Distance (au)        : 5.733
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 30.51
Sun-Target sep (deg) : 54.55
Sun-Moon sep (deg)   : 91.56
B (ring opening deg) : -2.09
PA of pole (deg)     : -0.80
Pole direction: RA (deg): 268.05676
Dec (deg): 64.49731
C/A sky separation (") : 5.090
C/A sky separation (km) : 21164.2
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
    
```

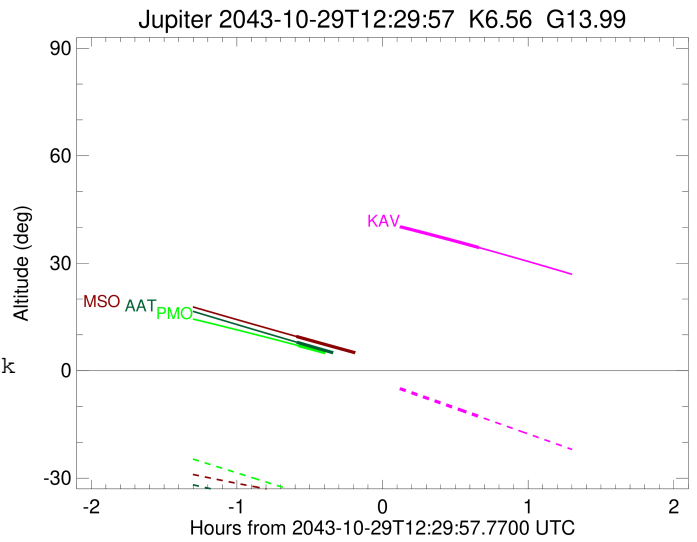
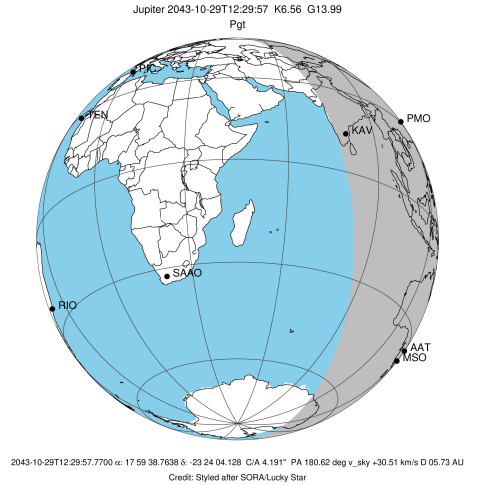


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-29T11:55:22.249	6.98	-33.92	71491.5	16.07	18.22
Jupiter	E	2043-10-29T13:10:14.525	-7.06x	-49.49	71491.4	18.33	20.73

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-29T12:31:53.420
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       : 4069140771748932096
2Mass ID (if available) : 17593877-2324040
ICRS Star Coord at Epoch: 17h 59m 38.76378s -23:24:04.12761s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 6.561
G magnitude           : 13.992
RP magnitude         : 12.464
BP magnitude         : 17.280
DUPflag              : 0
Distance (au)        : 5.733
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 30.51
Sun-Target sep (deg) : 54.55
Sun-Moon sep (deg)   : 92.17
B (ring opening deg) : -2.09
PA of pole (deg)     : -0.80
Pole direction: RA (deg): 268.05676
Dec (deg): 64.49731
C/A sky separation (") : 5.001
C/A sky separation (km) : 20796.1
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
    
```

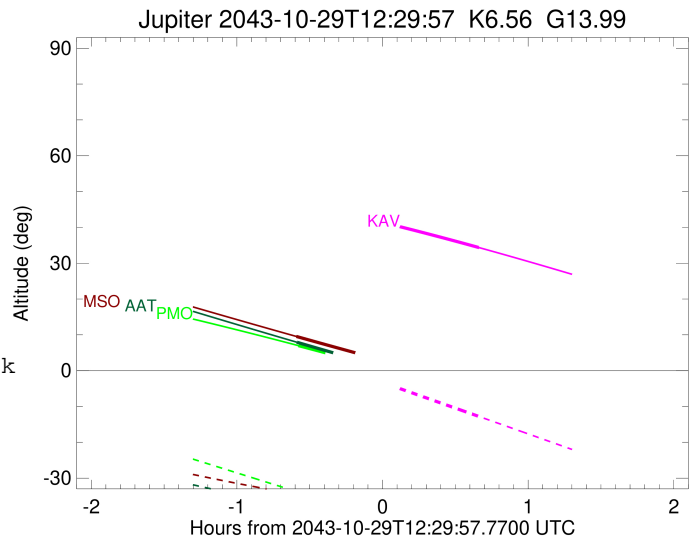
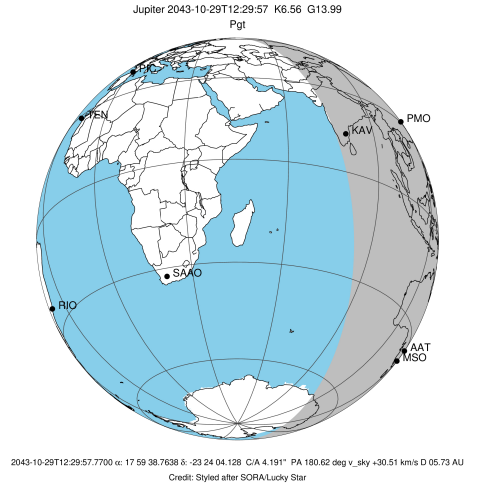


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-29T11:54:01.338	46.83	5.21x	71491.6	15.65	17.75
Jupiter	E	2043-10-29T13:09:41.485	34.36	-12.78	71491.4	18.10	20.48

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-29T12:32:53.950
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      : 4069140771748932096
2Mass ID (if available) : 17593877-2324040
ICRS Star Coord at Epoch: 17h 59m 38.76378s -23:24:04.12761s
RUWE (>1.4 is poor) : 0.98
K magnitude          : 6.561
G magnitude          : 13.992
RP magnitude         : 12.464
BP magnitude         : 17.280
DUPflag             : 0
Distance (au)       : 5.733
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 30.51
Sun-Target sep (deg) : 54.55
Sun-Moon sep (deg)  : 91.57
B (ring opening deg) : -2.09
PA of pole (deg)    : -0.80
Pole direction: RA (deg): 268.05676
Dec (deg): 64.49731
C/A sky separation (" ) : 3.349
C/A sky separation (km) : 13926.6
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
    
```

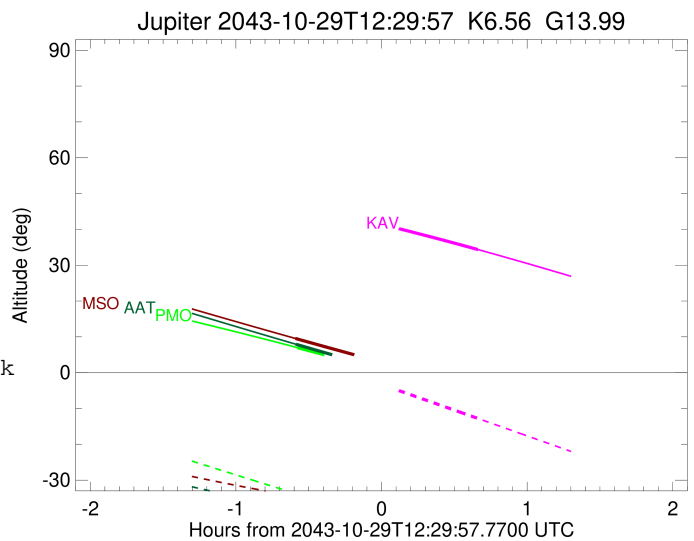
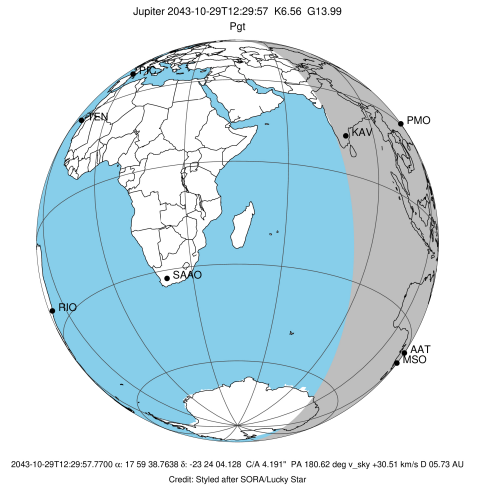


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-29T11:54:40.258	7.94	-37.83	71491.8	10.10	11.51
Jupiter	E	2043-10-29T13:11:01.974	-6.59x	-44.53	71491.7	12.36	14.06

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-29T12:32:46.110
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       : 4069140771748932096
2Mass ID (if available) : 17593877-2324040
ICRS Star Coord at Epoch: 17h 59m 38.76378s -23:24:04.12761s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 6.561
G magnitude           : 13.992
RP magnitude          : 12.464
BP magnitude          : 17.280
DUPflag              : 0
Distance (au)        : 5.733
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 30.51
Sun-Target sep (deg) : 54.55
Sun-Moon sep (deg)   : 91.60
B (ring opening deg) : -2.09
PA of pole (deg)     : -0.80
Pole direction: RA (deg): 268.05676
Dec (deg): 64.49731
C/A sky separation ("): 3.273
C/A sky separation (km): 13609.0
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	2043-10-29T11:54:30.096	9.55	-34.47	71491.8	9.83	11.20
Jupiter	E	2043-10-29T13:10:56.652	-4.36x	-40.57	71491.7	12.11	13.78