

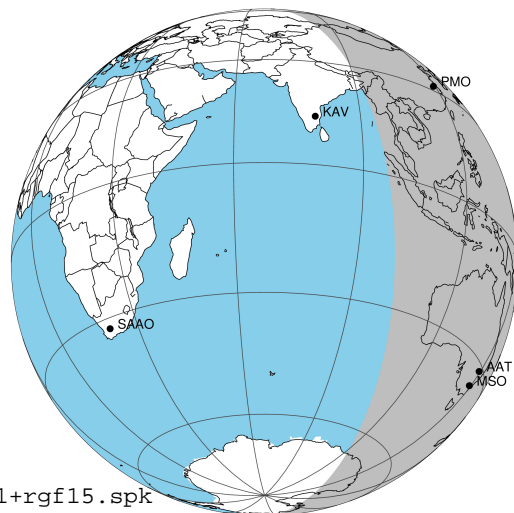
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-10-19T11:18:57.430
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116635168633677312
 2Mass ID (if available) : 17360712-2311046

Jupiter 2031-10-19T11:18:57 K8.76 G12.21 Pgt

ICRS Star Coord at Epoch: 17h 36m 07.12486s -23:11:04.51328s

RUWE (>1.4 is poor) : 0.81
 K magnitude : 8.758
 G magnitude : 12.207
 RP magnitude : 11.215
 BP magnitude : 13.214
 DUPflag : 0
 Distance (au) : 5.678
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 28.48
 Sun-Target sep (deg) : 59.08
 Sun-Moon sep (deg) : 19.56
 B (ring opening deg) : -2.26
 PA of pole (deg) : 1.73
 Pole direction: RA (deg): 268.05681
 Dec (deg): 64.49652
 C/A sky separation (") : 7.496
 C/A sky separation (km) : 30868.5
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

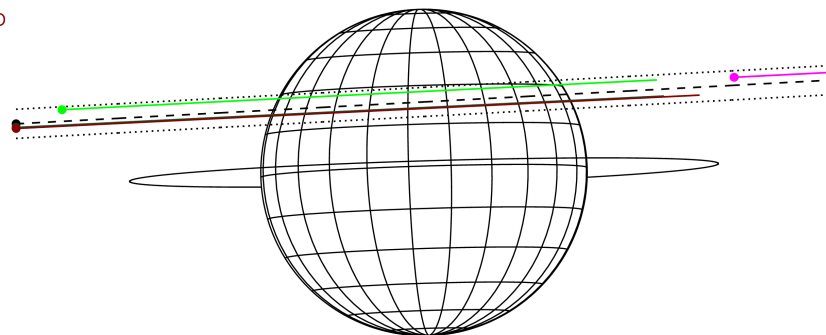
Jupiter 2031-10-19T11:18:57 K8.76 G12.21
 Pgt



2031-10-19T11:18:57.4300 cc: 17 36 07.1249 s: -23 11 04.513 C/A 7.4877 PA 183.07 deg v_sky +28.48 km/s D 05.68 AU

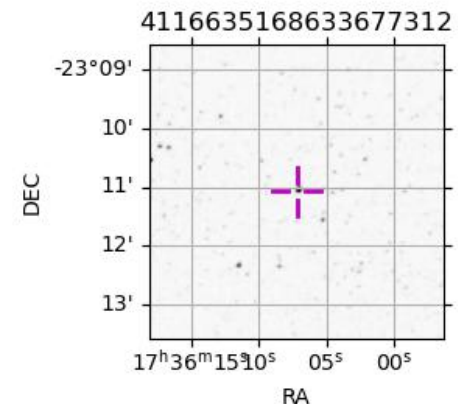
Credit: Styled after SORA/Lucky Star

Earth
 PMO
 KAV
 AAT
 MSO



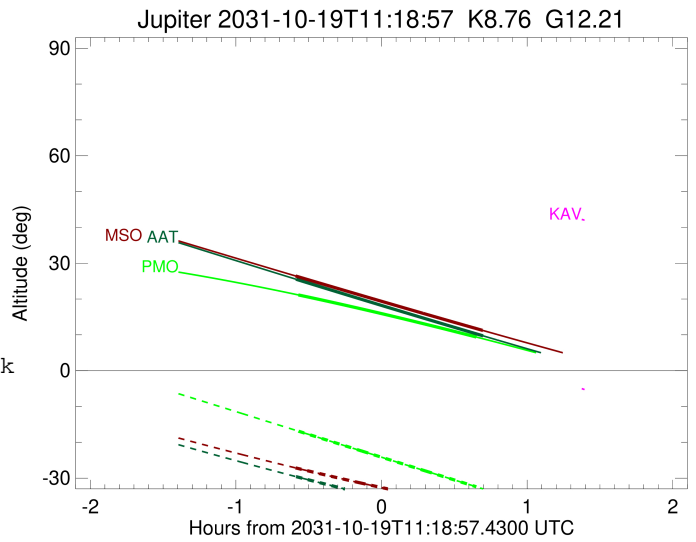
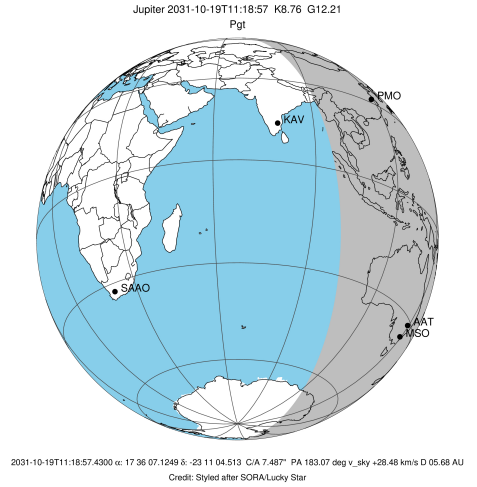
Observable events with sun below -5 deg and altitude above 5 deg

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 19 10:44 - OCT 19 11:58	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 19 10:43 - OCT 19 12:00	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	OCT 19 10:43 - OCT 19 12:00	Pie



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-10-19T11:21:24.920
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      : 4116635168633677312
2Mass ID (if available) : 17360712-2311046
ICRS Star Coord at Epoch: 17h 36m 07.12486s -23:11:04.51328s
RUWE (>1.4 is poor) : 0.81
K magnitude          : 8.758
G magnitude          : 12.207
RP magnitude         : 11.215
BP magnitude         : 13.214
DUPflag             : 0
Distance (au)       : 5.678
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 28.48
Sun-Target sep (deg) : 59.08
Sun-Moon sep (deg)  : 20.21
B (ring opening deg) : -2.26
PA of pole (deg)    : 1.73
Pole direction: RA (deg): 268.05681
Dec (deg): 64.49652
C/A sky separation (" ) : 8.614
C/A sky separation (km) : 35473.2
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
    
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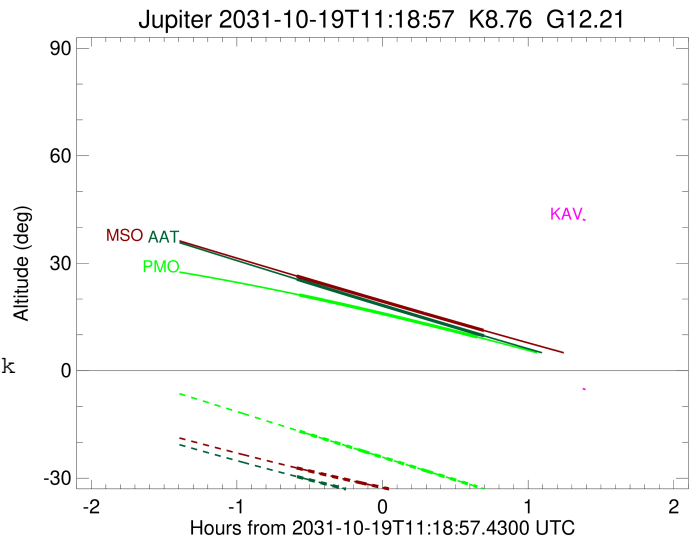
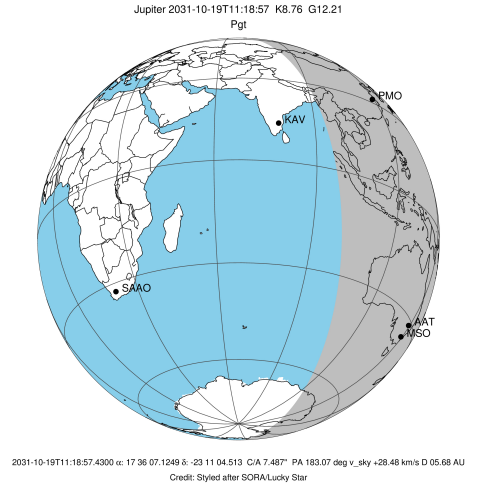


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-10-19T10:44:43.891	21.13	-16.89	71490.4	28.59	31.88
Jupiter	E	2031-10-19T11:58:01.187	9.39	-32.40	71490.2	30.82	34.23

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-10-19T11:22:17.540
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        : 4116635168633677312
2Mass ID (if available) : 17360712-2311046
ICRS Star Coord at Epoch: 17h 36m 07.12486s -23:11:04.51328s
RUWE (>1.4 is poor) : 0.81
K magnitude           : 8.758
G magnitude           : 12.207
RP magnitude          : 11.215
BP magnitude          : 13.214
DUPflag              : 0
Distance (au)         : 5.678
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 28.48
Sun-Target sep (deg)  : 59.08
Sun-Moon sep (deg)    : 20.49
B (ring opening deg) : -2.26
PA of pole (deg)      : 1.73
Pole direction: RA (deg): 268.05681
Dec (deg): 64.49652
C/A sky separation (") : 6.892
C/A sky separation (km) : 28384.3
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
    
```

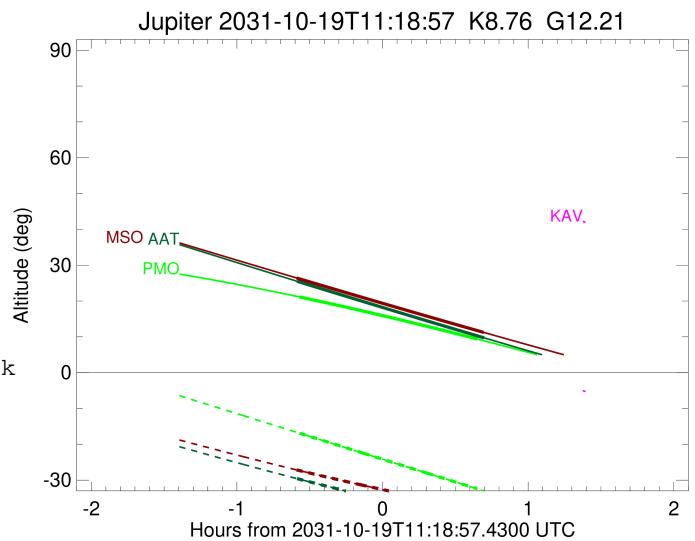
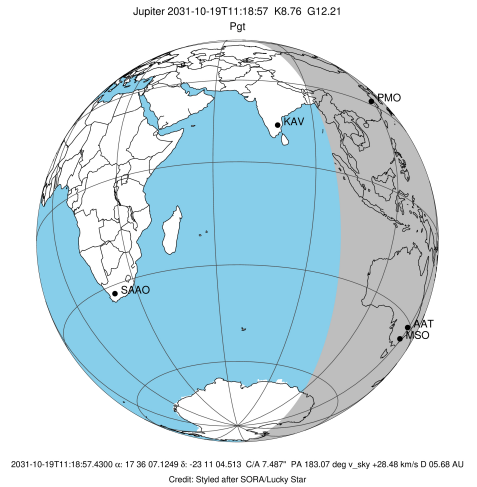


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-10-19T10:43:45.857	25.51	-29.58	71491.0	22.34	25.14
Jupiter	E	2031-10-19T12:00:42.846	9.74	-41.42	71490.8	24.39	27.37

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-10-19T11:22:09.240
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        : 4116635168633677312
2Mass ID (if available) : 17360712-2311046
ICRS Star Coord at Epoch: 17h 36m 07.12486s -23:11:04.51328s
RUWE (>1.4 is poor) : 0.81
K magnitude           : 8.758
G magnitude           : 12.207
RP magnitude          : 11.215
BP magnitude          : 13.214
DUPflag              : 0
Distance (au)         : 5.678
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 28.48
Sun-Target sep (deg) : 59.08
Sun-Moon sep (deg)   : 20.47
B (ring opening deg) : -2.26
PA of pole (deg)     : 1.73
Pole direction: RA (deg): 268.05681
Dec (deg): 64.49652
C/A sky separation (") : 6.804
C/A sky separation (km) : 28019.4
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	2031-10-19T10:43:32.311	26.43	-27.13	71491.0	22.01	24.77
Jupiter	E	2031-10-19T12:00:40.006	11.24	-38.10	71490.8	24.09	27.04