

target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-03-10T22:59:10.440
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068858227318253184
 2Mass ID (if available) : 17452475-2251260

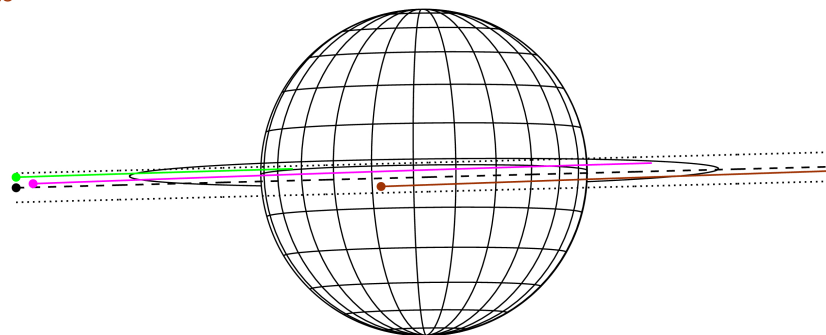
Jupiter 2031-03-10T22:59:10 K8.44 G12.63 Pgt

ICRS Star Coord at Epoch: 17h 45m 24.75197s -22:51:26.07570s
 RUWE (>1.4 is poor) : 0.77
 K magnitude : 8.440
 G magnitude : 12.630
 RP magnitude : 11.506
 BP magnitude : 13.943
 DUPflag : 0
 Distance (au) : 5.339
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 16.72
 Sun-Target sep (deg) : 83.10
 Sun-Moon sep (deg) : 75.22
 B (ring opening deg) : -2.64
 PA of pole (deg) : 0.73
 Pole direction: RA (deg): 268.05700
 Dec (deg): 64.49651
 C/A sky separation (") : 0.535
 C/A sky separation (km) : 2072.6
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLv1.spk
 naif0012.tls
 nep097.bsp
 nep101.bsp
 sat4401.bsp



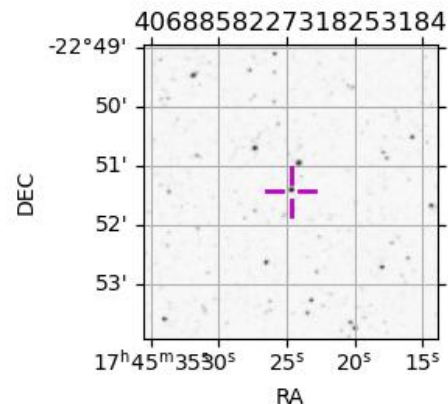
2031-03-10T22:59:10.4400 @: 17 45 24.7520 @: -22 51 26.076 C/A 0.546" PA 1.48 deg v_sky +16.72 km/s D 05.34 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PMO
 KAV
 SAAO



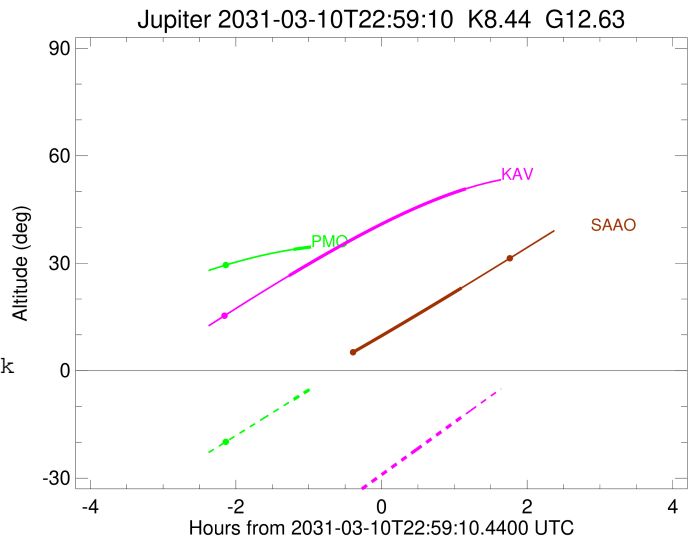
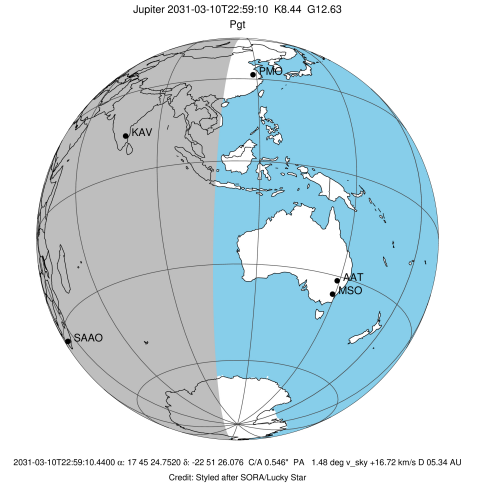
Observable events with sun below -5 deg and altitude above 5 deg

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	+	MAR 10 21:46 - MAR 10 21:46	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	+ +	MAR 10 21:42 - MAR 11 00:08	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			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+	MAR 11 00:05 - MAR 11 00:05	Pne
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-03-10T22:59:33.440
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       : 4068858227318253184
2Mass ID (if available) : 17452475-2251260
ICRS Star Coord at Epoch: 17h 45m 24.75197s -22:51:26.07570s
RUWE (>1.4 is poor) : 0.77
K magnitude           : 8.440
G magnitude           : 12.630
RP magnitude         : 11.506
BP magnitude         : 13.943
DUPflag              : 0
Distance (au)        : 5.339
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 16.72
Sun-Target sep (deg) : 83.10
Sun-Moon sep (deg)  : 75.78
B (ring opening deg) : -2.64
PA of pole (deg)    : 0.73
Pole direction: RA (deg): 268.05700
Dec (deg): 64.49651
C/A sky separation (" ) : 0.809
C/A sky separation (km) : 3133.2
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
    
```

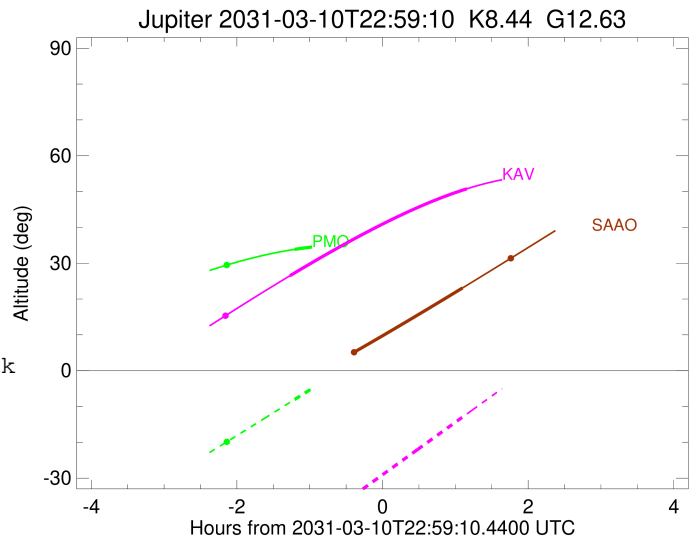
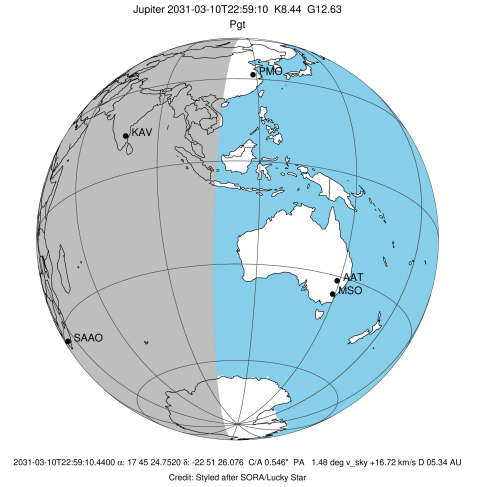


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-03-10T21:46:41.914	33.86	-8.05	71492.0	1.70	1.94
Jupiter	E	2031-03-11T00:12:29.030	30.77	22.34x	71492.0	3.15	3.60

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-03-10T22:55:28.340
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       : 4068858227318253184
2Mass ID (if available) : 17452475-2251260
ICRS Star Coord at Epoch: 17h 45m 24.75197s -22:51:26.07570s
RUWE (>1.4 is poor) : 0.77
K magnitude           : 8.440
G magnitude           : 12.630
RP magnitude         : 11.506
BP magnitude         : 13.943
DUPflag              : 0
Distance (au)        : 5.339
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 16.72
Sun-Target sep (deg) : 83.10
Sun-Moon sep (deg)  : 75.71
B (ring opening deg) : -2.64
PA of pole (deg)    : 0.73
Pole direction: RA (deg): 268.05700
Dec (deg): 64.49651
C/A sky separation (") : 0.279
C/A sky separation (km) : 1081.3
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
    
```

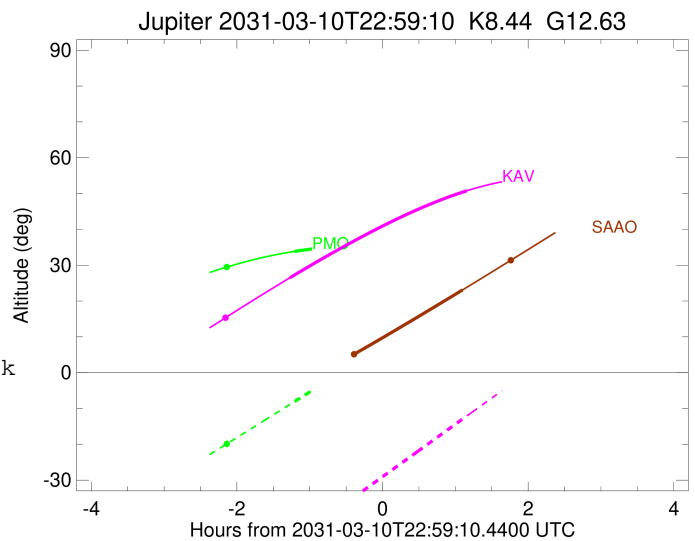
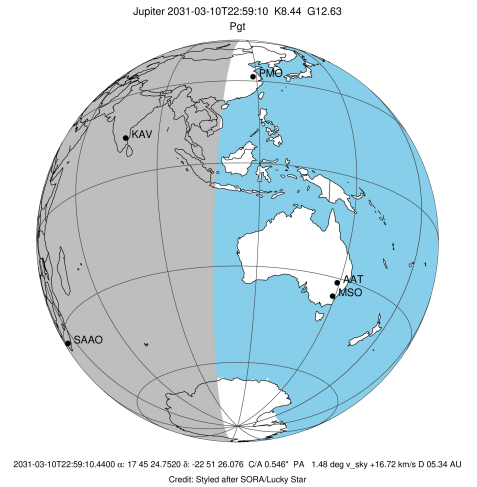


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-03-10T21:42:53.469	26.49	-47.61	71492.0	-0.34	-0.39
Jupiter	E	2031-03-11T00:08:32.755	50.75	-12.13	71492.0	1.92	2.19

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-03-10T22:53:56.150
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : SAAO
Location              : So. Afr. Astro. Obs. (Sutherland)
Latitude (deg)        : -32.37953
E. Longitude (deg)    : 20.81070
Altitude (km)         : 1.768
Gaia source ID        : 4068858227318253184
2Mass ID (if available) : 17452475-2251260
ICRS Star Coord at Epoch: 17h 45m 24.75197s -22:51:26.07570s
RUWE (>1.4 is poor) : 0.77
K magnitude           : 8.440
G magnitude           : 12.630
RP magnitude          : 11.506
BP magnitude          : 13.943
DUPflag              : 0
Distance (au)         : 5.339
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 16.72
Sun-Target sep (deg)  : 83.10
Sun-Moon sep (deg)    : 75.17
B (ring opening deg) : -2.64
PA of pole (deg)      : 0.73
Pole direction: RA (deg): 268.05700
Dec (deg): 64.49651
C/A sky separation (") : 1.413
C/A sky separation (km) : 5473.2
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	2031-03-10T21:43:19.225	-4.73x	-50.85	71491.9	-5.63	-6.43
Jupiter	E	2031-03-11T00:05:09.974	23.10	-49.42	71492.0	-3.12	-3.57