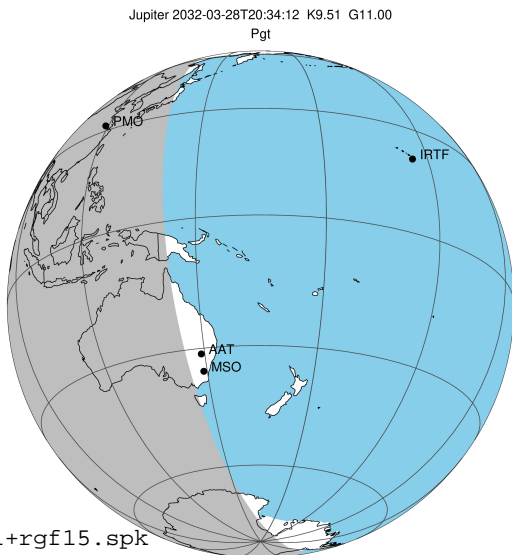


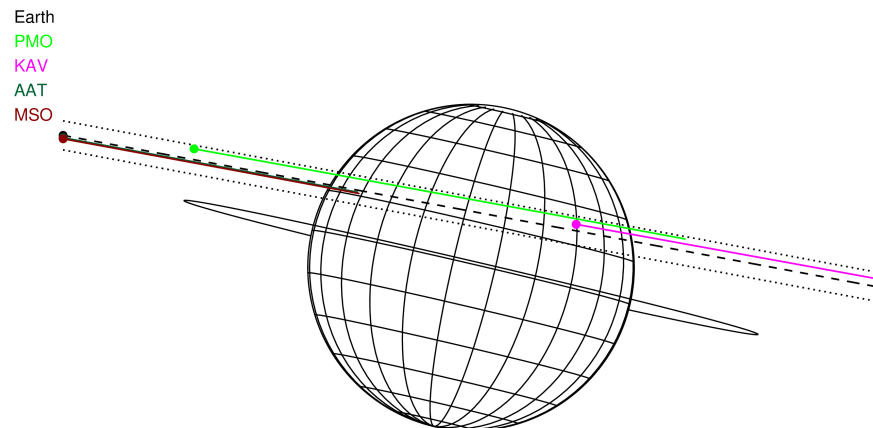
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2032-03-28T20:34:12.880
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 6866109958350345088
 2Mass ID (if available) : 19592653-2045132

Jupiter 2032-03-28T20:34:12 K9.51 G11.00 Pgt

ICRS Star Coord at Epoch: 19h 59m 26.52677s -20°45'13.15496s
 RUWE (>1.4 is poor) : 4.16
 K magnitude : 9.509
 G magnitude : 11.001
 RP magnitude : 10.480
 BP magnitude : 11.331
 DUPflag : 0
 Distance (au) : 5.425
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 23.42
 Sun-Target sep (deg) : 70.52
 Sun-Moon sep (deg) : 88.35
 B (ring opening deg) : -1.28
 PA of pole (deg) : -13.12
 Pole direction: RA (deg): 268.05669
 Dec (deg): 64.49654
 C/A sky separation (") : 6.157
 C/A sky separation (km) : 24221.8
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

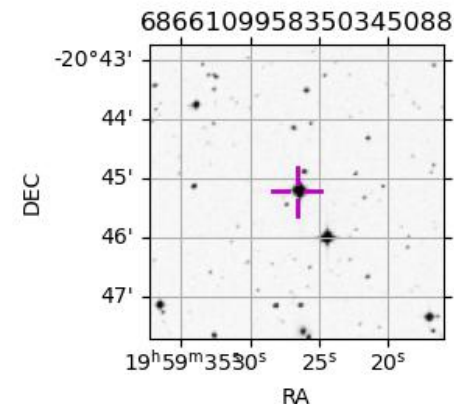


2032-03-28T20:34:12.8800 ex: -20 45 13.155 C/A 6.150° PA 169.46 deg v_sky +23.42 km/s D 05.42 AU
 Credit: Styled after SORA/Lucky Star



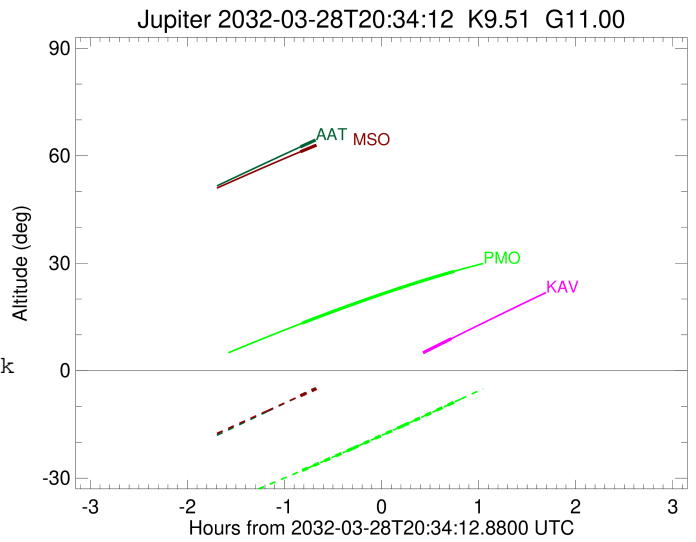
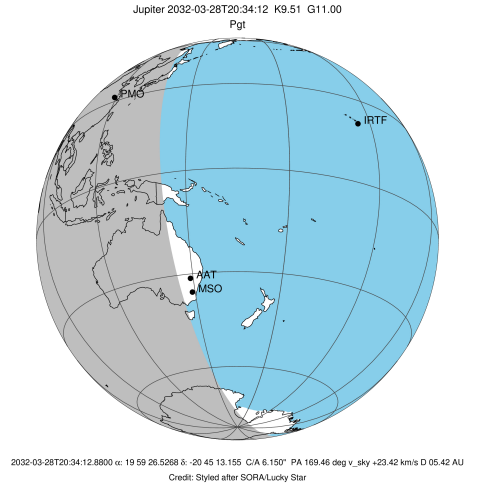
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	MAR 28 19:45 -	MAR 28 21:19	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	+	MAR 28 21:17 -	MAR 28 21:17	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	+	MAR 28 19:44 -	MAR 28 19:44	Pin
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8				Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	MAR 28 19:44 -	MAR 28 19:44	Pin



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2032-03-28T20:32:00.410
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      : 6866109958350345088
2Mass ID (if available) : 19592653-2045132
ICRS Star Coord at Epoch: 19h 59m 26.52677s -20:45:13.15496s
RUWE (>1.4 is poor) : 4.16
K magnitude          : 9.509
G magnitude          : 11.001
RP magnitude         : 10.480
BP magnitude         : 11.331
DUPflag             : 0
Distance (au)       : 5.425
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 23.42
Sun-Target sep (deg) : 70.52
Sun-Moon sep (deg)   : 88.68
B (ring opening deg) : -1.28
PA of pole (deg)     : -13.12
Pole direction: RA (deg): 268.05669
Dec (deg): 64.49654
C/A sky separation ("): 7.456
C/A sky separation (km): 29335.3
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
    
```

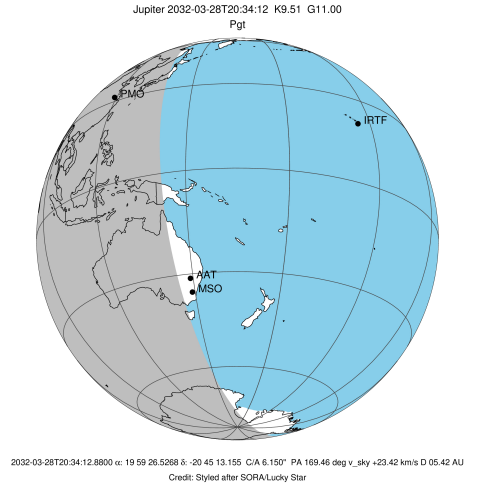


x: target alt < 5.0 deg or sun > -5.0 deg

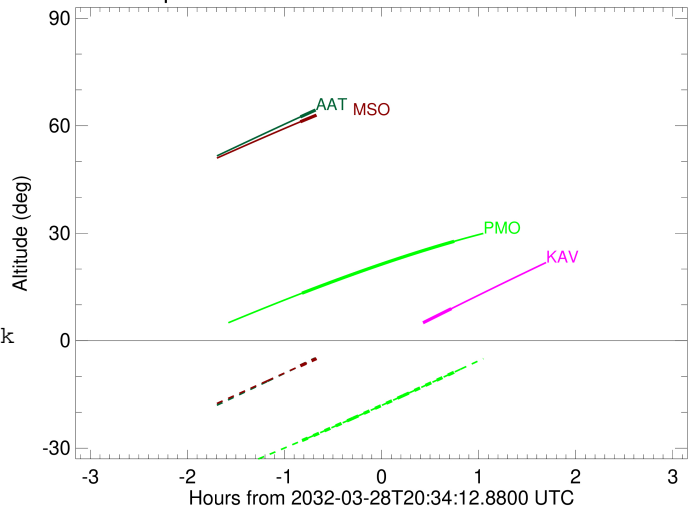
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-03-28T19:45:06.482	13.25	-27.88	71491.7	21.48	24.20
Jupiter	E	2032-03-28T21:19:02.850	27.71	-8.81	71491.5	26.88	30.05

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2032-03-28T20:29:55.590
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      : 6866109958350345088
2Mass ID (if available) : 19592653-2045132
ICRS Star Coord at Epoch: 19h 59m 26.52677s -20:45:13.15496s
RUWE (>1.4 is poor) : 4.16
K magnitude          : 9.509
G magnitude          : 11.001
RP magnitude         : 10.480
BP magnitude         : 11.331
DUPflag             : 0
Distance (au)       : 5.425
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 23.42
Sun-Target sep (deg) : 70.52
Sun-Moon sep (deg)  : 88.31
B (ring opening deg) : -1.28
PA of pole (deg)    : -13.12
Pole direction: RA (deg): 268.05669
Dec (deg): 64.49654
C/A sky separation (") : 6.800
C/A sky separation (km) : 26751.4
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
    
```



Jupiter 2032-03-28T20:34:12 K9.51 G11.00

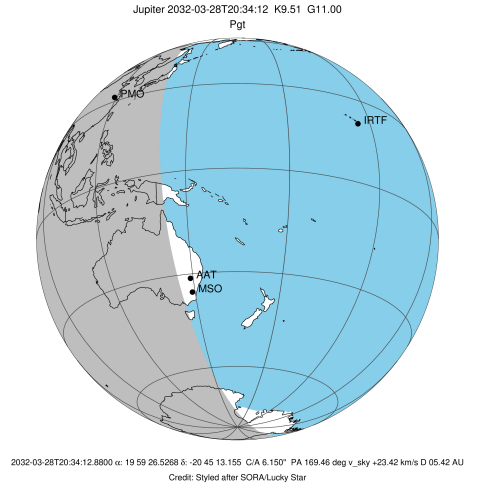


x: target alt < 5.0 deg or sun > -5.0 deg

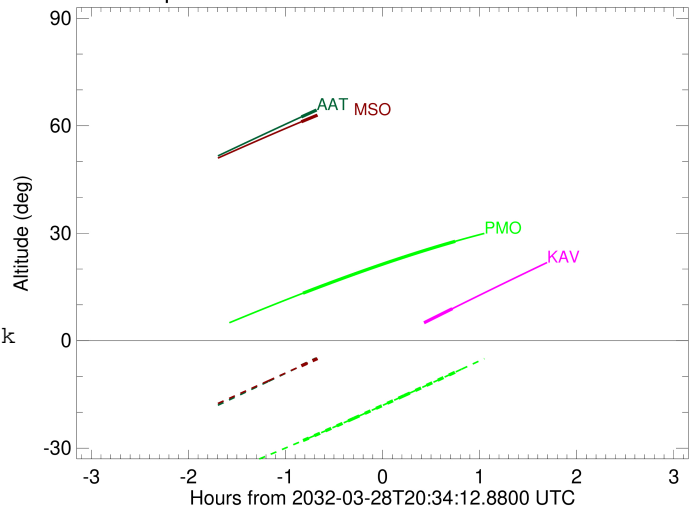
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-03-28T19:42:45.216	-12.69x	-69.28	71491.8	18.99	21.46
Jupiter	E	2032-03-28T21:17:19.073	8.92	-49.96	71491.6	24.90	27.92

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2032-03-28T20:33:00.640
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        : 6866109958350345088
2Mass ID (if available) : 19592653-2045132
ICRS Star Coord at Epoch: 19h 59m 26.52677s -20:45:13.15496s
RUWE (>1.4 is poor) : 4.16
K magnitude           : 9.509
G magnitude           : 11.001
RP magnitude          : 10.480
BP magnitude          : 11.331
DUPflag              : 0
Distance (au)         : 5.425
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 23.42
Sun-Target sep (deg)  : 70.52
Sun-Moon sep (deg)    : 89.23
B (ring opening deg) : -1.28
PA of pole (deg)     : -13.12
Pole direction: RA (deg): 268.05669
Dec (deg): 64.49654
C/A sky separation (") : 5.921
C/A sky separation (km) : 23294.1
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
    
```



Jupiter 2032-03-28T20:34:12 K9.51 G11.00

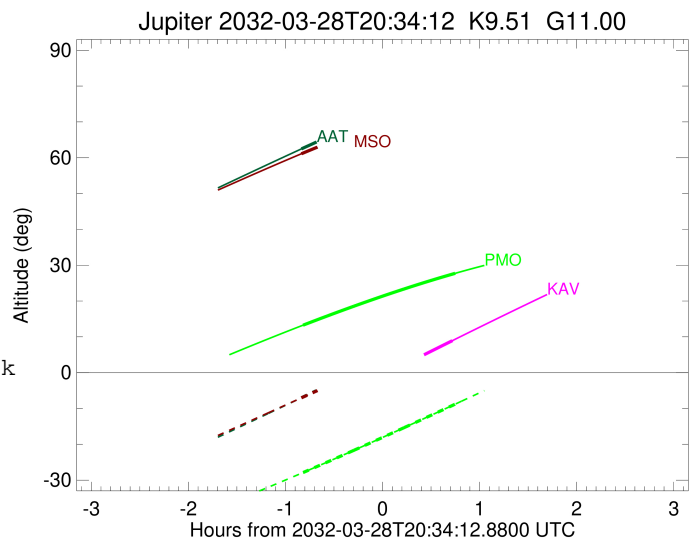
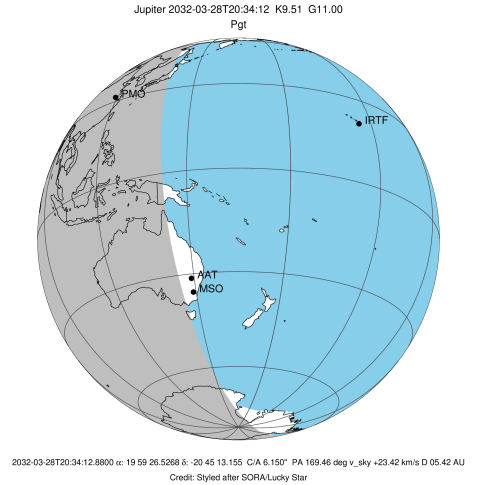


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-03-28T19:44:08.886	62.47	-7.00	71491.8	16.47	18.67
Jupiter	E	2032-03-28T21:21:56.695	78.97	13.76x	71491.7	21.47	24.19

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2032-03-28T20:32:59.760
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      : 6866109958350345088
2Mass ID (if available) : 19592653-2045132
ICRS Star Coord at Epoch: 19h 59m 26.52677s -20:45:13.15496s
RUWE (>1.4 is poor) : 4.16
K magnitude          : 9.509
G magnitude          : 11.001
RP magnitude         : 10.480
BP magnitude         : 11.331
DUPflag             : 0
Distance (au)       : 5.425
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 23.42
Sun-Target sep (deg) : 70.52
Sun-Moon sep (deg)  : 89.22
B (ring opening deg) : -1.28
PA of pole (deg)    : -13.12
Pole direction: RA (deg): 268.05669
Dec (deg): 64.49654
C/A sky separation (" ) : 5.809
C/A sky separation (km) : 22855.4
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	2032-03-28T19:44:03.714	61.09	-7.03	71491.8	16.10	18.25
Jupiter	E	2032-03-28T21:22:00.020	75.11	12.80x	71491.7	21.10	23.79