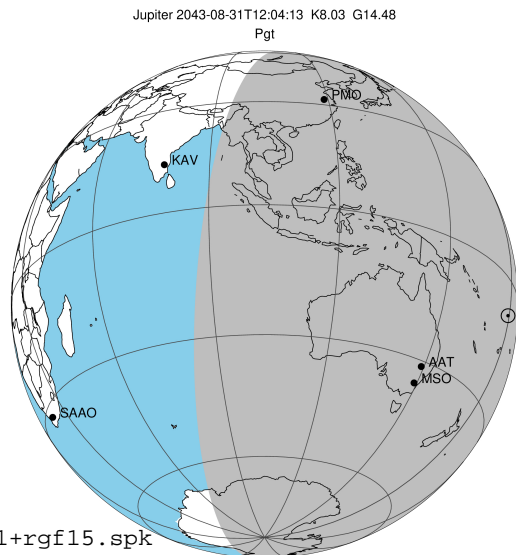


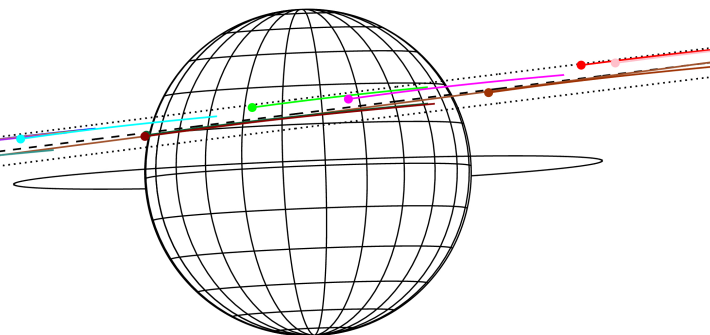
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-08-31T12:04:13.550
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4111429913139945856
 2Mass ID (if available) : 17305588-2306291

Jupiter 2043-08-31T12:04:13 K8.03 G14.48 Pgt

ICRS Star Coord at Epoch: 17h 30m 55.89342s -23°06'29.23023s
 RUWE (>1.4 is poor) : 1.04
 K magnitude : 8.029
 G magnitude : 14.484
 RP magnitude : 12.935
 BP magnitude : 18.147
 DUPflag : 0
 Distance (au) : 4.874
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 4.91
 Sun-Target sep (deg) : 105.92
 Sun-Moon sep (deg) : 143.83
 B (ring opening deg) : -2.30
 PA of pole (deg) : 2.29
 Pole direction: RA (deg): 268.05672
 Dec (deg): 64.49731
 C/A sky separation (") : 7.393
 C/A sky separation (km) : 26130.7
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



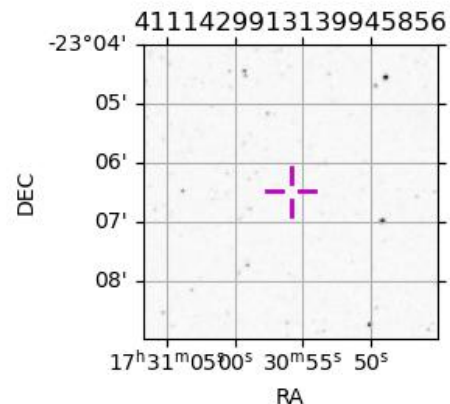
Earth
 PIC
 PAL
 PMO
 KPNO
 MCD
 TEN
 IRTF
 KAV
 RIO
 ESO
 AAT
 SAAO
 MSO



2043-08-31T12:04:13.5500 or: 17 30 55.8934 s: -23 06 29.230 C/A 7.392" PA 187.14 deg v_sky + 4.91 km/s D 04.87 AU
 Credit: Styled after SORA/Lucky Star

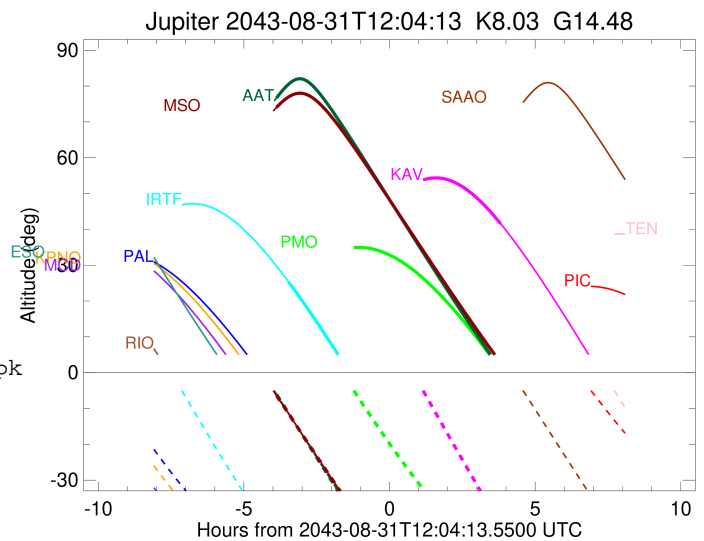
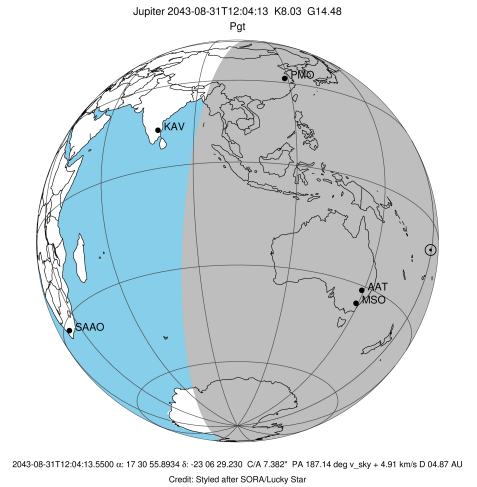
Observable events with sun below -5 deg and altitude above 5 deg

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			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	+	AUG 31 08:36 - AUG 31 08:36	Pin
KAV	Kavalur Observatory	12.6	78.8	+	AUG 31 15:53 - AUG 31 15:53	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	+	AUG 31 08:11 - AUG 31 08:11	Pin
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	AUG 31 08:11 - AUG 31 08:11	Pin



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-08-31T12:26:25.100
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      : 4111429913139945856
2Mass ID (if available) : 17305588-2306291
ICRS Star Coord at Epoch: 17h 30m 55.89342s -23:06:29.23023s
RUWE (>1.4 is poor) : 1.04
K magnitude          : 8.029
G magnitude          : 14.484
RP magnitude         : 12.935
BP magnitude         : 18.147
DUPflag             : 0
Distance (au)       : 4.874
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 4.91
Sun-Target sep (deg) : 105.92
Sun-Moon sep (deg)  : 142.97
B (ring opening deg) : -2.30
PA of pole (deg)    : 2.29
Pole direction: RA (deg): 268.05672
Dec (deg): 64.49731
C/A sky separation ("): 7.950
C/A sky separation (km): 28100.0
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
    
```

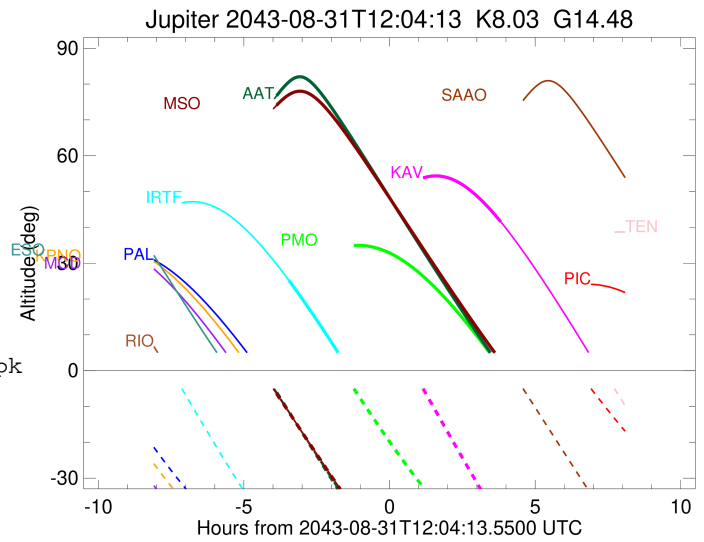
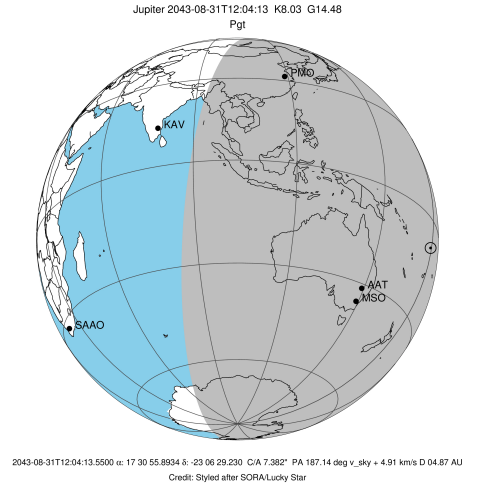


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-08-31T08:36:40.230	25.26	-51.57	71491.1	20.06	22.64
Jupiter	E	2043-08-31T15:55:29.446	-70.86x	-3.33x	71490.6	26.24	29.37

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-08-31T11:50:17.900
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       : 4111429913139945856
2Mass ID (if available) : 17305588-2306291
ICRS Star Coord at Epoch: 17h 30m 55.89342s -23:06:29.23023s
RUWE (>1.4 is poor) : 1.04
K magnitude           : 8.029
G magnitude           : 14.484
RP magnitude         : 12.935
BP magnitude         : 18.147
DUPflag              : 0
Distance (au)        : 4.873
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 4.91
Sun-Target sep (deg) : 105.92
Sun-Moon sep (deg)   : 144.63
B (ring opening deg) : -2.30
PA of pole (deg)     : 2.29
Pole direction: RA (deg): 268.05672
Dec (deg): 64.49731
C/A sky separation ("): 8.266
C/A sky separation (km): 29215.7
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
    
```

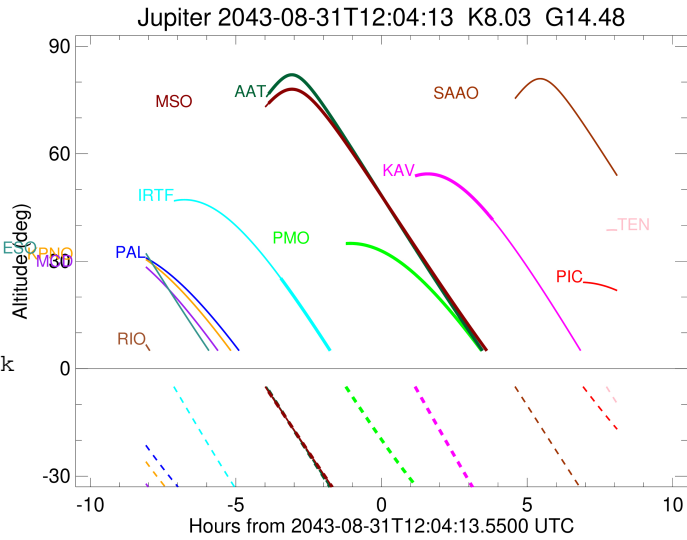
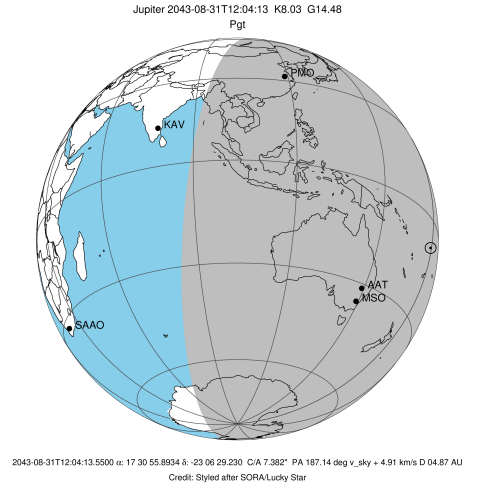


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-08-31T07:55:31.463	-1.51x	72.25x	71491.4	17.12	19.38
Jupiter	E	2043-08-31T15:53:21.102	41.56	-42.49	71490.3	29.45	32.79

```

target                : Jupiter
target radius (km)    : 71492.00
C/A epoch              : 2043-08-31T12:20:42.890
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        : 4111429913139945856
2Mass ID (if available) : 17305588-2306291
ICRS Star Coord at Epoch: 17h 30m 55.89342s -23:06:29.23023s
RUWE (>1.4 is poor)  : 1.04
K magnitude           : 8.029
G magnitude           : 14.484
RP magnitude          : 12.935
BP magnitude          : 18.147
DUPflag              : 0
Distance (au)         : 4.874
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s)  : 4.91
Sun-Target sep (deg)  : 105.92
Sun-Moon sep (deg)    : 143.74
B (ring opening deg)  : -2.30
PA of pole (deg)      : 2.29
Pole direction: RA (deg): 268.05672
Dec (deg): 64.49731
C/A sky separation (") : 7.069
C/A sky separation (km) : 24988.7
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
    
```

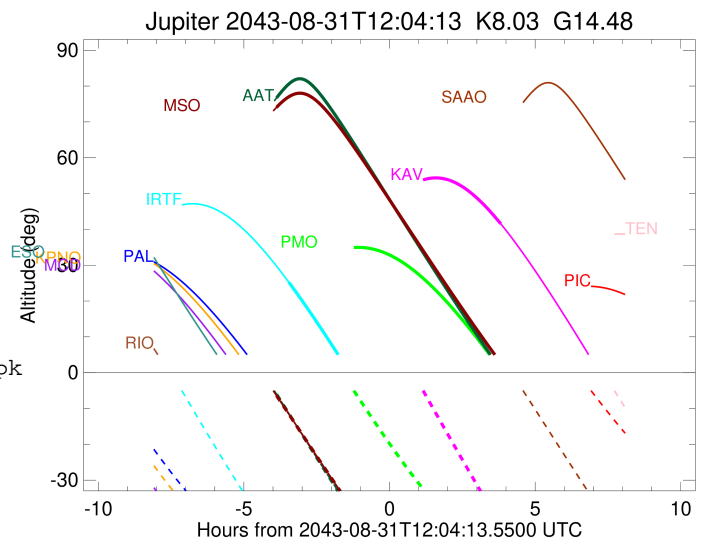
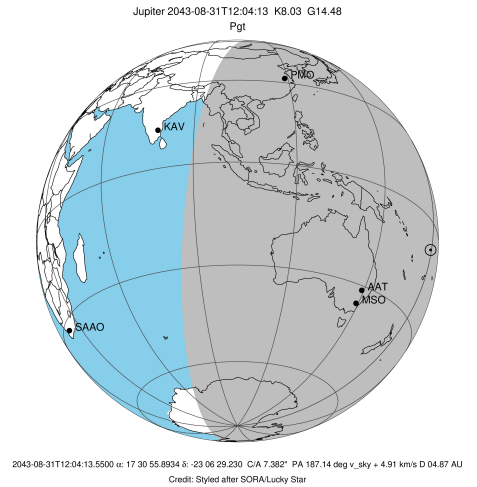


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-08-31T08:11:35.003	76.70	-6.04	71491.5	15.63	17.73
Jupiter	E	2043-08-31T16:10:56.061	-2.43x	-52.80	71490.8	23.63	26.54

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-08-31T12:20:04.960
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        : 4111429913139945856
2Mass ID (if available) : 17305588-2306291
ICRS Star Coord at Epoch: 17h 30m 55.89342s -23:06:29.23023s
RUWE (>1.4 is poor) : 1.04
K magnitude           : 8.029
G magnitude           : 14.484
RP magnitude          : 12.935
BP magnitude          : 18.147
DUPflag              : 0
Distance (au)         : 4.874
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 4.91
Sun-Target sep (deg)  : 105.92
Sun-Moon sep (deg)   : 143.76
B (ring opening deg) : -2.30
PA of pole (deg)     : 2.29
Pole direction: RA (deg): 268.05672
Dec (deg): 64.49731
C/A sky separation (") : 6.950
C/A sky separation (km) : 24566.6
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	2043-08-31T08:11:21.238	74.03	-6.39	71491.5	15.26	17.32
Jupiter	E	2043-08-31T16:10:40.294	-0.38x	-50.70	71490.9	23.34	26.23