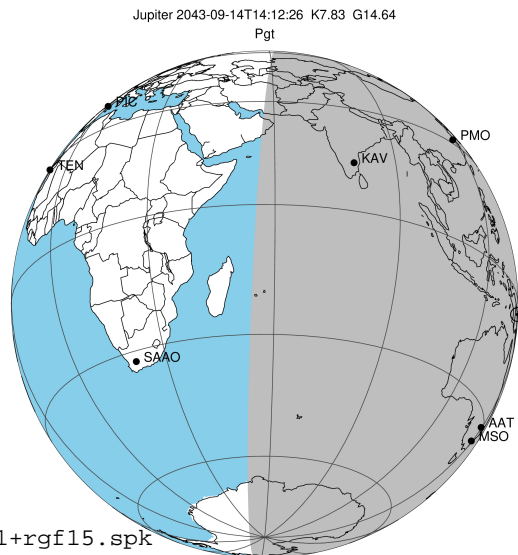


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-09-14T14:12:26.840
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116681970991563520
 2Mass ID (if available) : 17341534-2310309

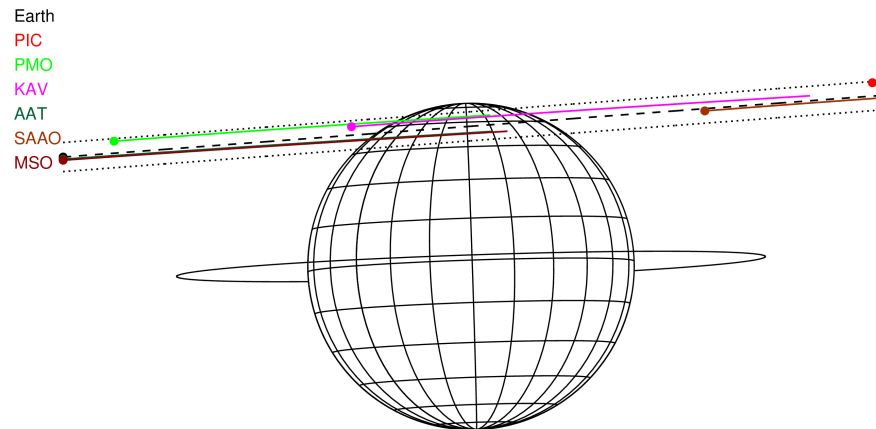
Jupiter 2043-09-14T14:12:26 K7.83 G14.64 Pgt

ICRS Star Coord at Epoch: 17h 34m 15.32290s -23:10:31.43908s

RUWE (>1.4 is poor) : 0.91
 K magnitude : 7.830
 G magnitude : 14.635
 RP magnitude : 13.037
 BP magnitude : 18.593
 DUPflag : 0
 Distance (au) : 5.086
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 11.52
 Sun-Target sep (deg) : 93.02
 Sun-Moon sep (deg) : 31.63
 B (ring opening deg) : -2.26
 PA of pole (deg) : 1.93
 Pole direction: RA (deg): 268.05673
 Dec (deg): 64.49731
 C/A sky separation (") : 16.608
 C/A sky separation (km) : 61262.8
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

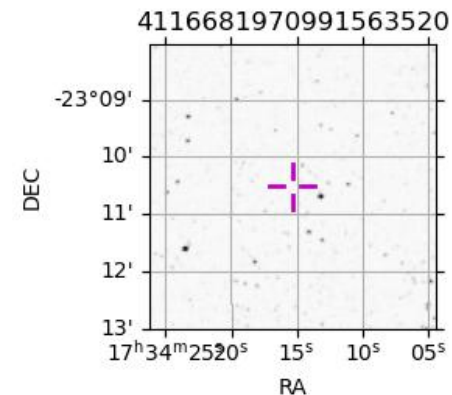


2043-09-14T14:12:26.8400 @: 17 34 15.32290 s -23 10 31.43908 C/A ***** PA 184.31 deg v_sky +11.52 km/s D 05.09 AU
 Credit: Styled after SORA/Lucky Star



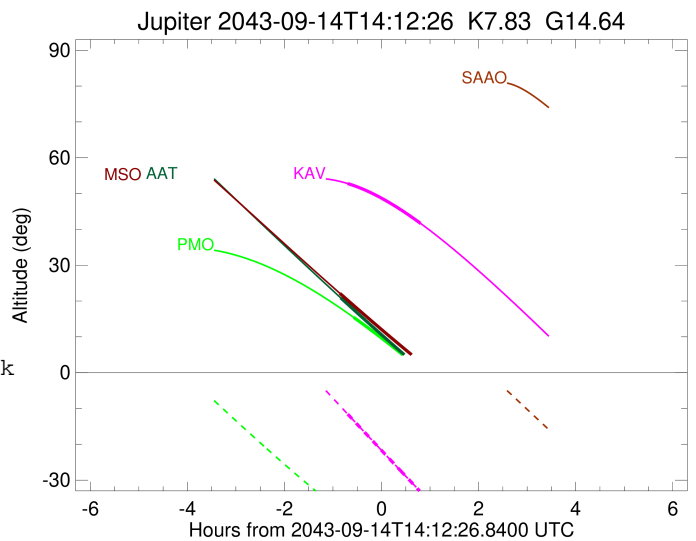
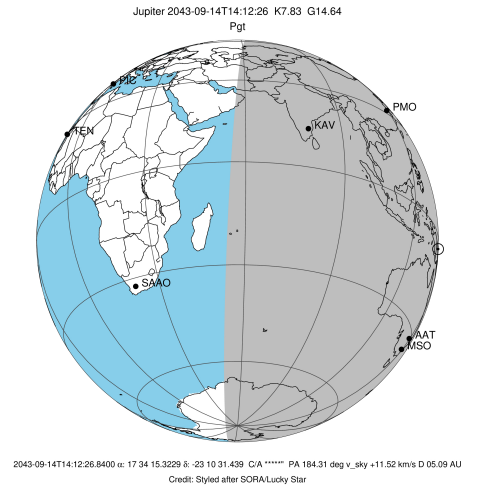
Observable events with sun below -5 deg and altitude above 5 deg

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	+	SEP 14 13:38 - SEP 14 13:38	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	+ +	SEP 14 13:30 - SEP 14 15:00	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	+	SEP 14 13:22 - SEP 14 13:22	Pin
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	SEP 14 13:20 - SEP 14 13:20	Pin



```

target                : Jupiter
target radius (km)    : 71492.00
C/A epoch              : 2043-09-14T14:20:03.020
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        : 4116681970991563520
2Mass ID (if available) : 17341534-2310309
ICRS Star Coord at Epoch: 17h 34m 15.32290s -23:10:31.43908s
RUWE (>1.4 is poor)  : 0.91
K magnitude            : 7.830
G magnitude            : 14.635
RP magnitude          : 13.037
BP magnitude          : 18.593
DUPflag               : 0
Distance (au)         : 5.086
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s)  : 11.52
Sun-Target sep (deg)  : 93.02
Sun-Moon sep (deg)    : 31.24
B (ring opening deg)  : -2.26
PA of pole (deg)      : 1.93
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 17.799
C/A sky separation (km) : 65656.4
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
    
```

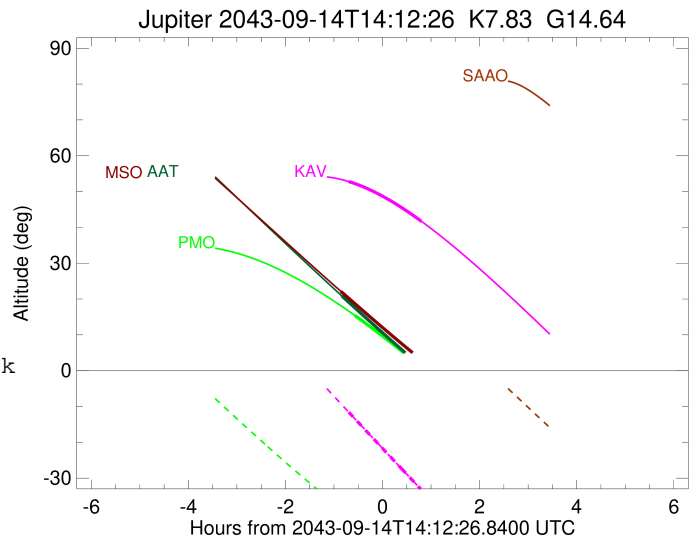
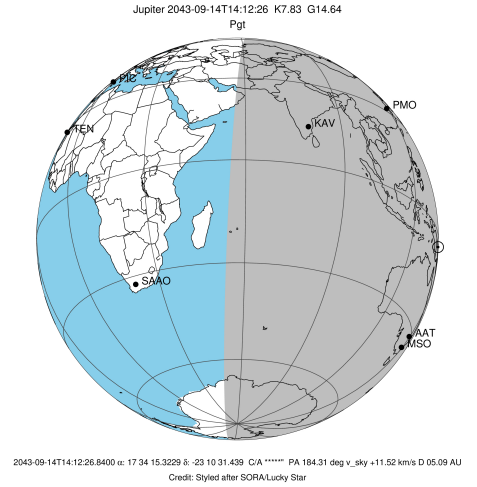


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-14T13:38:14.900	15.40	-41.27	71486.3	64.82	67.51
Jupiter	E	2043-09-14T15:01:33.219	0.77x	-52.16	71486.0	68.29	70.67

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-14T14:15:46.320
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       : 4116681970991563520
2Mass ID (if available) : 17341534-2310309
ICRS Star Coord at Epoch: 17h 34m 15.32290s -23:10:31.43908s
RUWE (>1.4 is poor) : 0.91
K magnitude          : 7.830
G magnitude          : 14.635
RP magnitude         : 13.037
BP magnitude         : 18.593
DUPflag             : 0
Distance (au)        : 5.086
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 11.52
Sun-Target sep (deg) : 93.02
Sun-Moon sep (deg)   : 31.82
B (ring opening deg) : -2.26
PA of pole (deg)     : 1.93
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation ("): 17.611
C/A sky separation (km): 64961.6
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
    
```

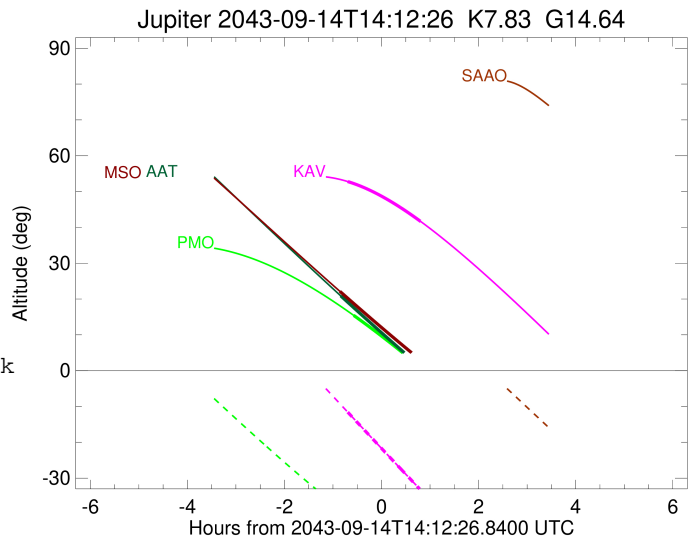
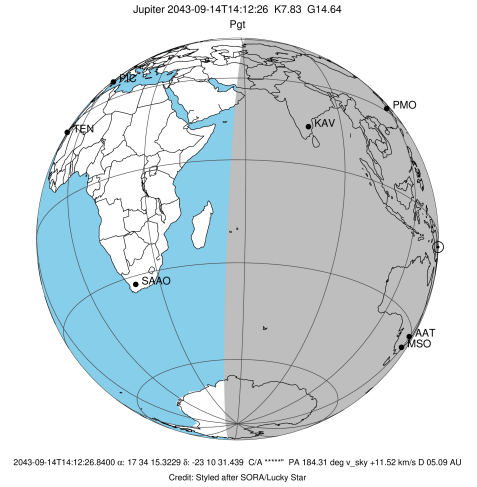


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-14T13:30:42.281	52.78	-11.58	71486.5	62.97	65.81
Jupiter	E	2043-09-14T15:00:38.616	41.68	-33.26	71486.1	67.32	69.79

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-14T14:21:47.320
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      : 4116681970991563520
2Mass ID (if available) : 17341534-2310309
ICRS Star Coord at Epoch: 17h 34m 15.32290s -23:10:31.43908s
RUWE (>1.4 is poor) : 0.91
K magnitude          : 7.830
G magnitude          : 14.635
RP magnitude         : 13.037
BP magnitude         : 18.593
DUPflag             : 0
Distance (au)       : 5.086
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 11.52
Sun-Target sep (deg) : 93.02
Sun-Moon sep (deg)  : 30.97
B (ring opening deg) : -2.26
PA of pole (deg)    : 1.93
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (" ) : 15.857
C/A sky separation (km) : 58492.5
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
    
```

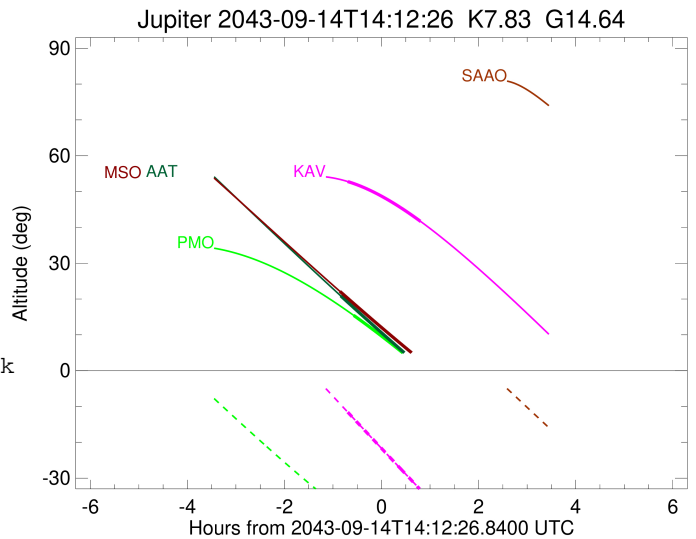
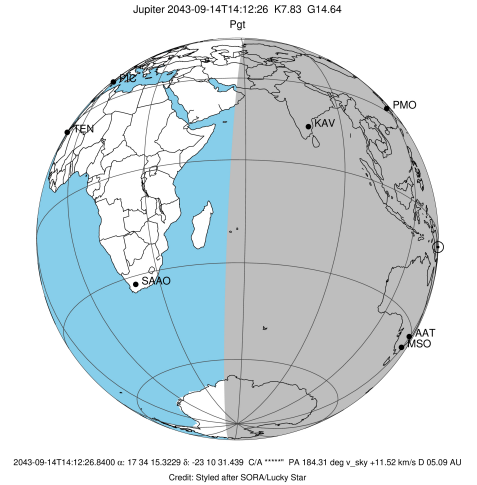


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-14T13:22:04.063	20.88	-60.86	71487.5	53.24	56.70
Jupiter	E	2043-09-14T15:20:50.931	-2.70x	-56.18	71487.2	56.43	59.72

```

target                : Jupiter
target radius (km)    : 71492.00
C/A epoch              : 2043-09-14T14:21:24.590
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        : 4116681970991563520
2Mass ID (if available) : 17341534-2310309
ICRS Star Coord at Epoch: 17h 34m 15.32290s -23:10:31.43908s
RUWE (>1.4 is poor)  : 0.91
K magnitude            : 7.830
G magnitude            : 14.635
RP magnitude           : 13.037
BP magnitude           : 18.593
DUPflag               : 0
Distance (au)         : 5.086
f0 (km)                : 0.00
g0 (km)                : 0.00
skyplane vel. (km/s)  : 11.52
Sun-Target sep (deg)  : 93.02
Sun-Moon sep (deg)    : 31.01
B (ring opening deg)  : -2.26
PA of pole (deg)      : 1.93
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 15.762
C/A sky separation (km) : 58143.1
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	2043-09-14T13:20:58.299	22.15	-56.95	71487.6	52.72	56.20
Jupiter	E	2043-09-14T15:21:11.810	-0.74x	-52.94	71487.2	55.98	59.30