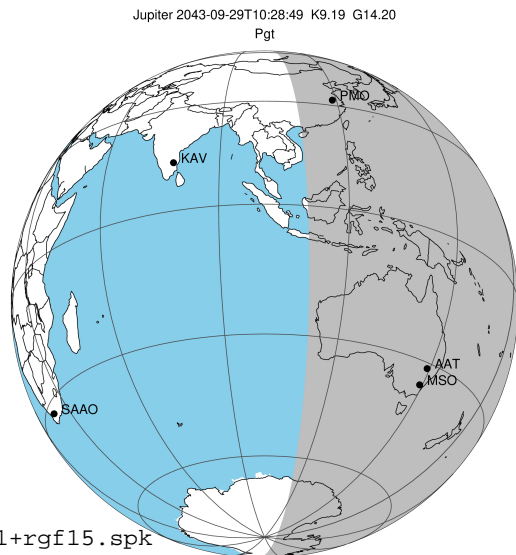


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-09-29T10:28:49.710
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116536590547459968
 2Mass ID (if available) : 17402245-2316029

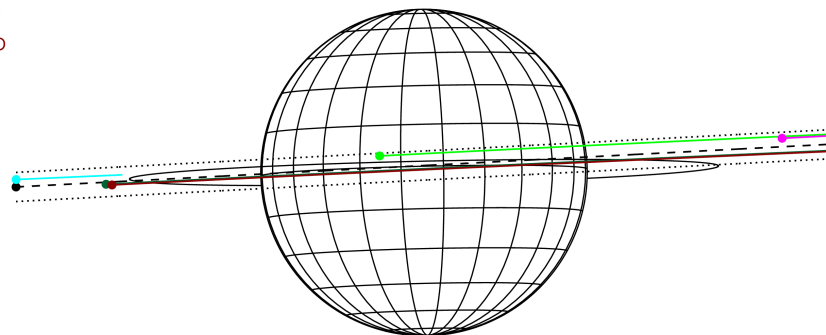
Jupiter 2043-09-29T10:28:49 K9.19 G14.20 Pgt

ICRS Star Coord at Epoch: 17h 40m 22.44265s -23:16:03.06401s
 RUWE (>1.4 is poor) : 0.89
 K magnitude : 9.188
 G magnitude : 14.204
 RP magnitude : 12.931
 BP magnitude : 16.043
 DUPflag : 0
 Distance (au) : 5.312
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 18.31
 Sun-Target sep (deg) : 79.92
 Sun-Moon sep (deg) : 123.53
 B (ring opening deg) : -2.20
 PA of pole (deg) : 1.28
 Pole direction: RA (deg): 268.05674
 Dec (deg): 64.49731
 C/A sky separation (") : 0.791
 C/A sky separation (km) : 3047.5
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 naif0012.tls
 nep097.bsp
 nep101.bsp
 sat4401.bsp



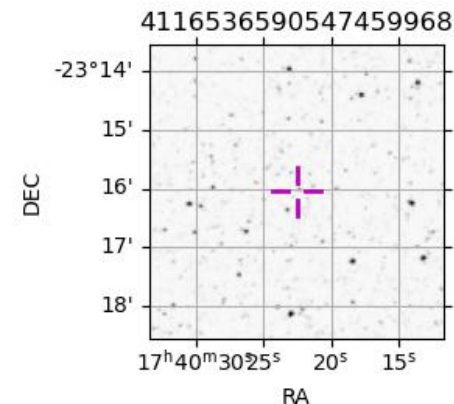
2043-09-29T10:28:49.7100 c: 17 40 22.4427 s: -23 16 03.064 C/A 0.782° PA 183.00 deg v_sky +18.31 km/s D 05.31 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PMO
 IRTF
 KAV
 AAT
 MSO



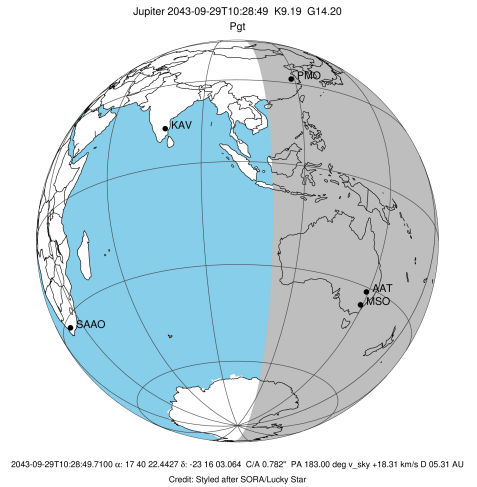
Observable events with sun below -5 deg and altitude above 5 deg

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	+	SEP 29 11:36 - SEP 29 11:36	Pne
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	+ +	SEP 29 09:26 - SEP 29 11:38	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	SEP 29 09:26 - SEP 29 11:38	Pie

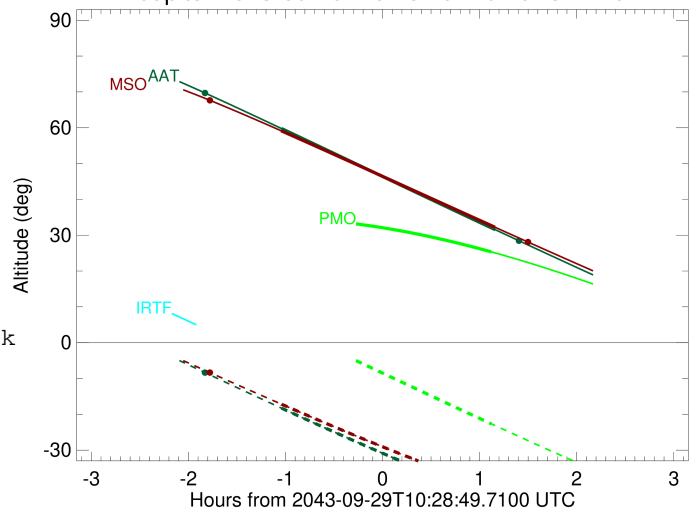


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-29T10:30:11.900
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       : 4116536590547459968
2Mass ID (if available) : 17402245-2316029
ICRS Star Coord at Epoch: 17h 40m 22.44265s -23:16:03.06401s
RUWE (>1.4 is poor) : 0.89
K magnitude           : 9.188
G magnitude           : 14.204
RP magnitude         : 12.931
BP magnitude         : 16.043
DUPflag              : 0
Distance (au)        : 5.313
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 18.31
Sun-Target sep (deg) : 79.92
Sun-Moon sep (deg)  : 123.84
B (ring opening deg) : -2.20
PA of pole (deg)    : 1.28
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 2.139
C/A sky separation (km) : 8243.2
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
    
```



Jupiter 2043-09-29T10:28:49 K9.19 G14.20

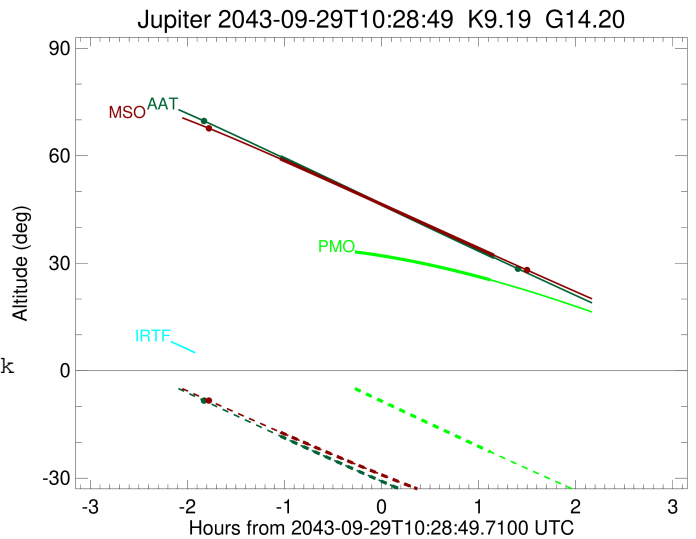
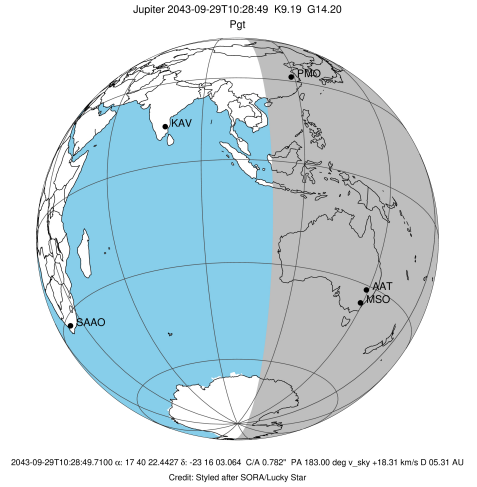


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-29T09:24:06.483	34.78	5.25x	71492.0	4.92	5.62
Jupiter	E	2043-09-29T11:36:04.627	25.35	-22.64	71491.9	8.17	9.32

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-29T10:32:41.150
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       : 4116536590547459968
2Mass ID (if available) : 17402245-2316029
ICRS Star Coord at Epoch: 17h 40m 22.44265s -23:16:03.06401s
RUWE (>1.4 is poor) : 0.89
K magnitude           : 9.188
G magnitude           : 14.204
RP magnitude         : 12.931
BP magnitude         : 16.043
DUPflag              : 0
Distance (au)        : 5.313
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 18.31
Sun-Target sep (deg) : 79.92
Sun-Moon sep (deg)   : 123.75
B (ring opening deg) : -2.20
PA of pole (deg)     : 1.28
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation ("): 0.421
C/A sky separation (km): 1622.1
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
    
```

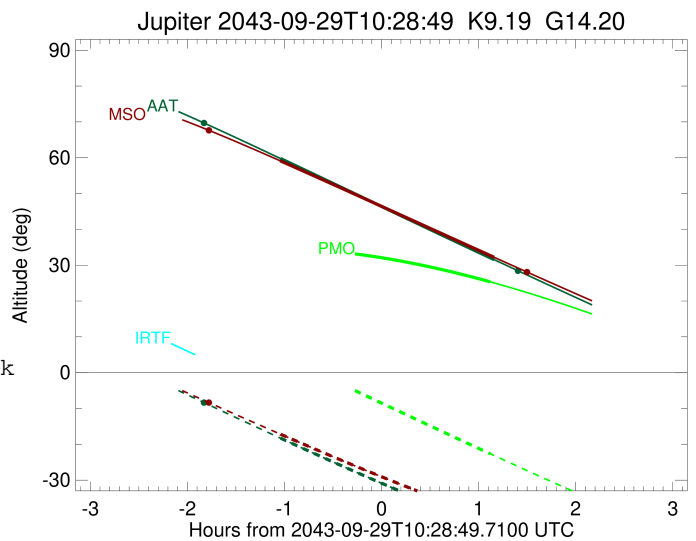
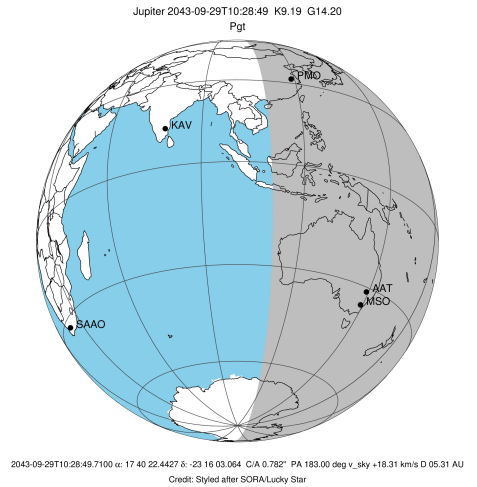


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-29T09:26:29.725	59.75	-18.29	71492.0	-0.14	-0.17
Jupiter	E	2043-09-29T11:38:28.740	31.54	-43.46	71492.0	2.64	3.01

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-29T10:32:31.500
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        : 4116536590547459968
2Mass ID (if available) : 17402245-2316029
ICRS Star Coord at Epoch: 17h 40m 22.44265s -23:16:03.06401s
RUWE (>1.4 is poor)  : 0.89
K magnitude           : 9.188
G magnitude           : 14.204
RP magnitude          : 12.931
BP magnitude          : 16.043
DUPflag              : 0
Distance (au)         : 5.313
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 18.31
Sun-Target sep (deg)  : 79.92
Sun-Moon sep (deg)    : 123.76
B (ring opening deg) : -2.20
PA of pole (deg)      : 1.28
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 0.314
C/A sky separation (km) : 1208.8
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	2043-09-29T09:26:22.557	59.10	-17.17	71492.0	-0.49	-0.56
Jupiter	E	2043-09-29T11:38:17.525	32.23	-40.74	71492.0	2.32	2.66