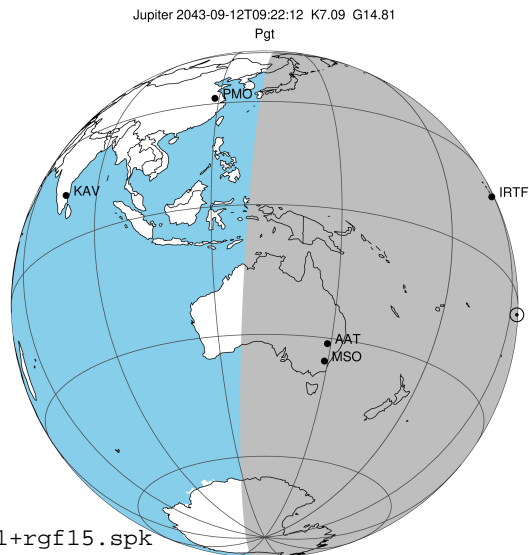


target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-09-12T09:22:12.060  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4116671731776678912  
 2Mass ID (if available) : 17333416-2309484

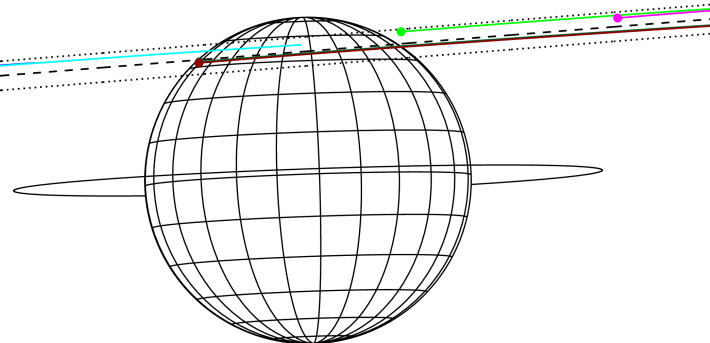
Jupiter 2043-09-12T09:22:12 K7.09 G14.81 Pgt

ICRS Star Coord at Epoch: 17h 33m 34.15457s -23°09'48.75923s

RUWE (>1.4 is poor) : 1.04  
 K magnitude : 7.089  
 G magnitude : 14.806  
 RP magnitude : 12.984  
 BP magnitude : 17.840  
 DUPflag : 0  
 Distance (au) : 5.052  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 10.49  
 Sun-Target sep (deg) : 95.00  
 Sun-Moon sep (deg) : 6.92  
 B (ring opening deg) : -2.26  
 PA of pole (deg) : 2.01  
 Pole direction: RA (deg): 268.05673  
 Dec (deg): 64.49731  
 C/A sky separation (") : 15.411  
 C/A sky separation (km) : 56469.9  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk



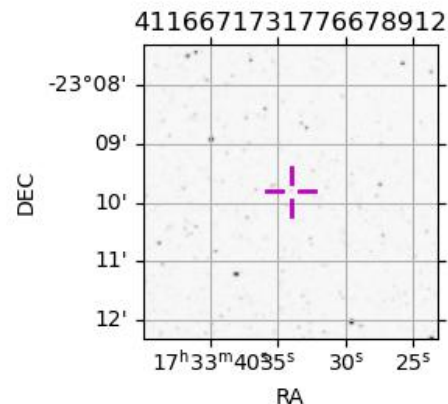
Earth  
 PAL  
 PMO  
 KPNO  
 MCD  
 IRTF  
 KAV  
 ESO  
 AAT  
 MSO



2043-09-12T09:22:12.0600 az: 17.33 34.1546 δ: -23 09 48.759 C/A \*\*\*\*\* PA 184.56 deg v\_sky +10.49 km/s D 05.05 AU  
 Credit: Styled after SORA/Lucky Star

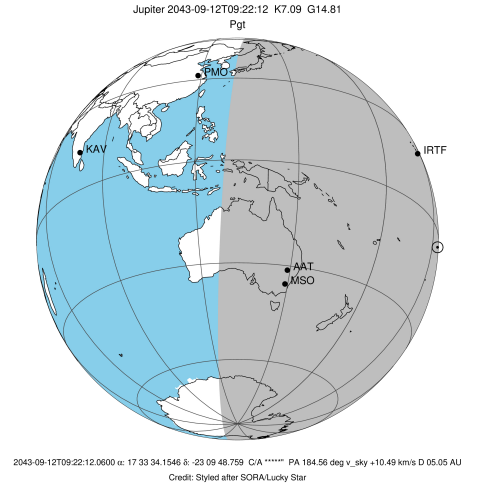
Observable events with sun below -5 deg and altitude above 5 deg

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	+	SEP 12 08:28 - SEP 12 08:28	Pin
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 12 10:39 - SEP 12 10:39	Pne
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	SEP 12 10:39 - SEP 12 10:39	Pne

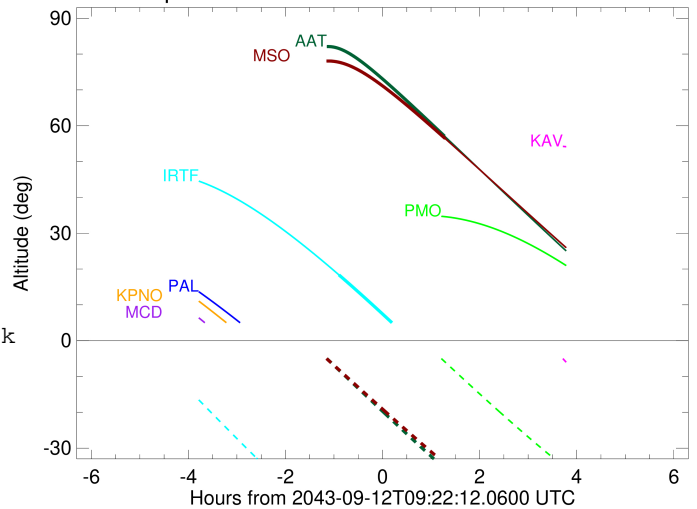


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-12T09:32:30.810
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       : 4116671731776678912
2Mass ID (if available) : 17333416-2309484
ICRS Star Coord at Epoch: 17h 33m 34.15457s -23:09:48.75923s
RUWE (>1.4 is poor) : 1.04
K magnitude          : 7.089
G magnitude          : 14.806
RP magnitude         : 12.984
BP magnitude         : 17.840
DUPflag             : 0
Distance (au)        : 5.052
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 10.49
Sun-Target sep (deg) : 95.00
Sun-Moon sep (deg)  : 6.82
B (ring opening deg) : -2.26
PA of pole (deg)    : 2.01
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 16.237
C/A sky separation (km) : 59496.8
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
    
```



Jupiter 2043-09-12T09:22:12 K7.09 G14.81

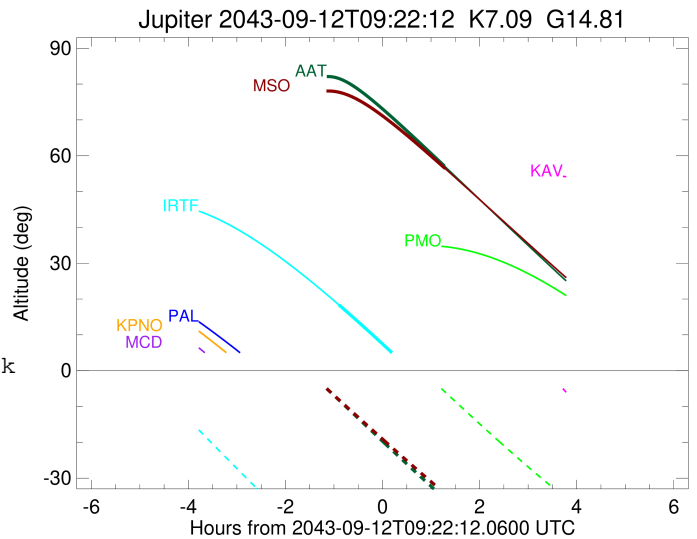
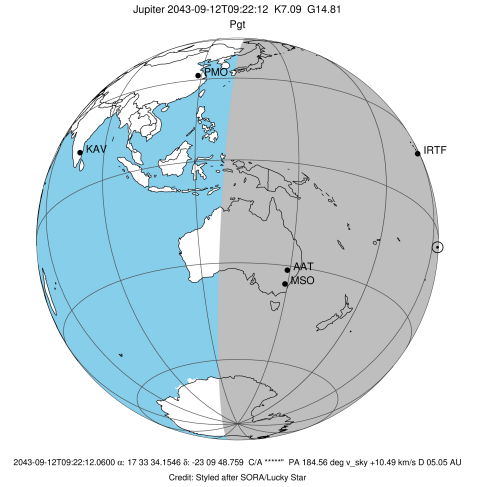


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-12T08:28:17.396	18.37	-53.96	71487.4	54.52	57.92
Jupiter	E	2043-09-12T10:35:50.719	-8.32x	-65.78	71487.0	57.90	61.10

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-12T09:25:05.670
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       : 4116671731776678912
2Mass ID (if available) : 17333416-2309484
ICRS Star Coord at Epoch: 17h 33m 34.15457s -23:09:48.75923s
RUWE (>1.4 is poor) : 1.04
K magnitude           : 7.089
G magnitude           : 14.806
RP magnitude          : 12.984
BP magnitude          : 17.840
DUPflag              : 0
Distance (au)        : 5.052
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 10.49
Sun-Target sep (deg) : 95.00
Sun-Moon sep (deg)   : 6.78
B (ring opening deg) : -2.26
PA of pole (deg)     : 2.01
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 15.178
C/A sky separation (km) : 55618.3
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
    
```

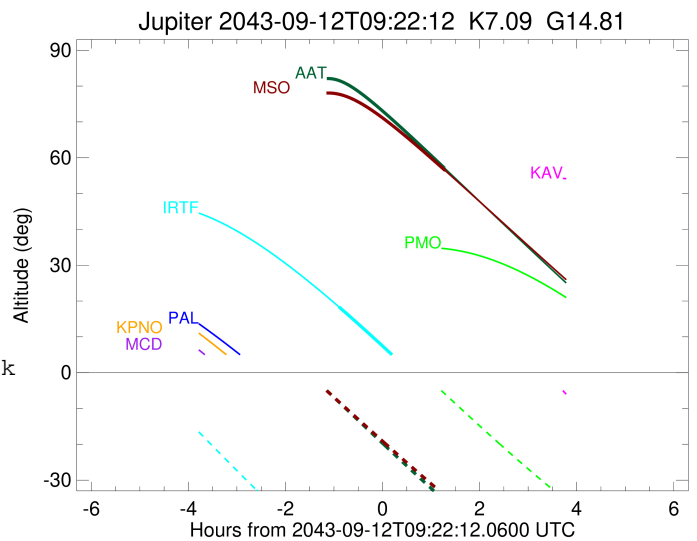
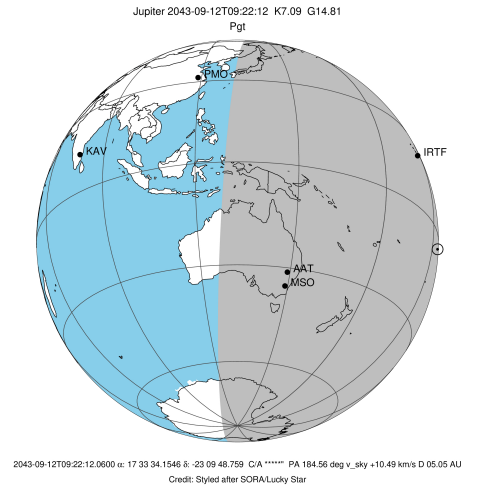


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-12T08:10:39.010	82.03	-4.42x	71488.1	48.43	52.07
Jupiter	E	2043-09-12T10:39:05.010	57.04	-35.70	71487.5	53.32	56.77

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-12T09:25:00.410
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        : 4116671731776678912
2Mass ID (if available) : 17333416-2309484
ICRS Star Coord at Epoch: 17h 33m 34.15457s -23:09:48.75923s
RUWE (>1.4 is poor)  : 1.04
K magnitude           : 7.089
G magnitude           : 14.806
RP magnitude          : 12.984
BP magnitude          : 17.840
DUPflag              : 0
Distance (au)         : 5.052
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 10.49
Sun-Target sep (deg)  : 95.00
Sun-Moon sep (deg)    : 6.74
B (ring opening deg)  : -2.26
PA of pole (deg)      : 2.01
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 15.058
C/A sky separation (km) : 55177.4
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	2043-09-12T08:09:48.601	78.00	-4.34x	71488.1	47.87	51.52
Jupiter	E	2043-09-12T10:39:45.198	56.40	-34.36	71487.6	52.77	56.25