

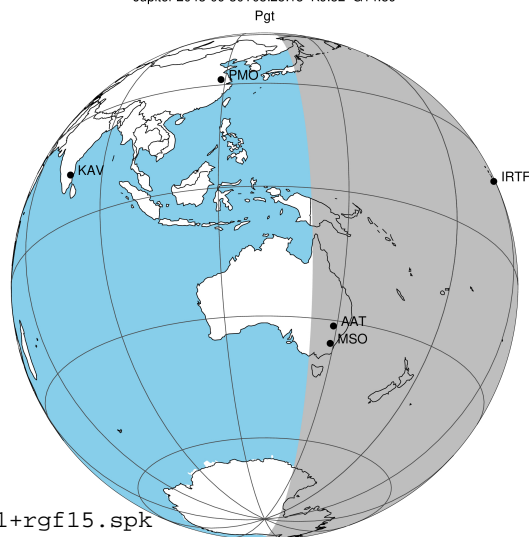
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-09-30T08:25:18.650  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4116489797018018432  
 2Mass ID (if available) : 17404987-2316374

Jupiter 2043-09-30T08:25:18 K9.52 G14.89 Pgt

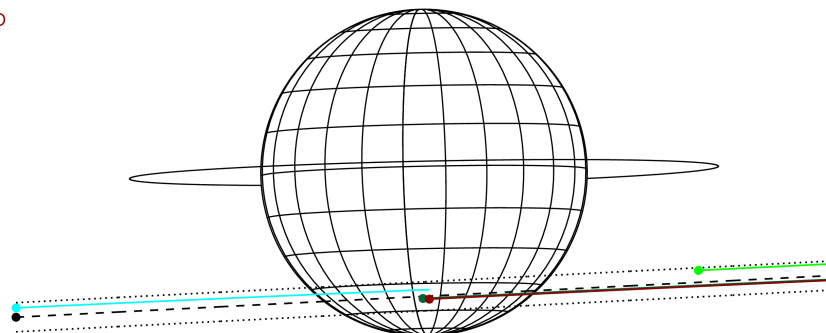
ICRS Star Coord at Epoch: 17h 40m 49.86143s -23:16:37.48878s

RUWE (>1.4 is poor) : 0.98  
 K magnitude : 9.516  
 G magnitude : 14.890  
 RP magnitude : 13.519  
 BP magnitude : 17.152  
 DUPflag : 0  
 Distance (au) : 5.326  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 18.72  
 Sun-Target sep (deg) : 79.13  
 Sun-Moon sep (deg) : 111.70  
 B (ring opening deg) : -2.20  
 PA of pole (deg) : 1.23  
 Pole direction: RA (deg): 268.05674  
 Dec (deg): 64.49731  
 C/A sky separation (") : 14.028  
 C/A sky separation (km) : 54188.8  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk

Jupiter 2043-09-30T08:25:18 K9.52 G14.89



Earth  
 PMO  
 IRTF  
 AAT  
 MSO



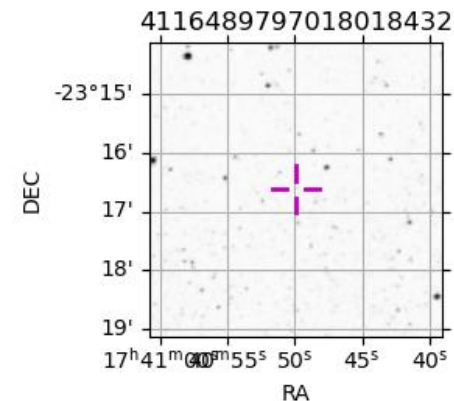
2043-09-30T08:25:18.6500 α: 17 40 49.8614 δ: -23 16 37.489 C/A \*\*\*\*\* PA 2.93 deg v\_sky +18.72 km/s D 05.33 AU

Credit: Styled after SORA/Lucky Star

URKALLv1.spk  
 naif0012.tls  
 nep097.bsp  
 nep101.bsp  
 sat4401.bsp

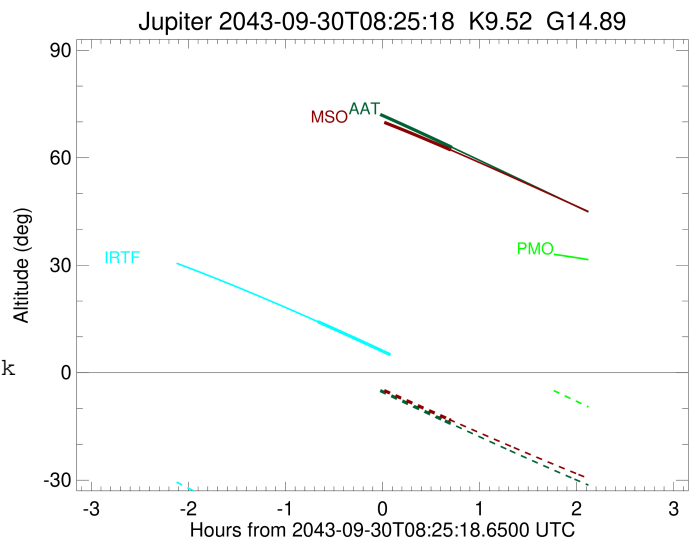
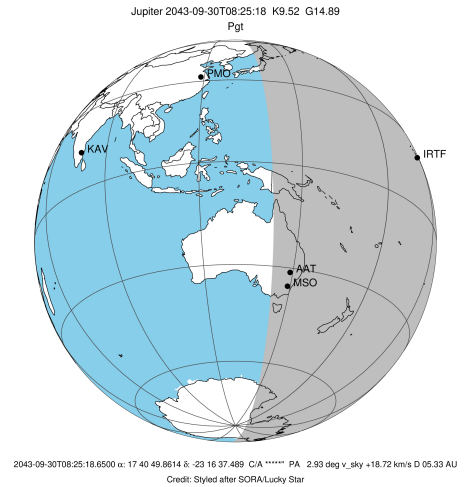
Observable events with sun below -5 deg and altitude above 5 deg

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 30 07:45 - SEP 30 07:45	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 30 09:08 - SEP 30 09:08	Pne
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	SEP 30 09:07 - SEP 30 09:07	Pne



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-30T08:29:58.130
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       : 4116489797018018432
2Mass ID (if available) : 17404987-2316374
ICRS Star Coord at Epoch: 17h 40m 49.86143s -23:16:37.48878s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 9.516
G magnitude           : 14.890
RP magnitude          : 13.519
BP magnitude          : 17.152
DUPflag              : 0
Distance (au)        : 5.326
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 18.72
Sun-Target sep (deg) : 79.13
Sun-Moon sep (deg)   : 111.49
B (ring opening deg) : -2.20
PA of pole (deg)     : 1.23
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 13.290
C/A sky separation (km) : 51339.8
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
    
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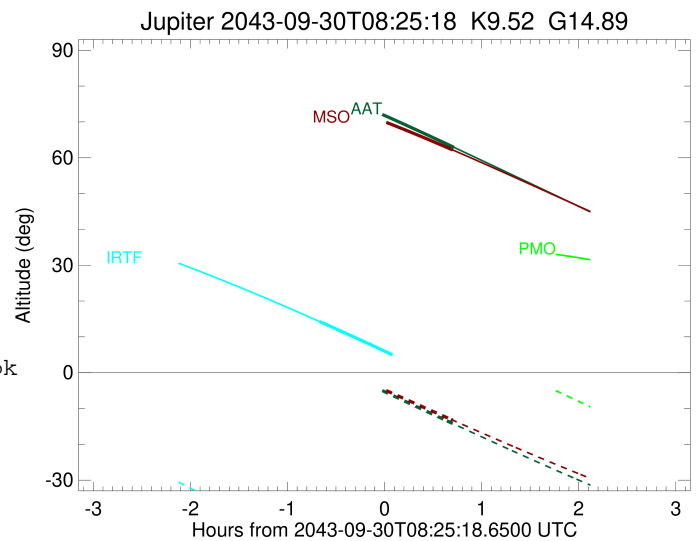
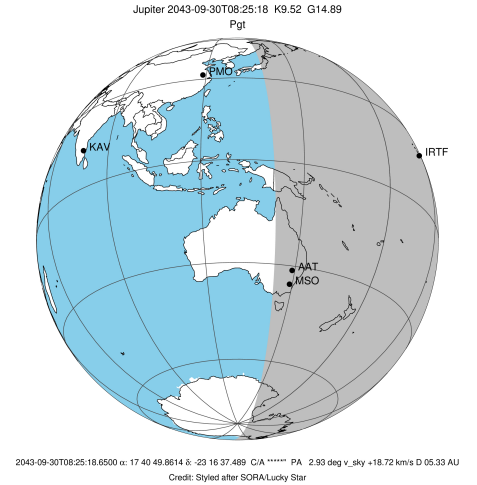


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-30T07:45:18.095	14.25	-50.44	71488.4	-47.08	-50.75
Jupiter	E	2043-09-30T09:14:24.535	-4.45x	-68.06	71488.7	-44.68	-48.38

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-30T08:26:50.090
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        : 4116489797018018432
2Mass ID (if available) : 17404987-2316374
ICRS Star Coord at Epoch: 17h 40m 49.86143s -23:16:37.48878s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 9.516
G magnitude           : 14.890
RP magnitude          : 13.519
BP magnitude          : 17.152
DUPflag              : 0
Distance (au)         : 5.326
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 18.72
Sun-Target sep (deg) : 79.13
Sun-Moon sep (deg)   : 112.42
B (ring opening deg) : -2.20
PA of pole (deg)     : 1.23
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation ("): 14.260
C/A sky separation (km): 55088.1
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
    
```

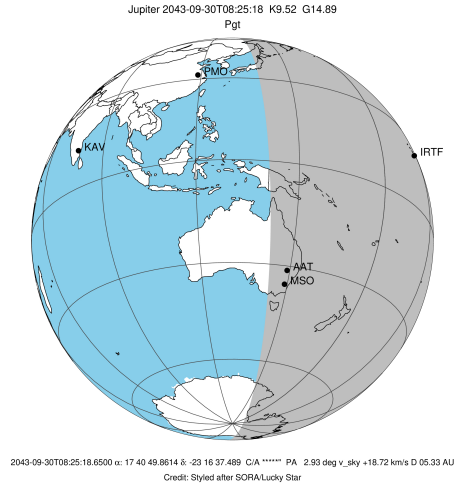


x: target alt < 5.0 deg or sun > -5.0 deg

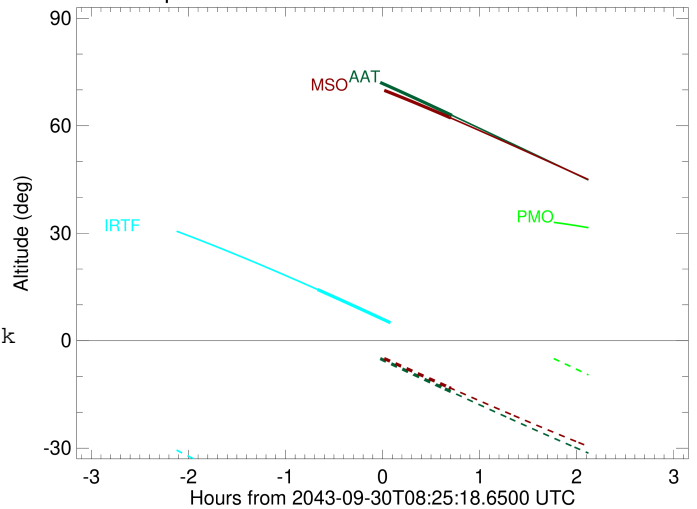
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-30T07:45:26.357	79.11	3.22x	71487.9	-51.99	-55.50
Jupiter	E	2043-09-30T09:08:09.008	62.91	-14.33	71488.2	-48.81	-52.43

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-30T08:26:46.820
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        : 4116489797018018432
2Mass ID (if available) : 17404987-2316374
ICRS Star Coord at Epoch: 17h 40m 49.86143s -23:16:37.48878s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 9.516
G magnitude           : 14.890
RP magnitude          : 13.519
BP magnitude          : 17.152
DUPflag              : 0
Distance (au)         : 5.326
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 18.72
Sun-Target sep (deg)  : 79.13
Sun-Moon sep (deg)    : 112.42
B (ring opening deg) : -2.20
PA of pole (deg)      : 1.23
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 14.374
C/A sky separation (km) : 55527.0
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
    
```



Jupiter 2043-09-30T08:25:18 K9.52 G14.89



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	2043-09-30T07:45:54.564	75.99	3.25x	71487.8	-52.55	-56.04
Jupiter	E	2043-09-30T09:07:34.516	62.14	-13.28	71488.2	-49.35	-52.96