

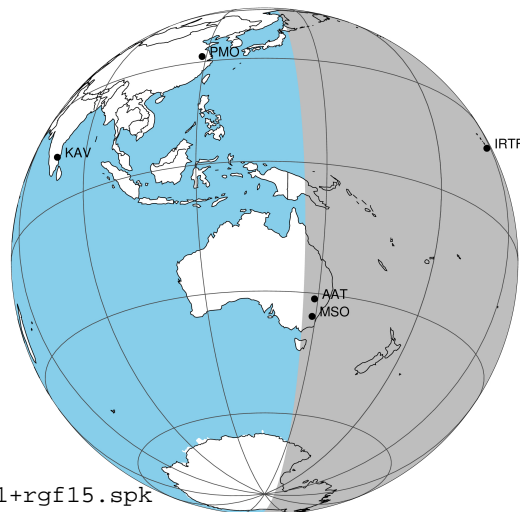
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-09-28T08:11:24.220
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116517142930476672
 2Mass ID (if available) : 17395020-2315499

Jupiter 2043-09-28T08:11:24 K9.48 G14.48 Pgt

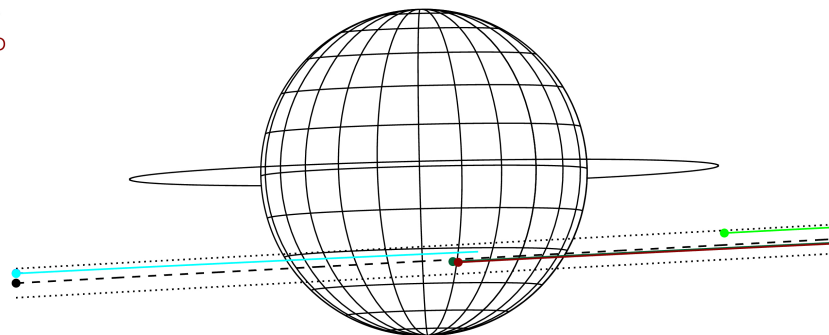
ICRS Star Coord at Epoch: 17h 39m 50.19594s -23:15:50.32418s

RUWE (>1.4 is poor) : 1.00
 K magnitude : 9.482
 G magnitude : 14.484
 RP magnitude : 13.185
 BP magnitude : 16.391
 DUPflag : 0
 Distance (au) : 5.296
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 17.82
 Sun-Target sep (deg) : 80.87
 Sun-Moon sep (deg) : 137.90
 B (ring opening deg) : -2.21
 PA of pole (deg) : 1.33
 Pole direction: RA (deg): 268.05674
 Dec (deg): 64.49731
 C/A sky separation (") : 10.096
 C/A sky separation (km) : 38778.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-09-28T08:11:24 K9.48 G14.48
 Pgt



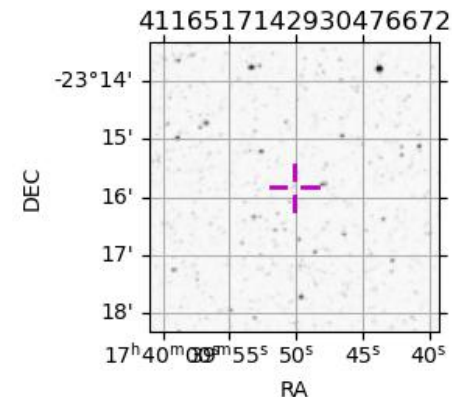
Earth
 PAL
 PMO
 IRTF
 AAT
 MSO



2043-09-28T08:11:24.2200 α: 17 39 50.1959 β: -23 15 50.324 C/A ***** PA 3.08 deg v_sky +17.82 km/s D 05.30 AU
 Credit: Styled after SORA/Lucky Star

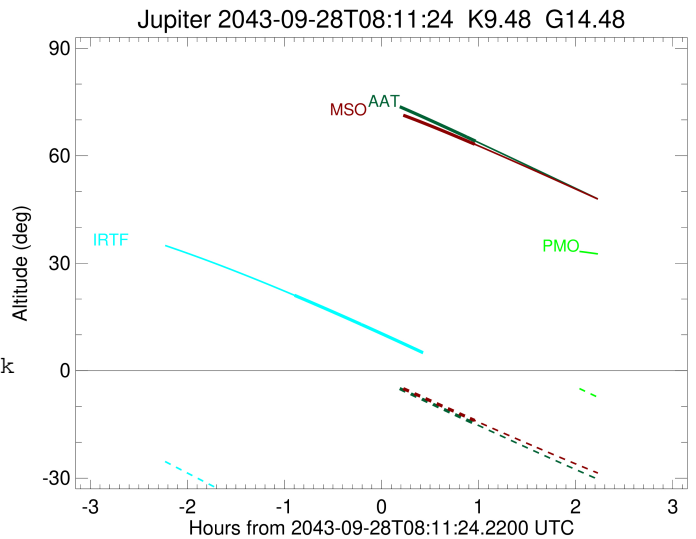
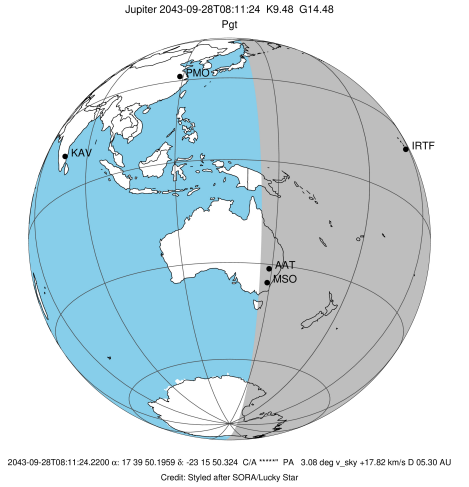
Observable events with sun below -5 deg and altitude above 5 deg

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 28 07:17 - SEP 28 07:17	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 28 09:09 - SEP 28 09:09	Pne
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	SEP 28 09:09 - SEP 28 09:09	Pne



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-28T08:16:15.260
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        : 4116517142930476672
2Mass ID (if available) : 17395020-2315499
ICRS Star Coord at Epoch: 17h 39m 50.19594s -23:15:50.32418s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 9.482
G magnitude           : 14.484
RP magnitude          : 13.185
BP magnitude          : 16.391
DUPflag              : 0
Distance (au)         : 5.296
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 17.82
Sun-Target sep (deg)  : 80.87
Sun-Moon sep (deg)   : 137.44
B (ring opening deg) : -2.21
PA of pole (deg)     : 1.33
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 9.299
C/A sky separation (km) : 35717.6
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
    
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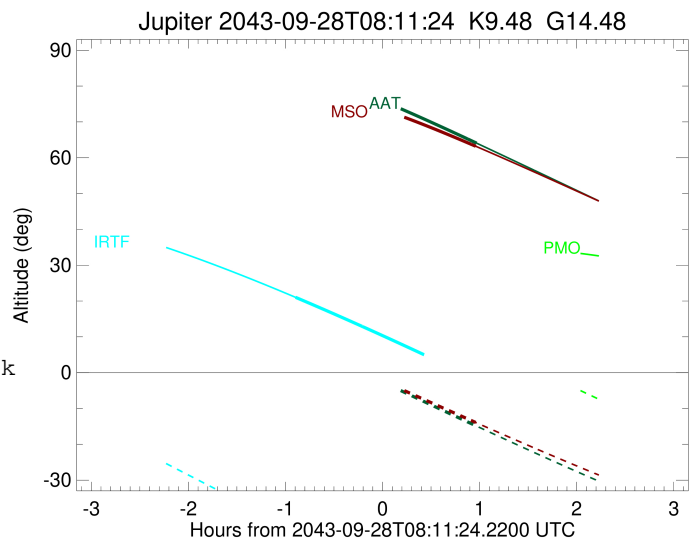
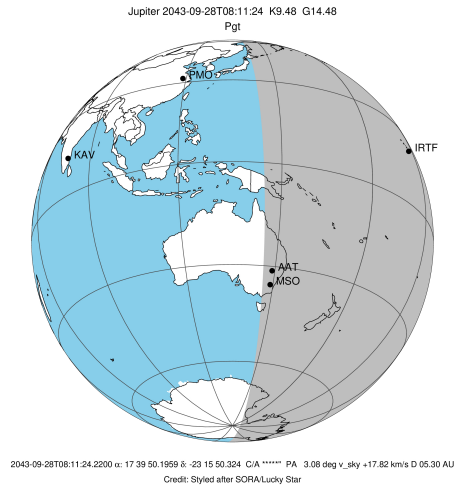


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-28T07:17:38.571	21.03	-43.77	71490.2	-31.23	-34.67
Jupiter	E	2043-09-28T09:14:27.748	-2.96x	-67.35	71490.5	-28.73	-32.03

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-28T08:12:36.520
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       : 4116517142930476672
2Mass ID (if available) : 17395020-2315499
ICRS Star Coord at Epoch: 17h 39m 50.19594s -23:15:50.32418s
RUWE (>1.4 is poor) : 1.00
K magnitude          : 9.482
G magnitude          : 14.484
RP magnitude         : 13.185
BP magnitude         : 16.391
DUPflag             : 0
Distance (au)        : 5.296
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 17.82
Sun-Target sep (deg) : 80.87
Sun-Moon sep (deg)   : 138.37
B (ring opening deg) : -2.21
PA of pole (deg)     : 1.33
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation ("): 10.321
C/A sky separation (km): 39641.9
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
    
```

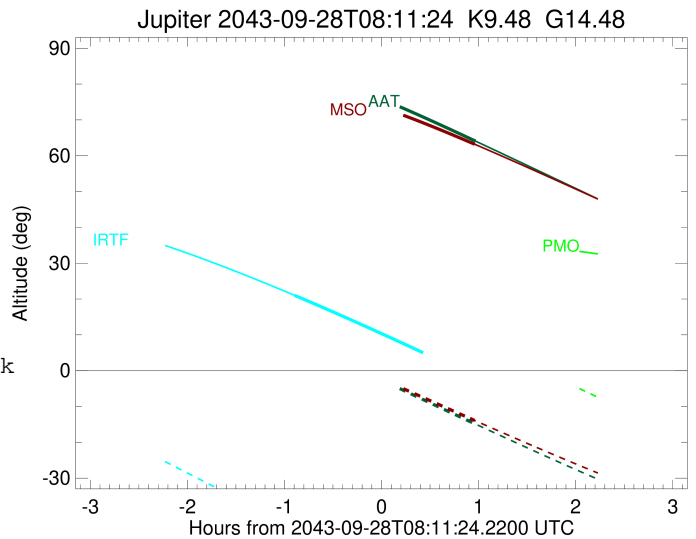
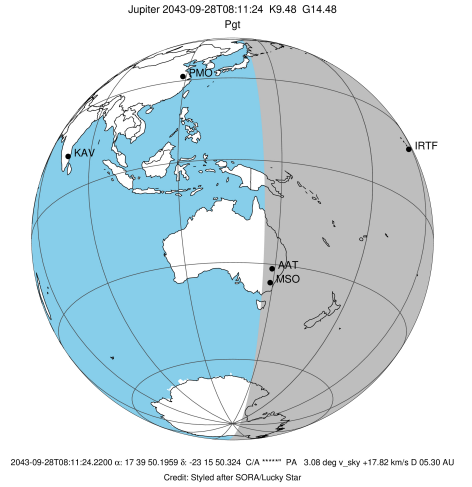


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-28T07:15:42.949	82.16	9.31x	71489.8	-35.40	-39.01
Jupiter	E	2043-09-28T09:09:22.173	64.11	-14.87	71490.1	-32.02	-35.50

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-28T08:12:34.250
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       : 4116517142930476672
2Mass ID (if available) : 17395020-2315499
ICRS Star Coord at Epoch: 17h 39m 50.19594s -23:15:50.32418s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 9.482
G magnitude           : 14.484
RP magnitude         : 13.185
BP magnitude         : 16.391
DUPflag              : 0
Distance (au)        : 5.296
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 17.82
Sun-Target sep (deg) : 80.87
Sun-Moon sep (deg)   : 138.36
B (ring opening deg) : -2.21
PA of pole (deg)     : 1.33
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 10.436
C/A sky separation (km) : 40082.7
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	2043-09-28T07:16:01.054	78.13	9.05x	71489.7	-35.83	-39.45
Jupiter	E	2043-09-28T09:08:59.827	63.20	-13.90	71490.1	-32.44	-35.94