

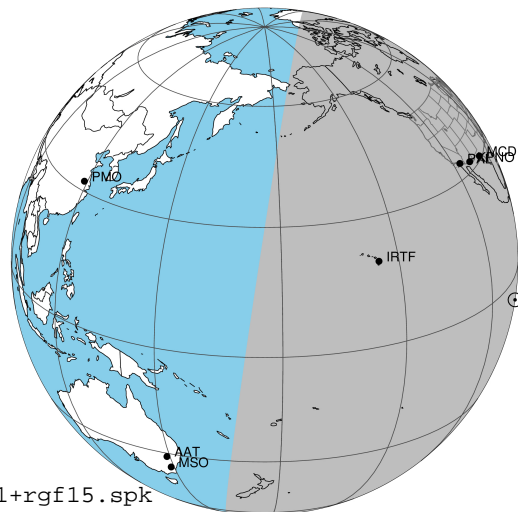
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2038-04-09T06:35:43.970
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 866078510268796672
 2Mass ID (if available) : 07272543+2223232

Jupiter 2038-04-09T06:35:43 K9.23 G10.09 Pgt

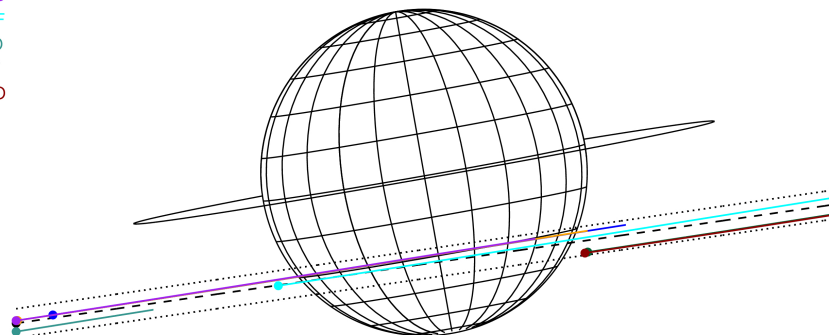
ICRS Star Coord at Epoch: 07h 27m 25.41879s +22:23:23.21176s

RUWE (>1.4 is poor) : 1.10
 K magnitude : 9.233
 G magnitude : 10.086
 RP magnitude : 9.764
 BP magnitude : 10.270
 DUPflag : 0
 Distance (au) : 5.147
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 11.70
 Sun-Target sep (deg) : 91.14
 Sun-Moon sep (deg) : 41.21
 B (ring opening deg) : 1.17
 PA of pole (deg) : 10.01
 Pole direction: RA (deg): 268.05619
 Dec (deg): 64.49691
 C/A sky separation (") : 10.636
 C/A sky separation (km) : 39702.2
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2038-04-09T06:35:43 K9.23 G10.09
 Pgt



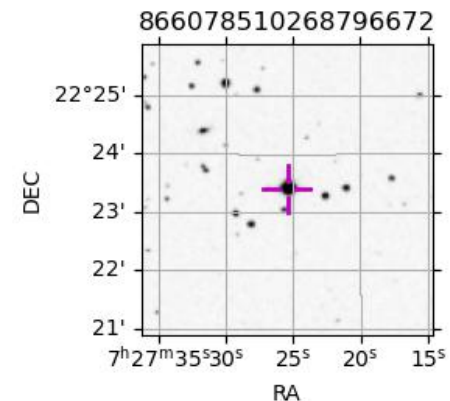
Earth
 PAL
 KPNO
 MCD
 IRTF
 ESO
 AAT
 MSO



2038-04-09T06:35:43.9700 a: 07 27 25.4188 & +22 23 23.212 C/A ***** PA 8.26 deg v_sky +11.70 km/s D 05.15 AU
 Credit: Styled after SORA/Lucky Star

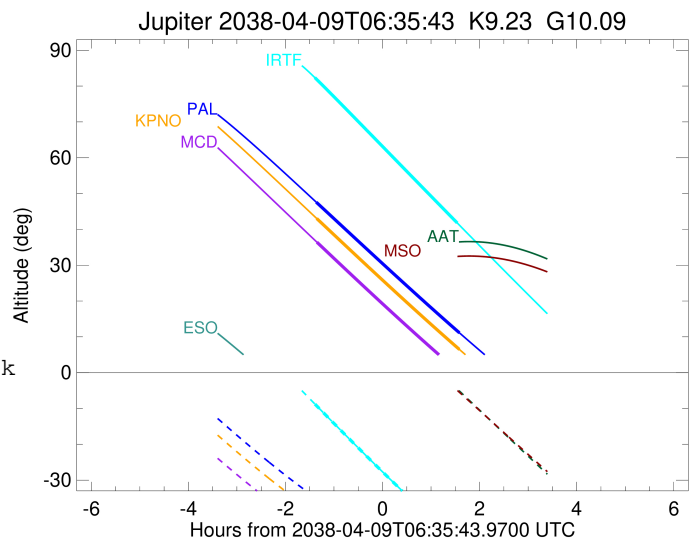
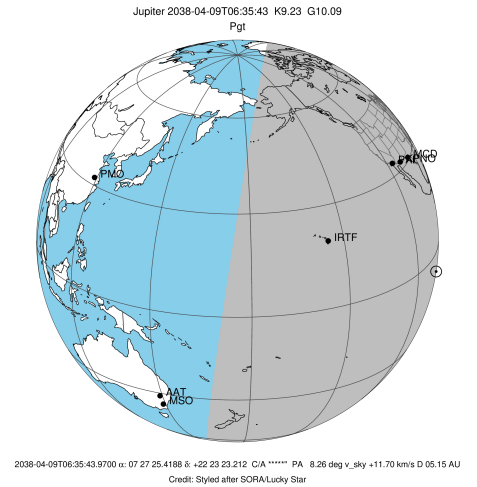
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	APR 09 05:13 - APR 09 08:10	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	APR 09 05:14 - APR 09 08:10	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+	APR 09 05:14 - APR 09 05:14	Pin
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+ +	APR 09 05:12 - APR 09 08:08	Pie
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			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2038-04-09T06:42:56.000
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : PAL
Location             : Palomar Mt (200")
Latitude (deg)       : 33.35622
E. Longitude (deg)  : 243.13601
Altitude (km)        : 1.706
Gaia source ID       : 866078510268796672
2Mass ID (if available) : 07272543+2223232
ICRS Star Coord at Epoch: 07h 27m 25.41879s +22:23:23.21176s
RUWE (>1.4 is poor) : 1.10
K magnitude          : 9.233
G magnitude          : 10.086
RP magnitude         : 9.764
BP magnitude         : 10.270
DUPflag             : 0
Distance (au)        : 5.147
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 11.70
Sun-Target sep (deg) : 91.14
Sun-Moon sep (deg)  : 42.03
B (ring opening deg) : 1.17
PA of pole (deg)    : 10.01
Pole direction: RA (deg): 268.05619
Dec (deg): 64.49691
C/A sky separation ("): 9.777
C/A sky separation (km): 36494.8
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
    
```

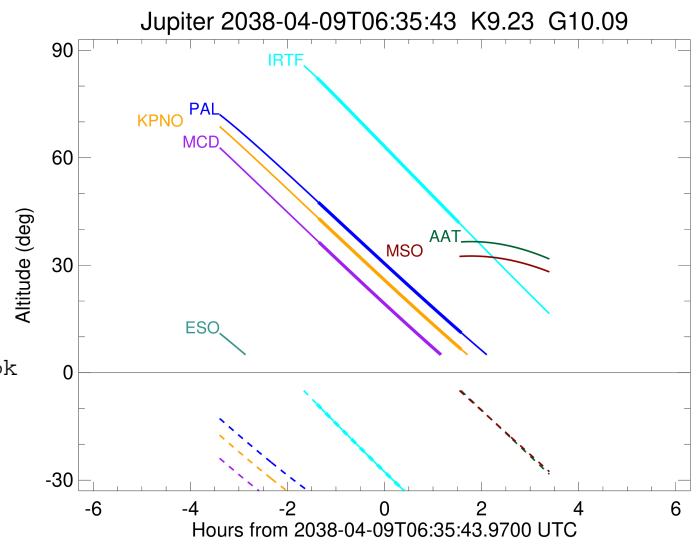
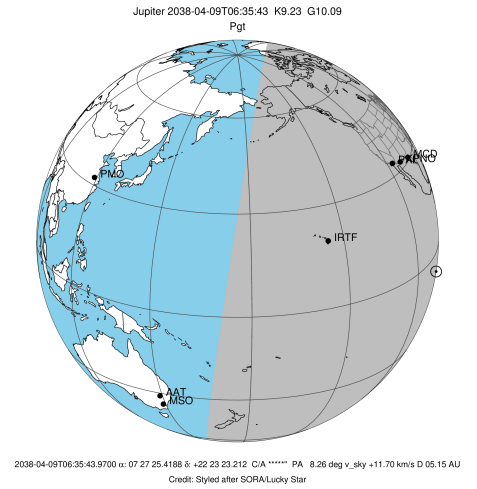


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2038-04-09T05:13:49.203	47.59	-35.03	71491.5	-29.71	-33.06
Jupiter	E	2038-04-09T08:10:42.138	11.14	-48.84	71491.5	-31.68	-35.14

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2038-04-09T06:43:15.560
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : KPNO
Location             : Kitt Peak Natl Obs
Latitude (deg)       : 31.96333
E. Longitude (deg)   : 248.40000
Altitude (km)        : 2.120
Gaia source ID       : 866078510268796672
2Mass ID (if available) : 07272543+2223232
ICRS Star Coord at Epoch: 07h 27m 25.41879s +22:23:23.21176s
RUWE (>1.4 is poor) : 1.10
K magnitude           : 9.233
G magnitude           : 10.086
RP magnitude          : 9.764
BP magnitude          : 10.270
DUPflag              : 0
Distance (au)         : 5.147
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 11.70
Sun-Target sep (deg) : 91.14
Sun-Moon sep (deg)   : 42.01
B (ring opening deg) : 1.17
PA of pole (deg)     : 10.01
Pole direction: RA (deg): 268.05619
Dec (deg): 64.49691
C/A sky separation ("): 9.754
C/A sky separation (km): 36409.9
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
    
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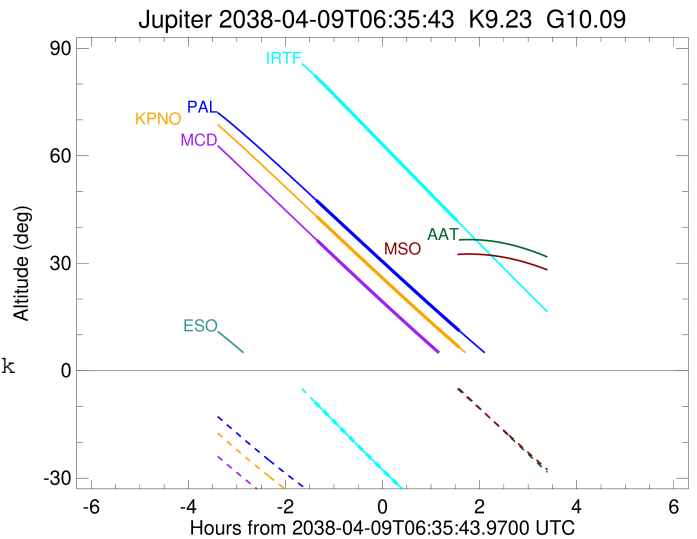
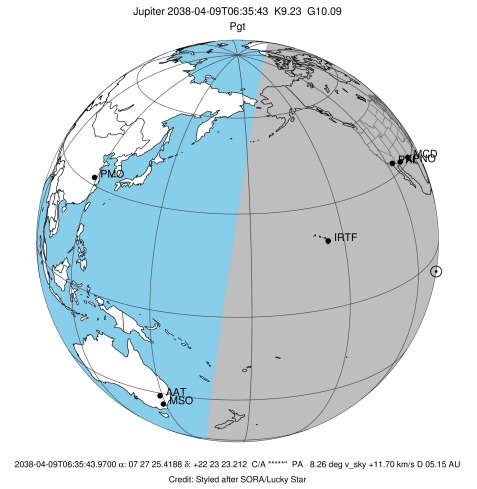


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2038-04-09T05:14:19.108	43.05	-39.30	71491.5	-29.65	-33.00
Jupiter	E	2038-04-09T08:10:49.341	6.47	-49.24	71491.5	-31.61	-35.07

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2038-04-09T06:43:31.550
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : MCD
Location              : McDonald Obs. 2.7m
Latitude (deg)        : 30.67158
E. Longitude (deg)    : 255.97844
Altitude (km)         : 2.075
Gaia source ID        : 866078510268796672
2Mass ID (if available) : 07272543+2223232
ICRS Star Coord at Epoch: 07h 27m 25.41879s +22:23:23.21176s
RUWE (>1.4 is poor) : 1.10
K magnitude           : 9.233
G magnitude           : 10.086
RP magnitude          : 9.764
BP magnitude          : 10.270
DUPflag              : 0
Distance (au)         : 5.147
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 11.70
Sun-Target sep (deg)  : 91.14
Sun-Moon sep (deg)    : 41.97
B (ring opening deg) : 1.17
PA of pole (deg)      : 10.01
Pole direction: RA (deg): 268.05619
Dec (deg): 64.49691
C/A sky separation (") : 9.705
C/A sky separation (km) : 36227.5
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
    
```

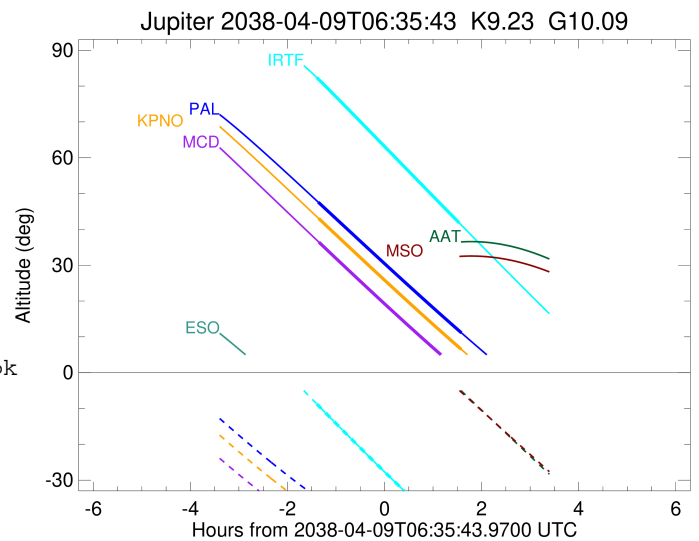
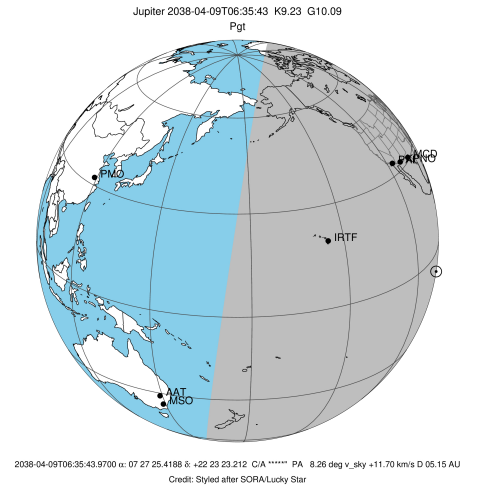


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2038-04-09T05:14:48.939	36.39	-44.60	71491.5	-29.49	-32.83
Jupiter	E	2038-04-09T08:10:50.142	0.03x	-47.99	71491.5	-31.47	-34.92

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2038-04-09T06:40:37.750
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       : 866078510268796672
2Mass ID (if available) : 07272543+2223232
ICRS Star Coord at Epoch: 07h 27m 25.41879s +22:23:23.21176s
RUWE (>1.4 is poor) : 1.10
K magnitude           : 9.233
G magnitude           : 10.086
RP magnitude          : 9.764
BP magnitude          : 10.270
DUPflag              : 0
Distance (au)         : 5.147
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 11.70
Sun-Target sep (deg) : 91.14
Sun-Moon sep (deg)   : 42.07
B (ring opening deg) : 1.17
PA of pole (deg)     : 10.01
Pole direction: RA (deg): 268.05619
Dec (deg): 64.49691
C/A sky separation (") : 10.515
C/A sky separation (km) : 39250.8
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	2038-04-09T05:12:14.577	82.32	-8.77	71491.5	-32.12	-35.60
Jupiter	E	2038-04-09T08:08:02.215	41.80	-46.88	71491.4	-34.26	-37.83