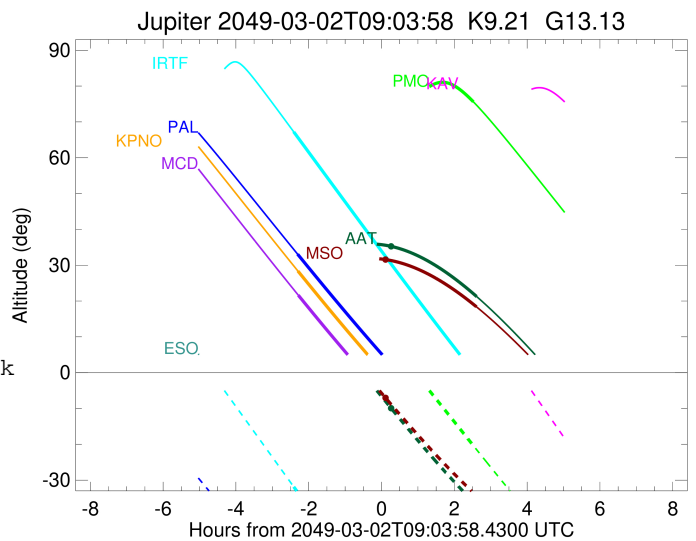
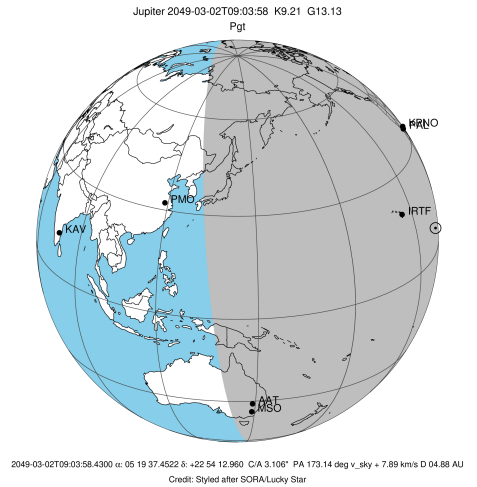




```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2049-03-02T09:15:13.180
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        : 3414838203954001536
2Mass ID (if available) : 05193744+2254130
ICRS Star Coord at Epoch: 05h 19m 37.45216s +22:54:12.96042s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 9.205
G magnitude           : 13.131
RP magnitude          : 12.069
BP magnitude          : 14.305
DUPflag              : 0
Distance (au)         : 4.880
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 7.89
Sun-Target sep (deg)  : 99.18
Sun-Moon sep (deg)   : 120.91
B (ring opening deg) : 2.37
PA of pole (deg)     : -3.50
Pole direction: RA (deg): 268.05740
Dec (deg): 64.49720
C/A sky separation (" ) : 3.950
C/A sky separation (km) : 13980.5
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
    
```

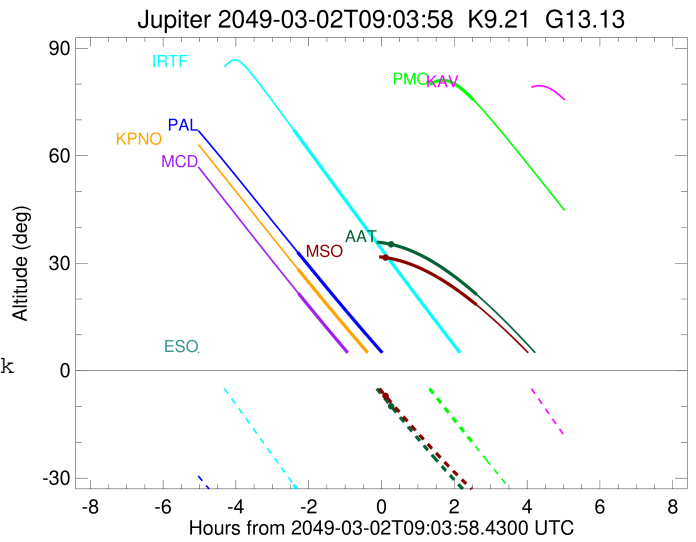
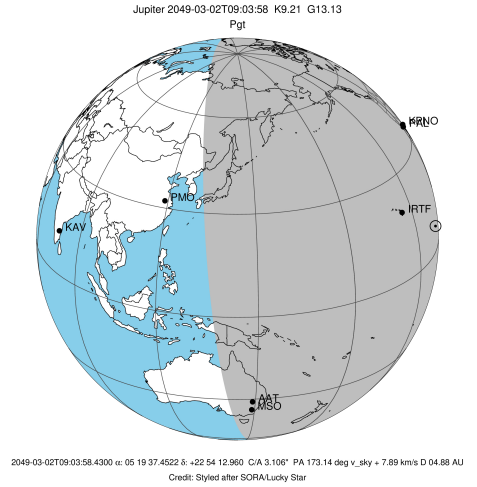


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-03-02T06:45:36.256	33.10	-58.75	71491.6	13.59	15.45
Jupiter	E	2049-03-02T11:39:33.127	-21.12x	-32.82	71491.8	8.99	10.25

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2049-03-02T08:59:36.680
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       : 3414838203954001536
2Mass ID (if available) : 05193744+2254130
ICRS Star Coord at Epoch: 05h 19m 37.45216s +22:54:12.96042s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 9.205
G magnitude           : 13.131
RP magnitude          : 12.069
BP magnitude          : 14.305
DUPflag              : 0
Distance (au)         : 4.879
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 7.89
Sun-Target sep (deg) : 99.18
Sun-Moon sep (deg)   : 122.22
B (ring opening deg) : 2.37
PA of pole (deg)     : -3.50
Pole direction: RA (deg): 268.05740
Dec (deg): 64.49720
C/A sky separation (") : 3.513
C/A sky separation (km) : 12433.3
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
    
```

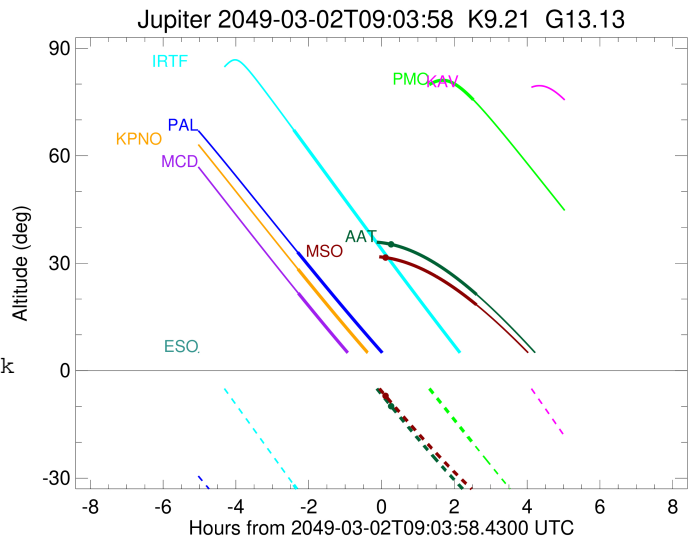
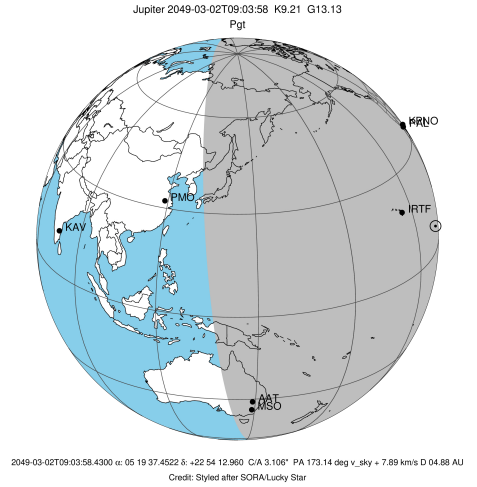


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-03-02T06:25:27.817	32.49	40.42x	71491.5	14.41	16.37
Jupiter	E	2049-03-02T11:35:06.108	75.65	-20.30	71491.9	6.19	7.07

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2049-03-02T09:15:08.210
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        : 3414838203954001536
2Mass ID (if available) : 05193744+2254130
ICRS Star Coord at Epoch: 05h 19m 37.45216s +22:54:12.96042s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 9.205
G magnitude           : 13.131
RP magnitude          : 12.069
BP magnitude          : 14.305
DUPflag              : 0
Distance (au)         : 4.880
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 7.89
Sun-Target sep (deg) : 99.18
Sun-Moon sep (deg)   : 120.84
B (ring opening deg) : 2.37
PA of pole (deg)     : -3.50
Pole direction: RA (deg): 268.05740
Dec (deg): 64.49720
C/A sky separation (") : 3.973
C/A sky separation (km) : 14059.2
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
    
```

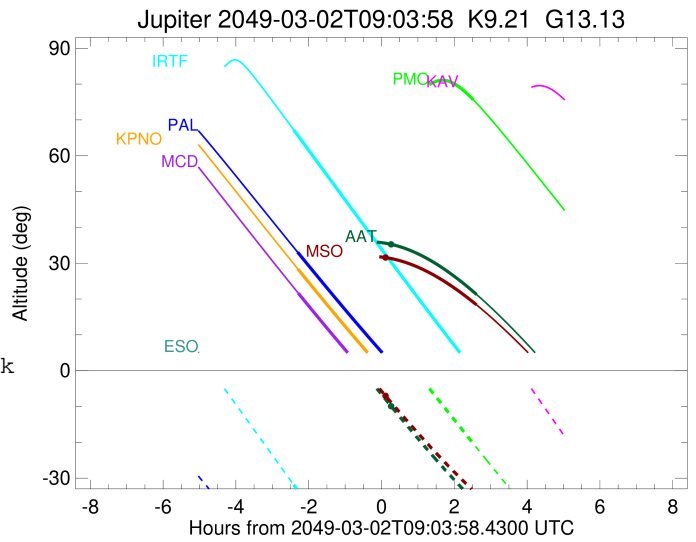
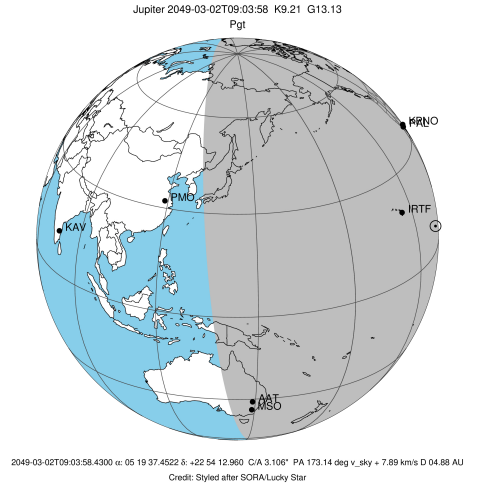


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-03-02T06:46:12.183	28.37	-62.40	71491.6	13.61	15.46
Jupiter	E	2049-03-02T11:38:52.265	-24.92x	-28.92	71491.8	9.03	10.30

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2049-03-02T09:14:46.860
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       : 3414838203954001536
2Mass ID (if available) : 05193744+2254130
ICRS Star Coord at Epoch: 05h 19m 37.45216s +22:54:12.96042s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 9.205
G magnitude           : 13.131
RP magnitude         : 12.069
BP magnitude         : 14.305
DUPflag              : 0
Distance (au)        : 4.880
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 7.89
Sun-Target sep (deg) : 99.18
Sun-Moon sep (deg)   : 120.76
B (ring opening deg) : 2.37
PA of pole (deg)     : -3.50
Pole direction: RA (deg): 268.05740
Dec (deg): 64.49720
C/A sky separation (") : 4.023
C/A sky separation (km) : 14236.5
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
    
```

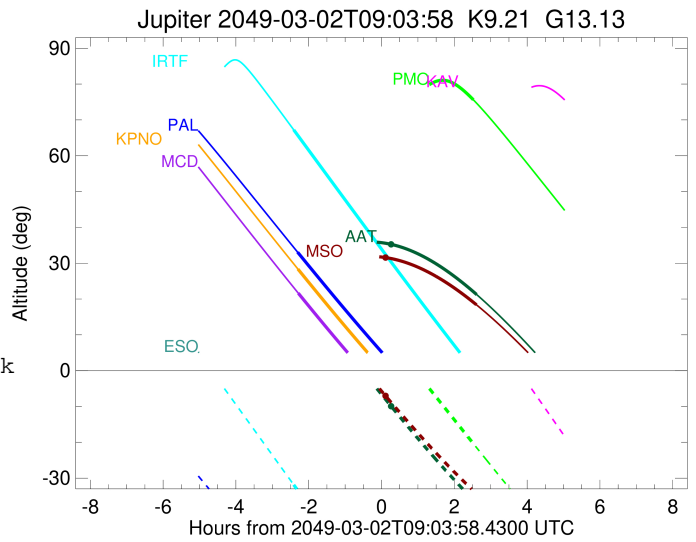
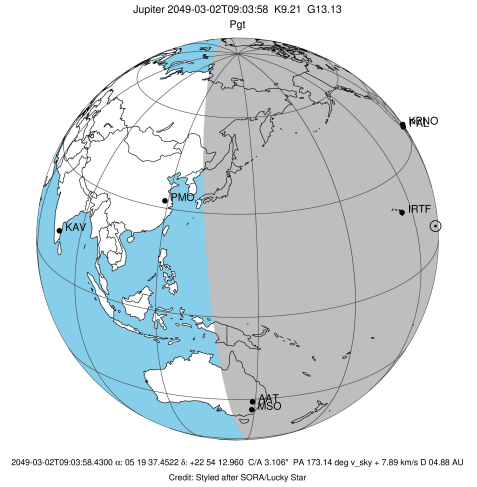


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-03-02T06:46:52.503	21.62	-65.99	71491.6	13.71	15.58
Jupiter	E	2049-03-02T11:37:42.290	-29.51x	-22.92	71491.8	9.13	10.41

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2049-03-02T09:15:03.070
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      : 3414838203954001536
2Mass ID (if available) : 05193744+2254130
ICRS Star Coord at Epoch: 05h 19m 37.45216s +22:54:12.96042s
RUWE (>1.4 is poor) : 1.02
K magnitude          : 9.205
G magnitude          : 13.131
RP magnitude         : 12.069
BP magnitude         : 14.305
DUPflag             : 0
Distance (au)       : 4.880
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 7.89
Sun-Target sep (deg) : 99.18
Sun-Moon sep (deg)  : 121.30
B (ring opening deg) : 2.37
PA of pole (deg)    : -3.50
Pole direction: RA (deg): 268.05740
Dec (deg): 64.49720
C/A sky separation (") : 3.183
C/A sky separation (km) : 11266.4
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
    
```

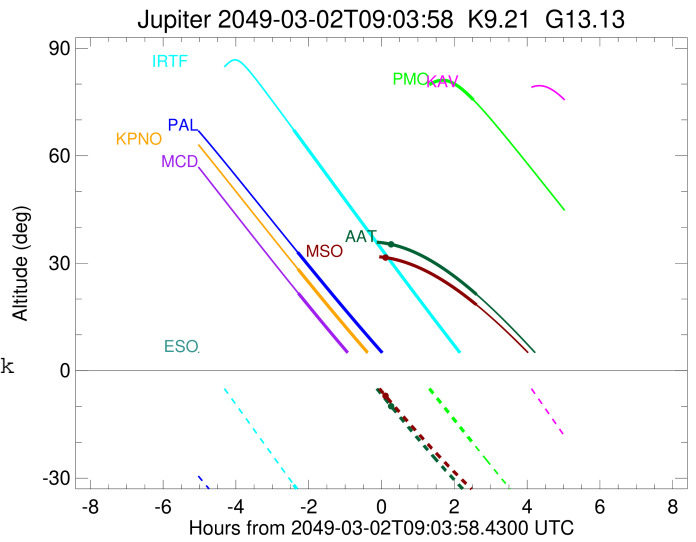
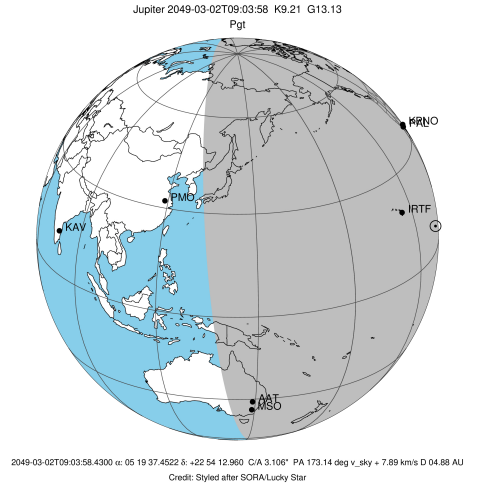


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-03-02T06:39:16.983	67.22	-31.85	71491.7	11.82	13.45
Jupiter	E	2049-03-02T11:44:56.678	-1.82x	-68.52	71491.9	6.87	7.84

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2049-03-02T09:03:46.610
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       : 3414838203954001536
2Mass ID (if available) : 05193744+2254130
ICRS Star Coord at Epoch: 05h 19m 37.45216s +22:54:12.96042s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 9.205
G magnitude           : 13.131
RP magnitude          : 12.069
BP magnitude          : 14.305
DUPflag              : 0
Distance (au)        : 4.880
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 7.89
Sun-Target sep (deg) : 99.18
Sun-Moon sep (deg)   : 121.69
B (ring opening deg) : 2.37
PA of pole (deg)     : -3.50
Pole direction: RA (deg): 268.05740
Dec (deg): 64.49720
C/A sky separation (") : 1.634
C/A sky separation (km) : 5784.4
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
    
```

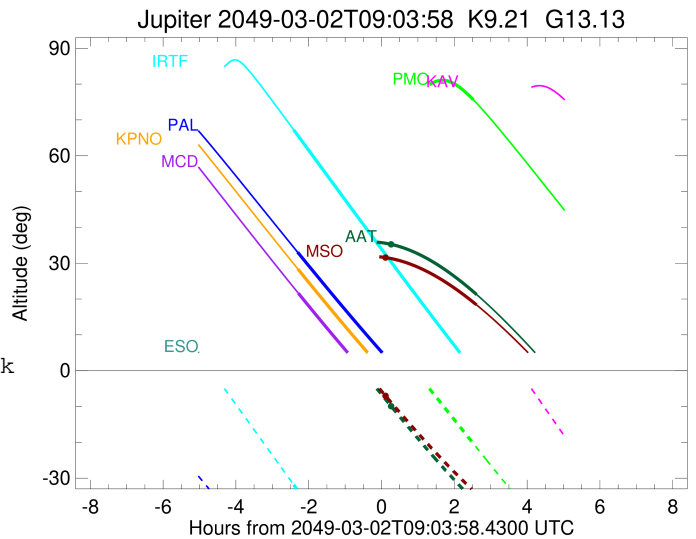
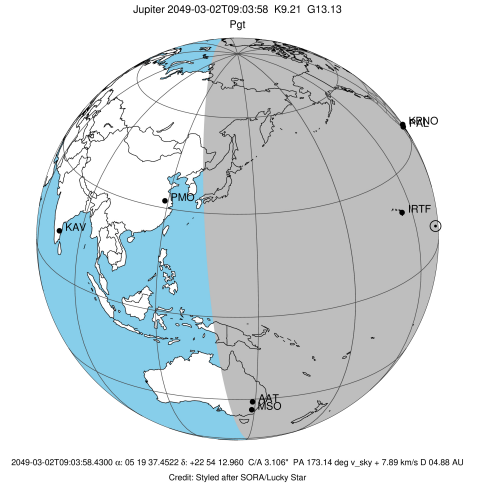


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-03-02T06:25:22.110	26.53	27.15x	71491.8	8.63	9.84
Jupiter	E	2049-03-02T11:40:47.078	21.25	-36.94	71492.0	1.46	1.67

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2049-03-02T09:03:39.030
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      : 3414838203954001536
2Mass ID (if available) : 05193744+2254130
ICRS Star Coord at Epoch: 05h 19m 37.45216s +22:54:12.96042s
RUWE (>1.4 is poor) : 1.02
K magnitude          : 9.205
G magnitude          : 13.131
RP magnitude         : 12.069
BP magnitude         : 14.305
DUPflag             : 0
Distance (au)       : 4.880
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 7.89
Sun-Target sep (deg) : 99.18
Sun-Moon sep (deg)  : 121.65
B (ring opening deg) : 2.37
PA of pole (deg)    : -3.50
Pole direction: RA (deg): 268.05740
Dec (deg): 64.49720
C/A sky separation (") : 1.565
C/A sky separation (km) : 5539.9
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	2049-03-02T06:25:32.679	23.23	26.49x	71491.8	8.40	9.59
Jupiter	E	2049-03-02T11:40:22.892	18.40	-34.24	71492.0	1.26	1.44