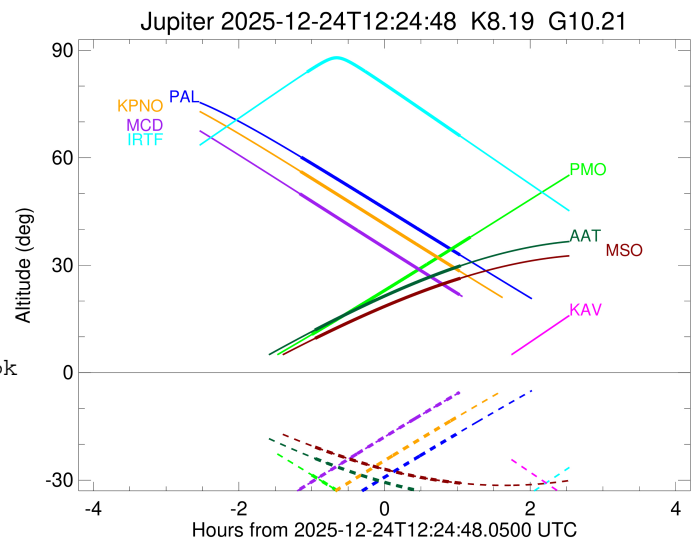
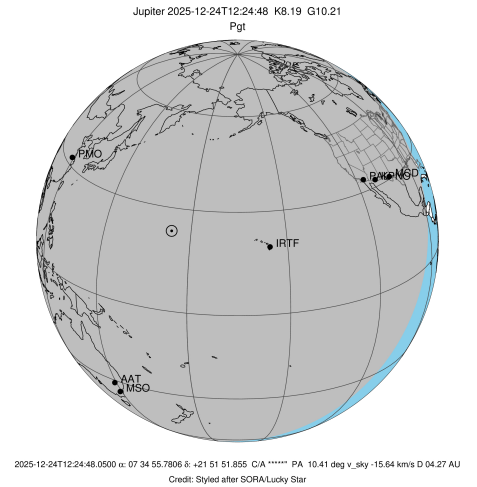



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2025-12-24T12:21:24.220
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        : 865391865255822464
2Mass ID (if available) : 07345574+2151522
ICRS Star Coord at Epoch: 07h 34m 55.78064s +21:51:51.85467s
RUWE (>1.4 is poor) : 1.13
K magnitude           : 8.190
G magnitude           : 10.214
RP magnitude          : 9.567
BP magnitude          : 10.700
DUPflag              : 0
Distance (au)         : 4.271
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -15.64
Sun-Target sep (deg)  : 160.65
Sun-Moon sep (deg)   : 148.91
B (ring opening deg) : 1.38
PA of pole (deg)     : 10.75
Pole direction: RA (deg): 268.05771
Dec (deg): 64.49669
C/A sky separation (") : 11.324
C/A sky separation (km) : 35078.1
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
    
```

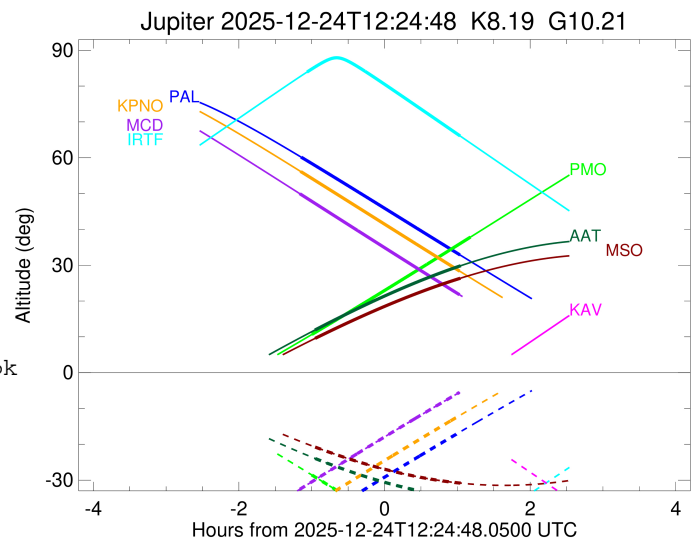
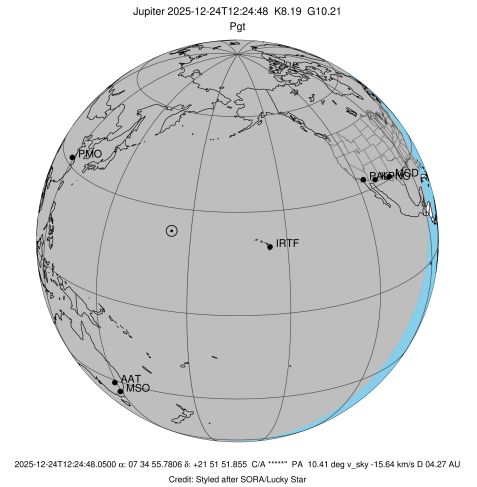


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2025-12-24T11:16:09.504	60.15	-43.44	71491.3	-30.23	-33.62
Jupiter	E	2025-12-24T13:26:57.561	32.88	-16.57	71491.4	-28.47	-31.74

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2025-12-24T12:30:28.340
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       : 865391865255822464
2Mass ID (if available) : 07345574+2151522
ICRS Star Coord at Epoch: 07h 34m 55.78064s +21:51:51.85467s
RUWE (>1.4 is poor) : 1.13
K magnitude           : 8.190
G magnitude           : 10.214
RP magnitude          : 9.567
BP magnitude          : 10.700
DUPflag              : 0
Distance (au)        : 4.271
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.64
Sun-Target sep (deg) : 160.65
Sun-Moon sep (deg)   : 149.91
B (ring opening deg) : 1.38
PA of pole (deg)     : 10.75
Pole direction: RA (deg): 268.05771
Dec (deg): 64.49669
C/A sky separation (") : 11.649
C/A sky separation (km) : 36084.7
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
    
```

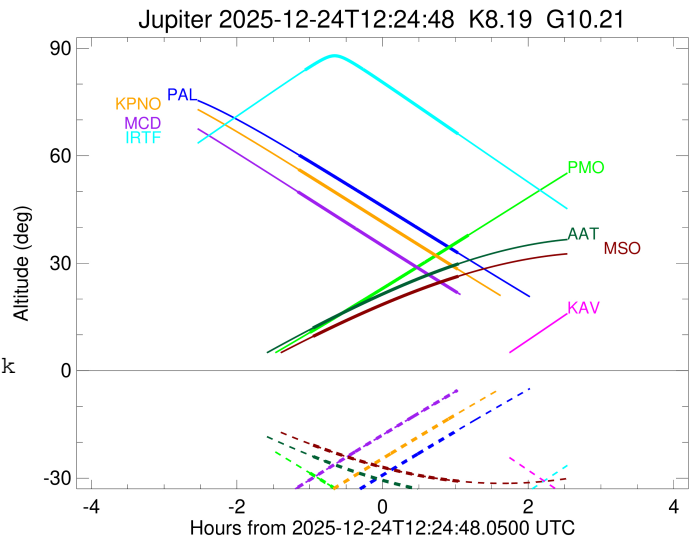
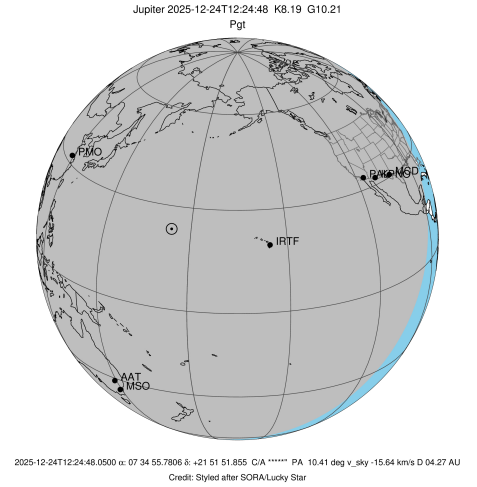


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2025-12-24T11:24:59.648	10.67	-28.57	71491.4	-30.16	-33.54
Jupiter	E	2025-12-24T13:35:29.841	37.81	-56.12	71491.3	-30.33	-33.72

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2025-12-24T12:21:01.460
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        : 865391865255822464
2Mass ID (if available) : 07345574+2151522
ICRS Star Coord at Epoch: 07h 34m 55.78064s +21:51:51.85467s
RUWE (>1.4 is poor) : 1.13
K magnitude           : 8.190
G magnitude           : 10.214
RP magnitude          : 9.567
BP magnitude          : 10.700
DUPflag              : 0
Distance (au)         : 4.271
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -15.64
Sun-Target sep (deg)  : 160.65
Sun-Moon sep (deg)   : 148.83
B (ring opening deg) : 1.38
PA of pole (deg)     : 10.75
Pole direction: RA (deg): 268.05771
Dec (deg): 64.49669
C/A sky separation (") : 11.303
C/A sky separation (km) : 35011.6
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
    
```

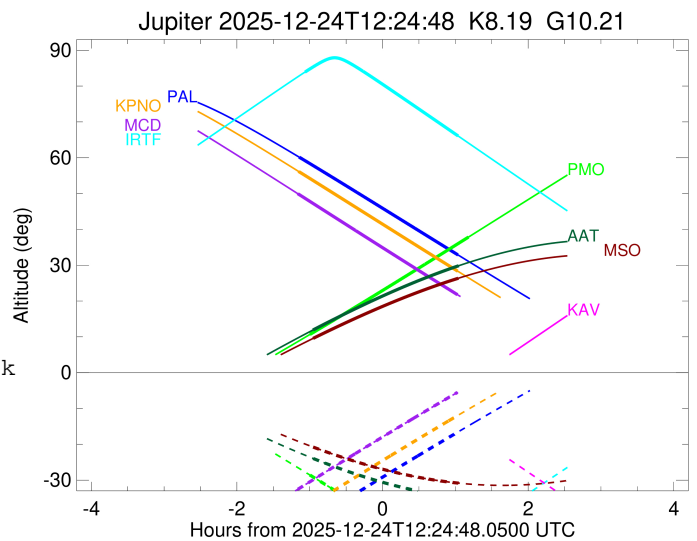
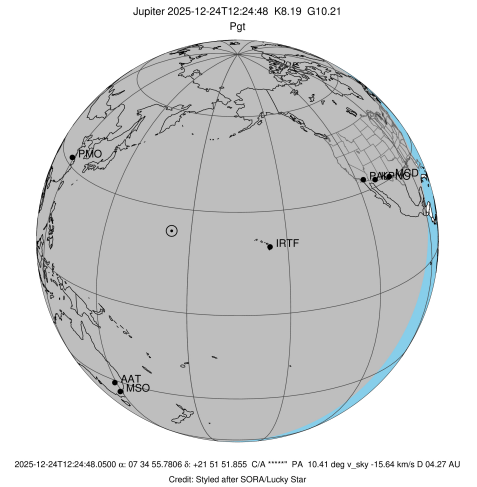


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2025-12-24T11:15:39.536	56.17	-39.02	71491.4	-30.20	-33.58
Jupiter	E	2025-12-24T13:26:43.893	28.34	-11.96	71491.4	-28.39	-31.66

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2025-12-24T12:20:34.640
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      : 865391865255822464
2Mass ID (if available) : 07345574+2151522
ICRS Star Coord at Epoch: 07h 34m 55.78064s +21:51:51.85467s
RUWE (>1.4 is poor) : 1.13
K magnitude          : 8.190
G magnitude          : 10.214
RP magnitude         : 9.567
BP magnitude         : 10.700
DUPflag             : 0
Distance (au)       : 4.271
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : -15.64
Sun-Target sep (deg) : 160.65
Sun-Moon sep (deg)  : 148.74
B (ring opening deg) : 1.38
PA of pole (deg)    : 10.75
Pole direction: RA (deg): 268.05771
Dec (deg): 64.49669
C/A sky separation (") : 11.247
C/A sky separation (km) : 34838.8
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
    
```

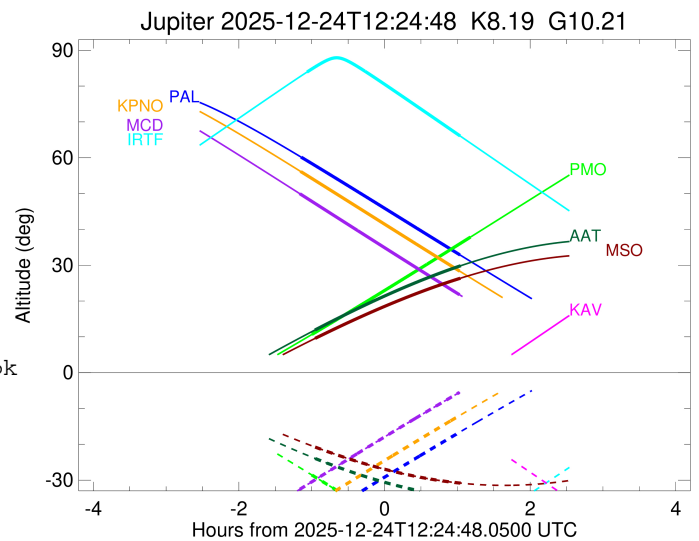
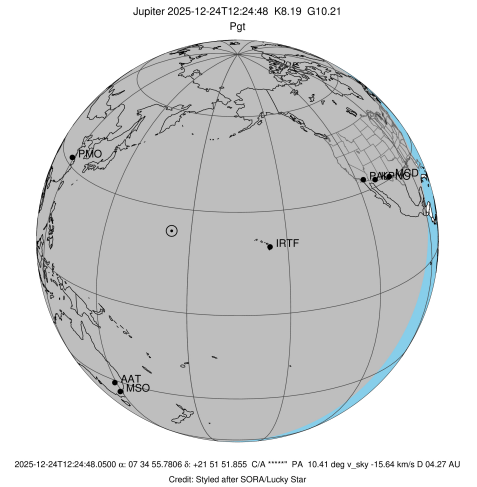


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2025-12-24T11:14:57.898	49.96	-32.57	71491.4	-30.07	-33.45
Jupiter	E	2025-12-24T13:26:34.227	21.76	-5.50	71491.4	-28.22	-31.49

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2025-12-24T12:23:58.090
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       : 865391865255822464
2Mass ID (if available) : 07345574+2151522
ICRS Star Coord at Epoch: 07h 34m 55.78064s +21:51:51.85467s
RUWE (>1.4 is poor) : 1.13
K magnitude           : 8.190
G magnitude           : 10.214
RP magnitude         : 9.567
BP magnitude         : 10.700
DUPflag              : 0
Distance (au)        : 4.271
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.64
Sun-Target sep (deg) : 160.65
Sun-Moon sep (deg)   : 149.37
B (ring opening deg) : 1.38
PA of pole (deg)     : 10.75
Pole direction: RA (deg): 268.05771
Dec (deg): 64.49669
C/A sky separation (") : 12.166
C/A sky separation (km) : 37684.7
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
    
```

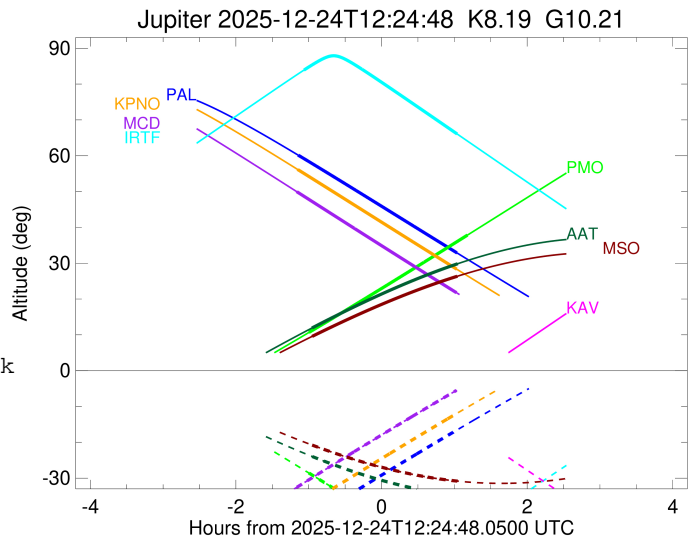
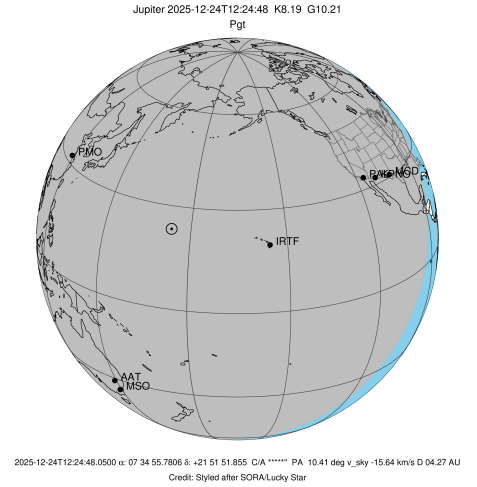


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2025-12-24T11:20:54.093	83.89	-75.73	71491.3	-32.44	-35.94
Jupiter	E	2025-12-24T13:27:06.501	66.07	-46.89	71491.3	-31.02	-34.44

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2025-12-24T12:27:48.390
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        : 865391865255822464
2Mass ID (if available) : 07345574+2151522
ICRS Star Coord at Epoch: 07h 34m 55.78064s +21:51:51.85467s
RUWE (>1.4 is poor) : 1.13
K magnitude           : 8.190
G magnitude           : 10.214
RP magnitude          : 9.567
BP magnitude          : 10.700
DUPflag              : 0
Distance (au)         : 4.271
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -15.64
Sun-Target sep (deg) : 160.65
Sun-Moon sep (deg)   : 149.62
B (ring opening deg) : 1.38
PA of pole (deg)     : 10.75
Pole direction: RA (deg): 268.05771
Dec (deg): 64.49669
C/A sky separation (") : 13.816
C/A sky separation (km) : 42794.3
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
    
```

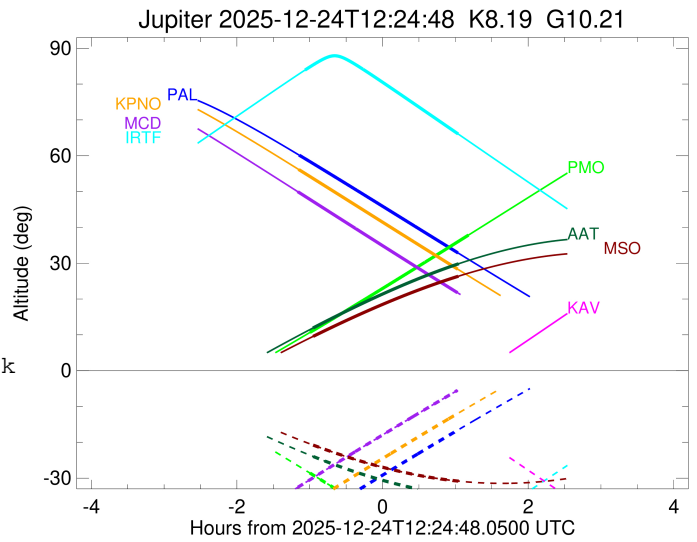
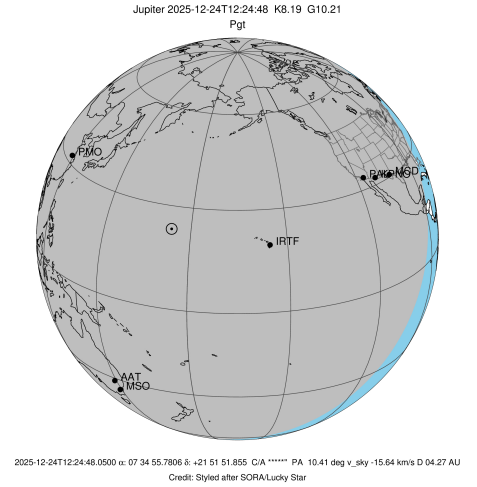


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2025-12-24T11:27:43.370	11.94	-23.96	71491.1	-36.84	-40.49
Jupiter	E	2025-12-24T13:27:36.922	29.85	-34.82	71491.1	-36.52	-40.17

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2025-12-24T12:27:34.940
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      : 865391865255822464
2Mass ID (if available) : 07345574+2151522
ICRS Star Coord at Epoch: 07h 34m 55.78064s +21:51:51.85467s
RUWE (>1.4 is poor) : 1.13
K magnitude          : 8.190
G magnitude          : 10.214
RP magnitude         : 9.567
BP magnitude         : 10.700
DUPflag             : 0
Distance (au)       : 4.271
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.64
Sun-Target sep (deg) : 160.65
Sun-Moon sep (deg)  : 149.57
B (ring opening deg) : 1.38
PA of pole (deg)    : 10.75
Pole direction: RA (deg): 268.05771
Dec (deg): 64.49669
C/A sky separation ("): 13.895
C/A sky separation (km): 43039.1
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	2025-12-24T11:27:38.856	9.57	-20.77	71491.1	-37.10	-40.76
Jupiter	E	2025-12-24T13:27:15.242	26.35	-30.83	71491.1	-36.76	-40.41