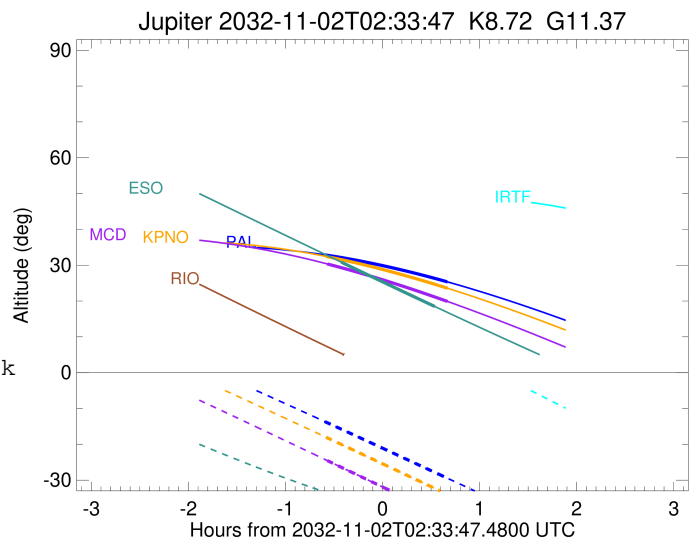
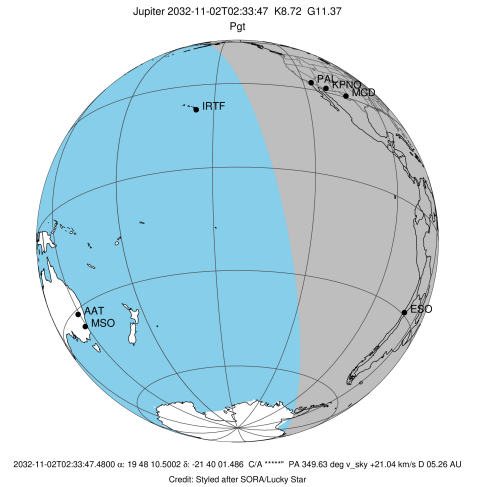




```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2032-11-02T02:36:06.760
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      : 6865069408033819392
2Mass ID (if available) : 19481049-2140009
ICRS Star Coord at Epoch: 19h 48m 10.50017s -21:40:01.48647s
RUWE (>1.4 is poor) : 1.12
K magnitude          : 8.721
G magnitude          : 11.367
RP magnitude         : 10.569
BP magnitude         : 12.061
DUPflag             : 0
Distance (au)       : 5.263
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 21.04
Sun-Target sep (deg) : 75.23
Sun-Moon sep (deg)  : 88.73
B (ring opening deg) : -0.96
PA of pole (deg)    : -12.05
Pole direction: RA (deg): 268.05656
Dec (deg): 64.49657
C/A sky separation (") : 14.110
C/A sky separation (km) : 53856.0
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
    
```

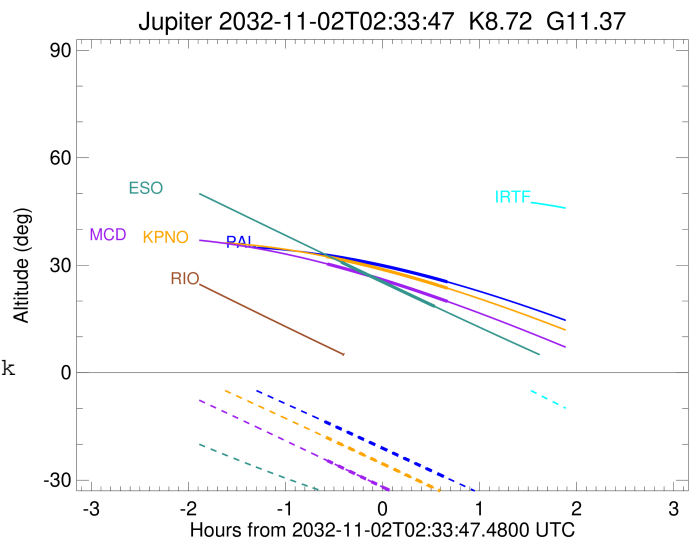
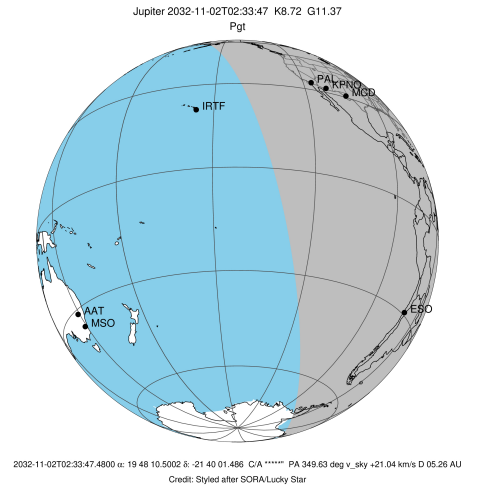


x: target alt < 5.0 deg or sun > -5.0 deg

| Target  | I/E | UTC                     | alt   | alt-sun | radius  | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I   | 2032-11-02T01:58:15.558 | 32.87 | -13.68  | 71491.3 | -50.22  | -53.80       |
| Jupiter | E   | 2032-11-02T03:13:53.146 | 25.35 | -29.46  | 71491.3 | -47.56  | -51.22       |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2032-11-02T02:36:26.170
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      : 6865069408033819392
2Mass ID (if available) : 19481049-2140009
ICRS Star Coord at Epoch: 19h 48m 10.50017s -21:40:01.48647s
RUWE (>1.4 is poor) : 1.12
K magnitude          : 8.721
G magnitude          : 11.367
RP magnitude         : 10.569
BP magnitude         : 12.061
DUPflag             : 0
Distance (au)       : 5.263
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 21.04
Sun-Target sep (deg) : 75.23
Sun-Moon sep (deg)  : 88.71
B (ring opening deg) : -0.96
PA of pole (deg)    : -12.05
Pole direction: RA (deg): 268.05656
Dec (deg): 64.49657
C/A sky separation (" ) : 14.180
C/A sky separation (km) : 54124.6
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
    
```

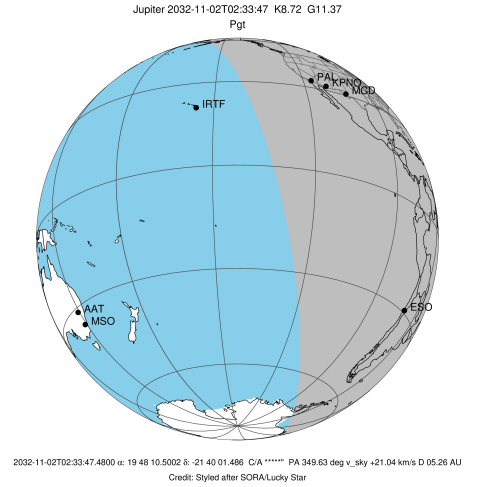


x: target alt < 5.0 deg or sun > -5.0 deg

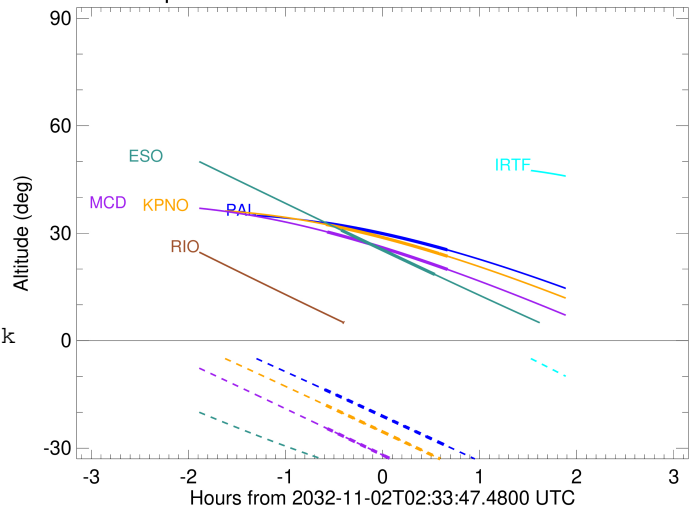
| Target  | I/E | UTC                     | alt   | alt-sun | radius  | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I   | 2032-11-02T01:58:51.127 | 32.45 | -18.02  | 71491.2 | -50.52  | -54.09       |
| Jupiter | E   | 2032-11-02T03:13:55.869 | 23.58 | -33.95  | 71491.3 | -47.91  | -51.56       |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2032-11-02T02:36:52.180
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       : 6865069408033819392
2Mass ID (if available) : 19481049-2140009
ICRS Star Coord at Epoch: 19h 48m 10.50017s -21:40:01.48647s
RUWE (>1.4 is poor) : 1.12
K magnitude           : 8.721
G magnitude           : 11.367
RP magnitude          : 10.569
BP magnitude          : 12.061
DUPflag              : 0
Distance (au)        : 5.263
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 21.04
Sun-Target sep (deg) : 75.23
Sun-Moon sep (deg)   : 88.67
B (ring opening deg) : -0.96
PA of pole (deg)     : -12.05
Pole direction: RA (deg): 268.05656
Dec (deg): 64.49657
C/A sky separation (") : 14.275
C/A sky separation (km) : 54486.0
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 2032-11-02T02:33:47 K8.72 G11.37

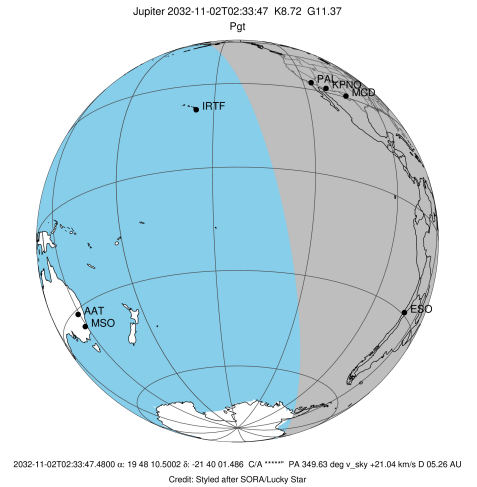


x: target alt < 5.0 deg or sun > -5.0 deg

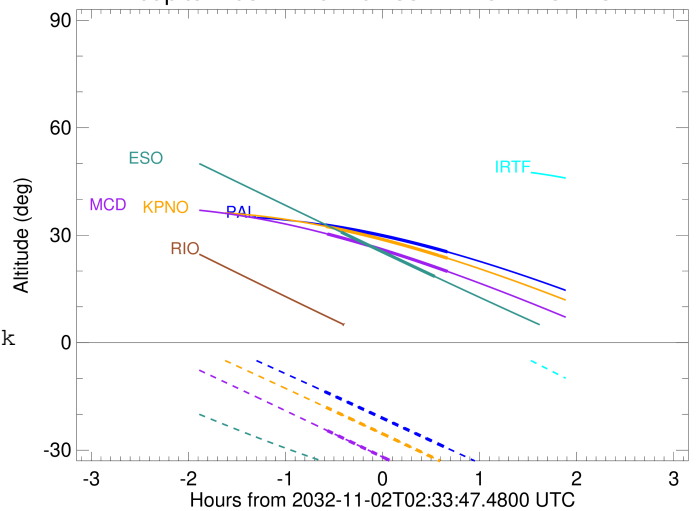
| Target  | I/E | UTC                     | alt   | alt-sun | radius  | lat-geo | lat-geodetic |
|---------|-----|-------------------------|-------|---------|---------|---------|--------------|
| Jupiter | I   | 2032-11-02T01:59:40.170 | 30.35 | -24.54  | 71491.2 | -50.93  | -54.48       |
| Jupiter | E   | 2032-11-02T03:13:58.233 | 19.88 | -40.53  | 71491.3 | -48.39  | -52.02       |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2032-11-02T02:37:34.850
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : RIO
Location            : Rio de Janeiro
Latitude (deg)      : -22.89506
E. Longitude (deg)  : 316.77708
Altitude (km)       : 0.033
Gaia source ID      : 6865069408033819392
2Mass ID (if available) : 19481049-2140009
ICRS Star Coord at Epoch: 19h 48m 10.50017s -21:40:01.48647s
RUWE (>1.4 is poor) : 1.12
K magnitude         : 8.721
G magnitude         : 11.367
RP magnitude        : 10.569
BP magnitude        : 12.061
DUPflag            : 0
Distance (au)       : 5.263
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 21.04
Sun-Target sep (deg) : 75.23
Sun-Moon sep (deg)  : 88.28
B (ring opening deg) : -0.96
PA of pole (deg)    : -12.05
Pole direction: RA (deg): 268.05656
Dec (deg): 64.49657
C/A sky separation (" ) : 16.253
C/A sky separation (km) : 62035.6
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
    
```



Jupiter 2032-11-02T02:33:47 K8.72 G11.37

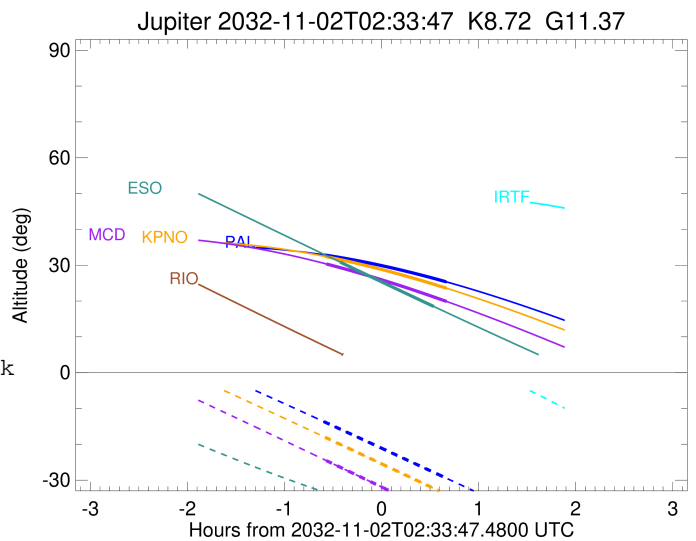
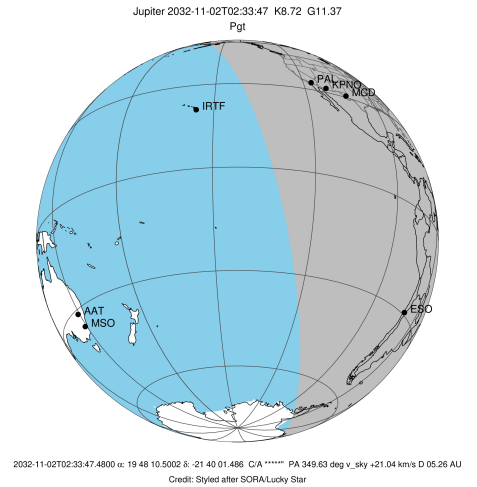


x: target alt < 5.0 deg or sun > -5.0 deg

| Target  | I/E | UTC                     | alt    | alt-sun | radius  | lat-geo | lat-geodetic |
|---------|-----|-------------------------|--------|---------|---------|---------|--------------|
| Jupiter | I   | 2032-11-02T02:09:31.511 | 5.11   | -51.80  | 71491.0 | -61.47  | -64.43       |
| Jupiter | E   | 2032-11-02T03:05:33.523 | -6.72x | -51.68  | 71491.1 | -58.86  | -62.00       |

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2032-11-02T02:37:13.860
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : ESO
Location              : European Southern Obs. (3.6m)
Latitude (deg)        : -29.26097
E. Longitude (deg)    : 289.26831
Altitude (km)         : 2.400
Gaia source ID        : 6865069408033819392
2Mass ID (if available) : 19481049-2140009
ICRS Star Coord at Epoch: 19h 48m 10.50017s -21:40:01.48647s
RUWE (>1.4 is poor) : 1.12
K magnitude           : 8.721
G magnitude           : 11.367
RP magnitude          : 10.569
BP magnitude          : 12.061
DUPflag              : 0
Distance (au)         : 5.263
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 21.04
Sun-Target sep (deg)  : 75.23
Sun-Moon sep (deg)    : 88.67
B (ring opening deg) : -0.96
PA of pole (deg)      : -12.05
Pole direction: RA (deg): 268.05656
Dec (deg): 64.49657
C/A sky separation (" ) : 16.126
C/A sky separation (km) : 61553.6
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   | 2032-11-02T02:08:15.840 | 30.86 | -34.80  | 71491.0 | -60.65  | -63.66       |
| Jupiter | E   | 2032-11-02T03:06:07.087 | 18.47 | -41.93  | 71491.1 | -58.17  | -61.36       |