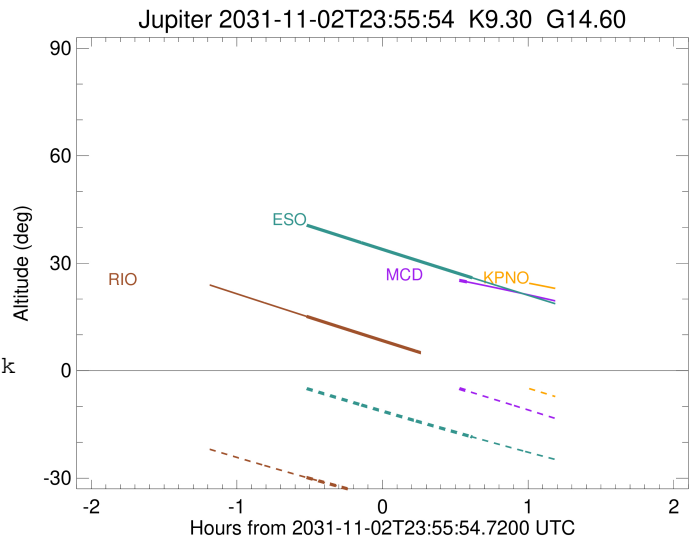
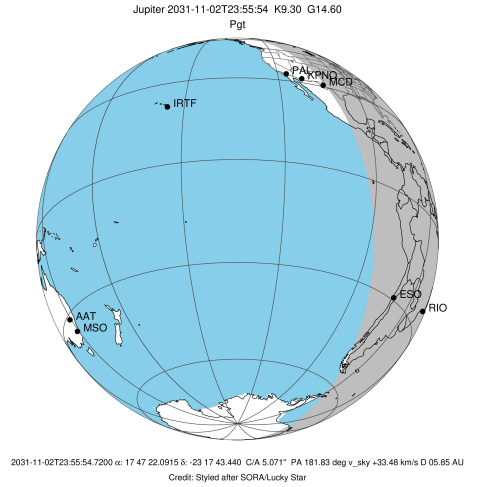



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-11-02T23:57:14.310
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        : 4068782399747883520
2Mass ID (if available) : 17472210-2317431
ICRS Star Coord at Epoch: 17h 47m 22.09147s -23:17:43.44018s
RUWE (>1.4 is poor) : 1.04
K magnitude           : 9.300
G magnitude           : 14.600
RP magnitude          : 13.237
BP magnitude          : 16.700
DUPflag              : 0
Distance (au)         : 5.855
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 33.48
Sun-Target sep (deg)  : 47.18
Sun-Moon sep (deg)    : 174.77
B (ring opening deg) : -2.20
PA of pole (deg)      : 0.52
Pole direction: RA (deg): 268.05680
Dec (deg): 64.49652
C/A sky separation (" ) : 6.240
C/A sky separation (km) : 26495.7
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
    
```

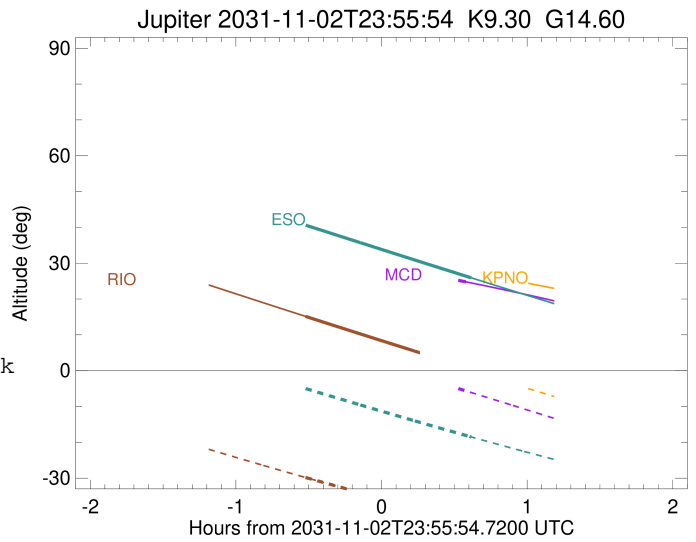
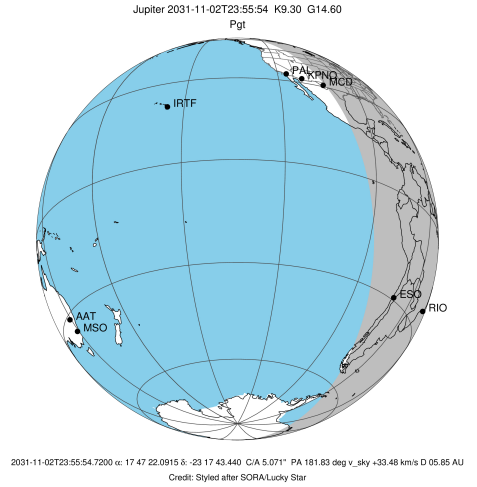


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-11-02T23:23:48.720	32.32	8.03x	71491.2	20.54	23.16
Jupiter	E	2031-11-03T00:30:37.606	24.80	-5.64	71491.0	22.90	25.75

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-11-02T23:58:55.110
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       : 4068782399747883520
2Mass ID (if available) : 17472210-2317431
ICRS Star Coord at Epoch: 17h 47m 22.09147s -23:17:43.44018s
RUWE (>1.4 is poor) : 1.04
K magnitude          : 9.300
G magnitude          : 14.600
RP magnitude         : 13.237
BP magnitude         : 16.700
DUPflag             : 0
Distance (au)        : 5.855
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 33.48
Sun-Target sep (deg) : 47.18
Sun-Moon sep (deg)   : 175.76
B (ring opening deg) : -2.20
PA of pole (deg)     : 0.52
Pole direction: RA (deg): 268.05680
Dec (deg): 64.49652
C/A sky separation ("): 4.573
C/A sky separation (km): 19419.4
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
    
```

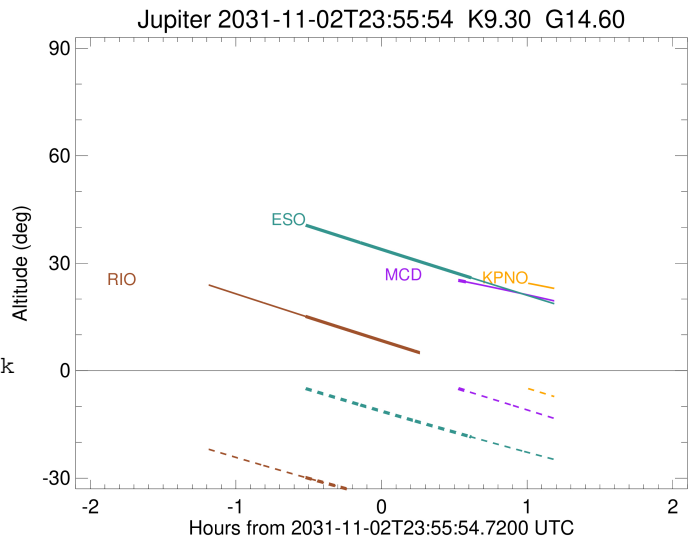
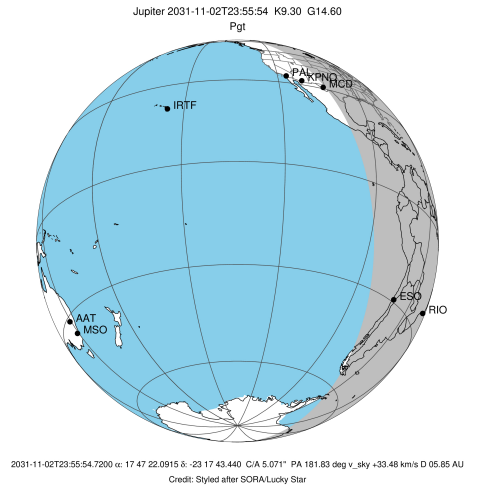


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-11-02T23:24:37.991	15.15	-29.82	71491.6	14.74	16.73
Jupiter	E	2031-11-03T00:33:07.709	0.49x	-41.72	71491.4	16.76	18.99

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-11-02T23:58:27.790
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        : 4068782399747883520
2Mass ID (if available) : 17472210-2317431
ICRS Star Coord at Epoch: 17h 47m 22.09147s -23:17:43.44018s
RUWE (>1.4 is poor) : 1.04
K magnitude           : 9.300
G magnitude           : 14.600
RP magnitude          : 13.237
BP magnitude          : 16.700
DUPflag              : 0
Distance (au)         : 5.855
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 33.48
Sun-Target sep (deg) : 47.18
Sun-Moon sep (deg)   : 175.65
B (ring opening deg) : -2.20
PA of pole (deg)     : 0.52
Pole direction: RA (deg): 268.05680
Dec (deg): 64.49652
C/A sky separation (") : 4.673
C/A sky separation (km) : 19841.0
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	2031-11-02T23:24:02.834	40.74	-4.86x	71491.6	15.03	17.06
Jupiter	E	2031-11-03T00:32:48.788	25.93	-18.48	71491.4	17.15	19.42