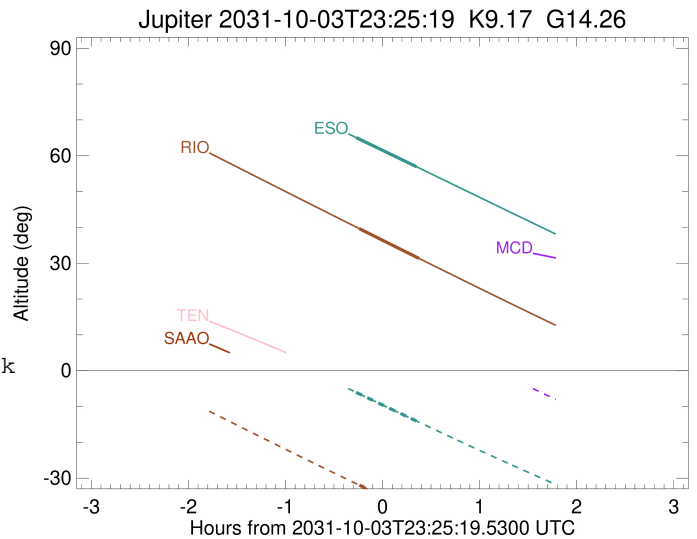
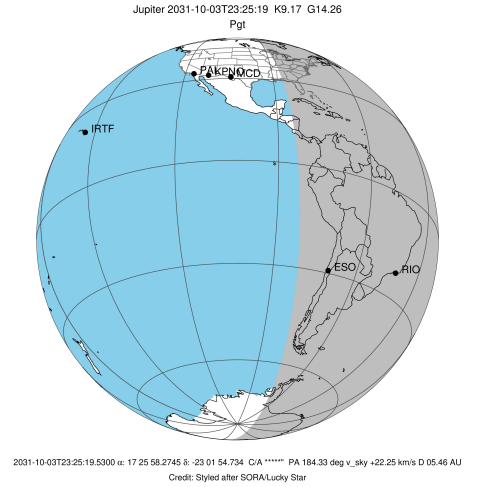



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-10-03T23:29:28.130
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      : 4111665724006038272
2Mass ID (if available) : 17255828-2301544
ICRS Star Coord at Epoch: 17h 25m 58.27452s -23:01:54.73355s
RUWE (>1.4 is poor) : 0.95
K magnitude          : 9.168
G magnitude          : 14.260
RP magnitude         : 12.994
BP magnitude         : 16.064
DUPflag             : 0
Distance (au)       : 5.463
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 22.25
Sun-Target sep (deg) : 72.06
Sun-Moon sep (deg)  : 148.51
B (ring opening deg) : -2.32
PA of pole (deg)    : 2.82
Pole direction: RA (deg): 268.05683
Dec (deg): 64.49652
C/A sky separation (") : 16.967
C/A sky separation (km) : 67225.0
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
    
```

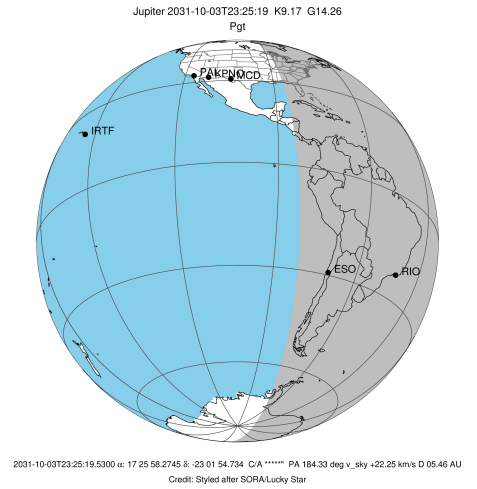


x: target alt < 5.0 deg or sun > -5.0 deg

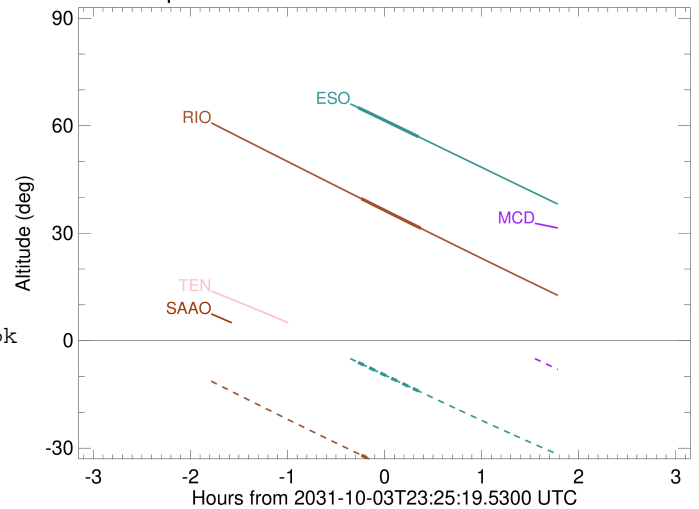
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-10-03T23:11:03.050	39.63	-31.96	71485.6	68.82	71.15
Jupiter	E	2031-10-03T23:47:51.375	31.34	-39.72	71485.4	71.14	73.25

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-10-03T23:27:41.980
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      : 4111665724006038272
2Mass ID (if available) : 17255828-2301544
ICRS Star Coord at Epoch: 17h 25m 58.27452s -23:01:54.73355s
RUWE (>1.4 is poor) : 0.95
K magnitude          : 9.168
G magnitude          : 14.260
RP magnitude         : 12.994
BP magnitude         : 16.064
DUPflag             : 0
Distance (au)       : 5.463
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 22.25
Sun-Target sep (deg) : 72.06
Sun-Moon sep (deg)  : 148.38
B (ring opening deg) : -2.32
PA of pole (deg)    : 2.82
Pole direction: RA (deg): 268.05683
Dec (deg): 64.49652
C/A sky separation (" ) : 16.955
C/A sky separation (km) : 67178.4
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
    
```



Jupiter 2031-10-03T23:25:19 K9.17 G14.26



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	2031-10-03T23:09:04.789	65.05	-6.06	71485.6	68.52	70.88
Jupiter	E	2031-10-03T23:46:17.956	56.93	-14.05	71485.4	71.21	73.31