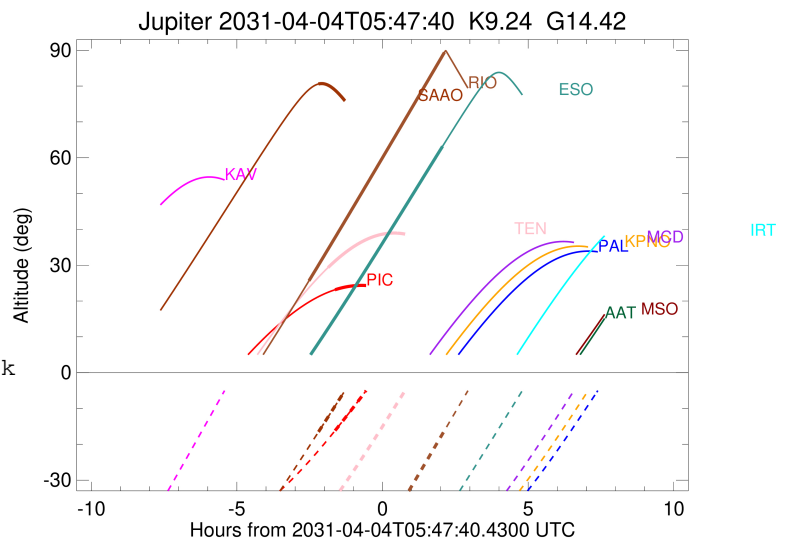
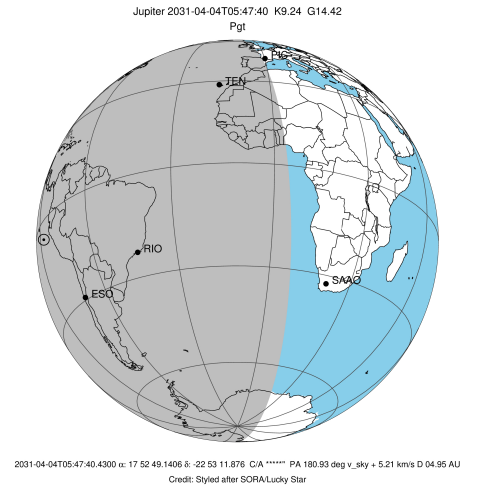



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-04-04T05:51:26.130
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : PIC
Location             : Pic du Midi
Latitude (deg)       : 42.93656
E. Longitude (deg)   : 0.14231
Altitude (km)        : 2.890
Gaia source ID       : 4070200082548880896
2Mass ID (if available) : 17524916-2253117
ICRS Star Coord at Epoch: 17h 52m 49.14061s -22:53:11.87599s
RUWE (>1.4 is poor) : 0.87
K magnitude           : 9.238
G magnitude           : 14.418
RP magnitude          : 13.144
BP magnitude          : 16.229
DUPflag              : 0
Distance (au)        : 4.949
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 5.21
Sun-Target sep (deg) : 105.49
Sun-Moon sep (deg)   : 117.49
B (ring opening deg) : -2.62
PA of pole (deg)     : -0.06
Pole direction: RA (deg): 268.05698
Dec (deg): 64.49651
C/A sky separation (") : 18.157
C/A sky separation (km) : 65174.7
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
    
```

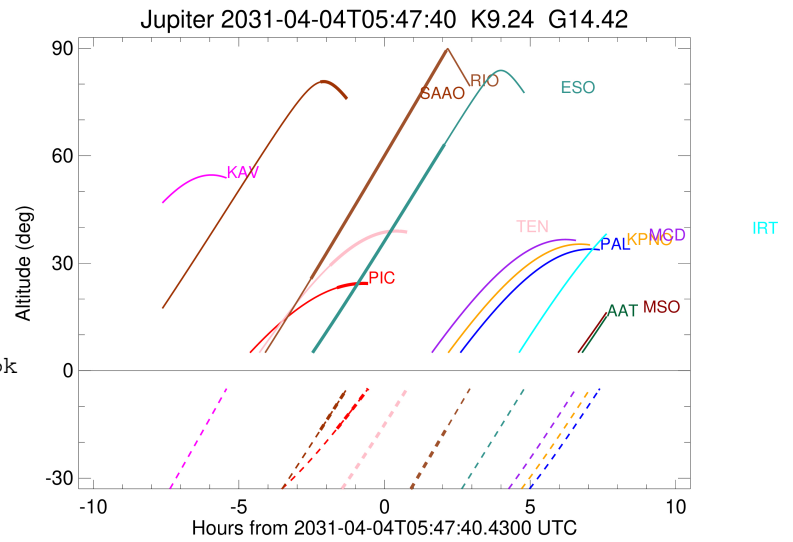
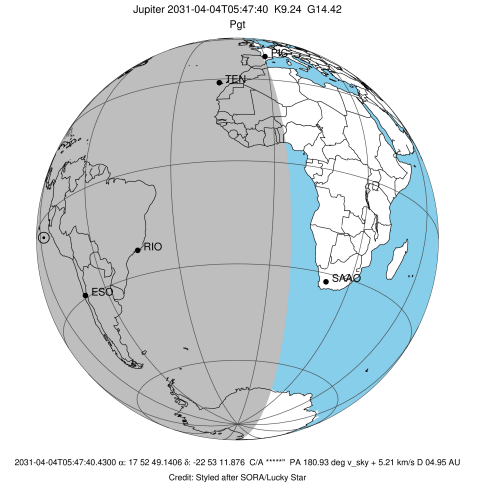


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-04-04T04:09:53.856	23.14	-16.19	71484.4	64.55	67.26
Jupiter	E	2031-04-04T07:32:59.911	15.97	20.36x	71484.2	66.01	68.60

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-04-04T05:44:20.000
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : TEN
Location              : Teide Obs./Tenerife
Latitude (deg)        : 28.30050
E. Longitude (deg)    : 343.48909
Altitude (km)         : 2.395
Gaia source ID        : 4070200082548880896
2Mass ID (if available) : 17524916-2253117
ICRS Star Coord at Epoch: 17h 52m 49.14061s -22:53:11.87599s
RUWE (>1.4 is poor) : 0.87
K magnitude           : 9.238
G magnitude           : 14.418
RP magnitude          : 13.144
BP magnitude          : 16.229
DUPflag              : 0
Distance (au)         : 4.949
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 5.21
Sun-Target sep (deg)  : 105.49
Sun-Moon sep (deg)   : 117.78
B (ring opening deg)  : -2.62
PA of pole (deg)     : -0.06
Pole direction: RA (deg): 268.05698
Dec (deg): 64.49651
C/A sky separation (") : 17.921
C/A sky separation (km) : 64329.5
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
    
```

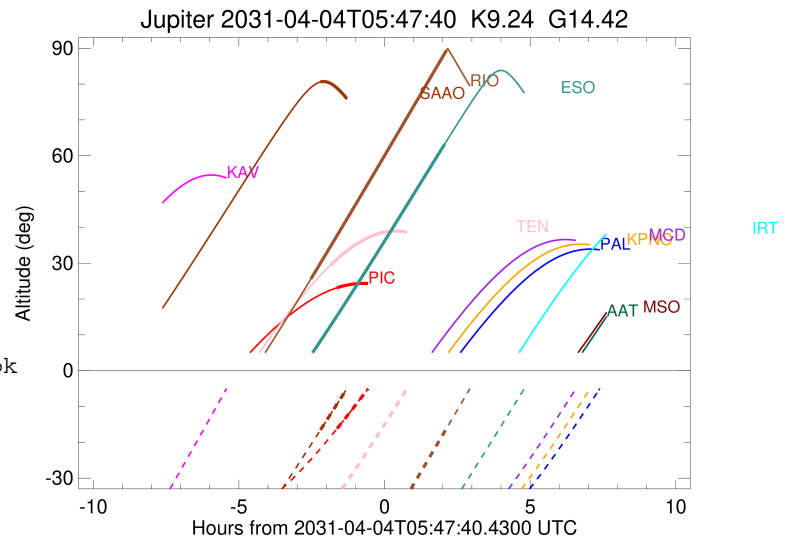
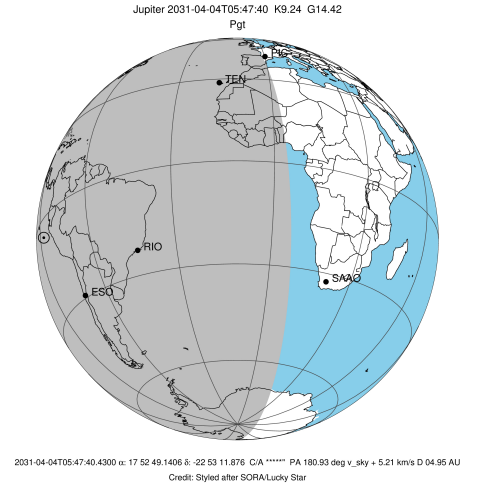


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-04-04T03:55:30.003	29.34	-37.62	71484.7	62.33	65.22
Jupiter	E	2031-04-04T07:34:40.823	35.13	8.29x	71484.4	64.84	67.53

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-04-04T05:32:31.310
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      : 4070200082548880896
2Mass ID (if available) : 17524916-2253117
ICRS Star Coord at Epoch: 17h 52m 49.14061s -22:53:11.87599s
RUWE (>1.4 is poor) : 0.87
K magnitude          : 9.238
G magnitude          : 14.418
RP magnitude         : 13.144
BP magnitude         : 16.229
DUPflag             : 0
Distance (au)       : 4.949
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 5.21
Sun-Target sep (deg) : 105.49
Sun-Moon sep (deg)  : 118.19
B (ring opening deg) : -2.62
PA of pole (deg)    : -0.06
Pole direction: RA (deg): 268.05698
Dec (deg): 64.49651
C/A sky separation (") : 16.418
C/A sky separation (km) : 58932.8
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
    
```

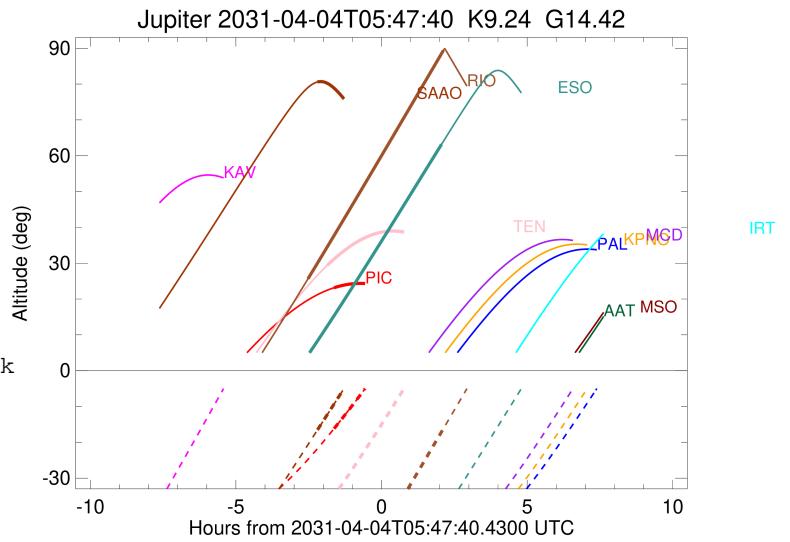
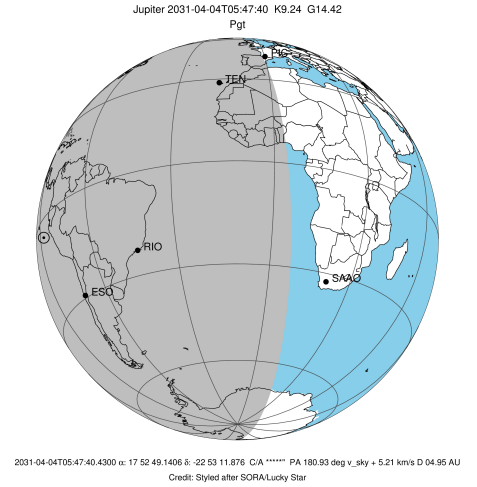


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-04-04T03:16:09.122	25.63	-72.16	71486.1	52.90	56.37
Jupiter	E	2031-04-04T07:55:14.613	89.39	-16.18	71485.4	57.11	60.36

```

target           : Jupiter
target radius (km) : 71492.00
C/A epoch       : 2031-04-04T05:26:14.100
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  : 4070200082548880896
2Mass ID (if available) : 17524916-2253117
ICRS Star Coord at Epoch: 17h 52m 49.14061s -22:53:11.87599s
RUWE (>1.4 is poor) : 0.87
K magnitude     : 9.238
G magnitude     : 14.418
RP magnitude    : 13.144
BP magnitude    : 16.229
DUPflag        : 0
Distance (au)   : 4.949
f0 (km)         : 0.00
g0 (km)         : 0.00
skyplane vel. (km/s) : 5.21
Sun-Target sep (deg) : 105.49
Sun-Moon sep (deg) : 118.09
B (ring opening deg) : -2.62
PA of pole (deg) : -0.06
Pole direction: RA (deg): 268.05698
Dec (deg): 64.49651
C/A sky separation (") : 15.990
C/A sky separation (km) : 57397.3
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
    
```

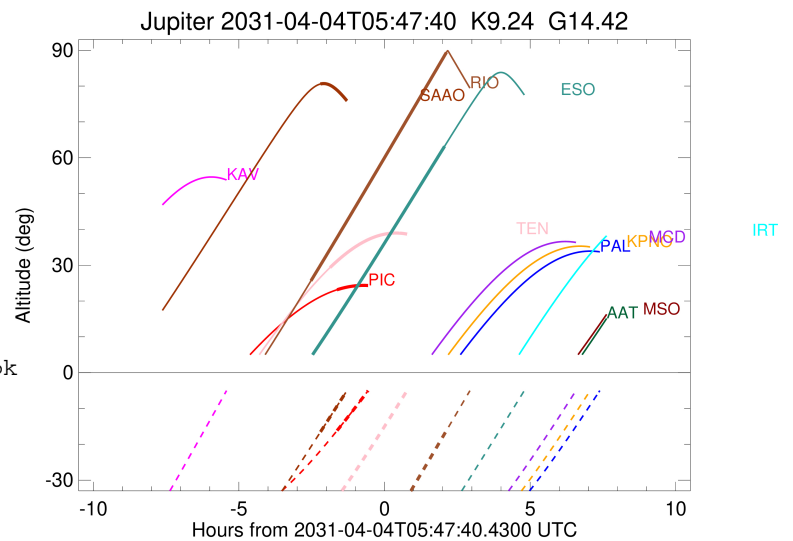
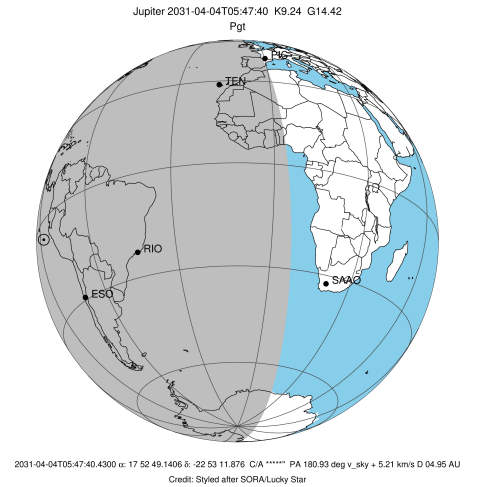


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-04-04T03:09:14.214	2.96x	-57.19	71486.4	50.63	54.20
Jupiter	E	2031-04-04T07:51:30.395	63.20	-40.39	71485.6	55.68	59.02

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-04-04T06:00:42.710
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : SAAO
Location             : So. Afr. Astro. Obs. (Sutherland)
Latitude (deg)       : -32.37953
E. Longitude (deg)   : 20.81070
Altitude (km)        : 1.768
Gaia source ID       : 4070200082548880896
2Mass ID (if available) : 17524916-2253117
ICRS Star Coord at Epoch: 17h 52m 49.14061s -22:53:11.87599s
RUWE (>1.4 is poor) : 0.87
K magnitude           : 9.238
G magnitude           : 14.418
RP magnitude          : 13.144
BP magnitude          : 16.229
DUPflag              : 0
Distance (au)        : 4.949
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 5.21
Sun-Target sep (deg) : 105.49
Sun-Moon sep (deg)   : 117.79
B (ring opening deg) : -2.62
PA of pole (deg)     : -0.06
Pole direction: RA (deg): 268.05698
Dec (deg): 64.49651
C/A sky separation (") : 16.170
C/A sky separation (km) : 58039.9
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	2031-04-04T03:35:38.505	80.57	-16.56	71485.9	53.65	57.09
Jupiter	E	2031-04-04T08:22:43.202	28.06	40.02x	71485.9	53.84	57.27