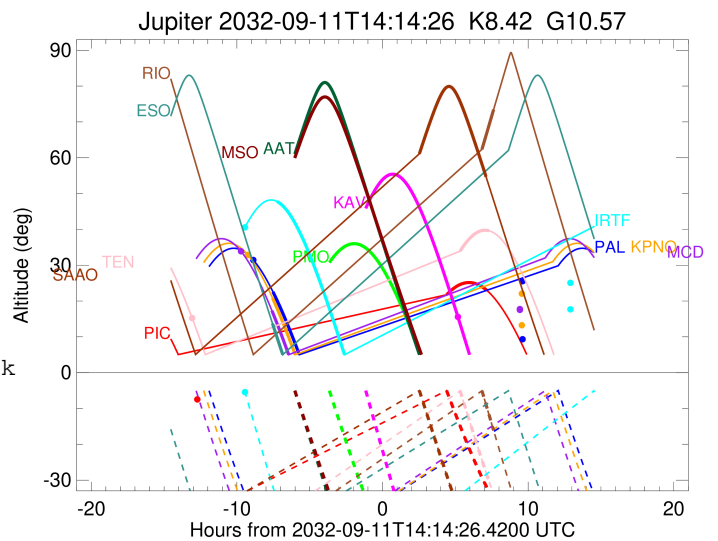
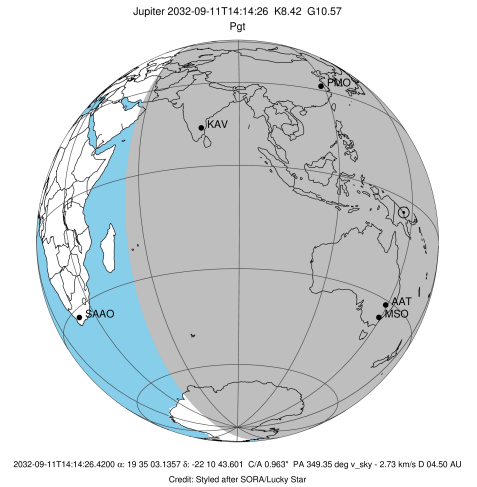



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2032-09-11T14:37:01.890
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        : 6771862737899181056
2Mass ID (if available) : 19350313-2210437
ICRS Star Coord at Epoch: 19h 35m 03.13571s -22:10:43.60089s
RUWE (>1.4 is poor) : 2.16
K magnitude           : 8.417
G magnitude           : 10.572
RP magnitude          : 9.886
BP magnitude          : 11.103
DUPflag              : 0
Distance (au)         : 4.501
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -2.73
Sun-Target sep (deg)  : 122.97
Sun-Moon sep (deg)    : 46.97
B (ring opening deg) : -1.06
PA of pole (deg)      : -10.77
Pole direction: RA (deg): 268.05659
Dec (deg): 64.49656
C/A sky separation (") : 0.575
C/A sky separation (km) : 1876.2
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
    
```

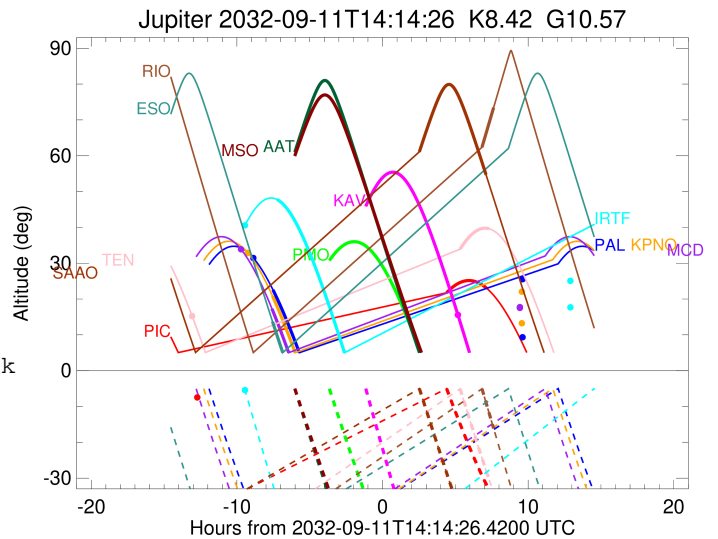
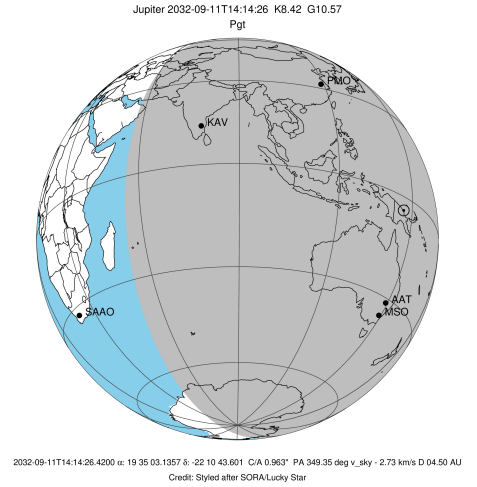


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-09-11T06:56:46.153	-63.96x	14.07x	71492.0	-0.75	-0.86
Jupiter	E	2032-09-11T21:24:56.401	22.92	-32.10	71492.0	1.65	1.89

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2032-09-11T13:56:14.770
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       : 6771862737899181056
2Mass ID (if available) : 19350313-2210437
ICRS Star Coord at Epoch: 19h 35m 03.13571s -22:10:43.60089s
RUWE (>1.4 is poor) : 2.16
K magnitude          : 8.417
G magnitude          : 10.572
RP magnitude         : 9.886
BP magnitude         : 11.103
DUPflag             : 0
Distance (au)       : 4.500
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : -2.73
Sun-Target sep (deg) : 122.97
Sun-Moon sep (deg)  : 47.20
B (ring opening deg) : -1.06
PA of pole (deg)    : -10.77
Pole direction: RA (deg): 268.05659
Dec (deg): 64.49656
C/A sky separation (") : 0.661
C/A sky separation (km) : 2157.7
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
    
```

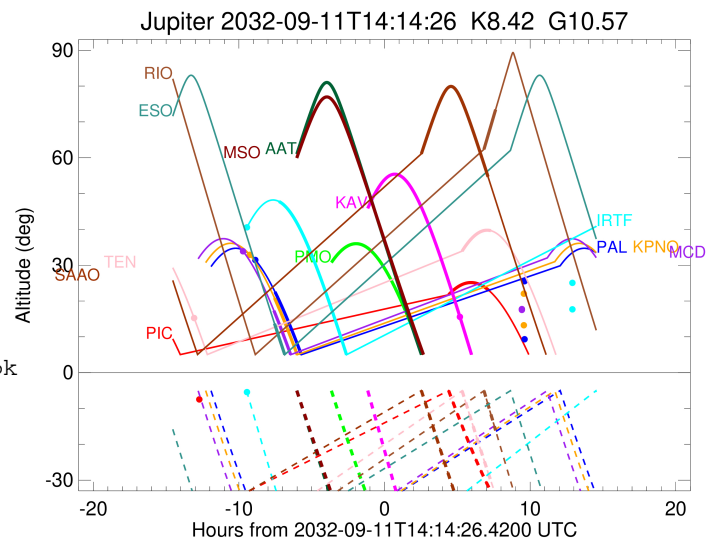
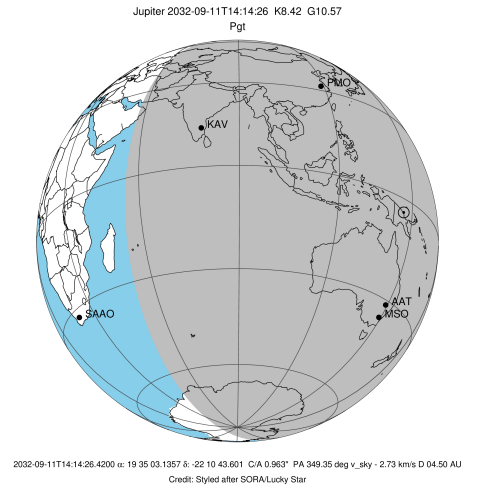


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-09-11T06:43:02.378	22.57	-49.83	71492.0	0.86	0.98
Jupiter	E	2032-09-11T22:10:51.172	-9.44x	45.03x	71492.0	0.85	0.97

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2032-09-11T13:59:23.700
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       : 6771862737899181056
2Mass ID (if available) : 19350313-2210437
ICRS Star Coord at Epoch: 19h 35m 03.13571s -22:10:43.60089s
RUWE (>1.4 is poor) : 2.16
K magnitude           : 8.417
G magnitude           : 10.572
RP magnitude         : 9.886
BP magnitude         : 11.103
DUPflag              : 0
Distance (au)        : 4.500
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -2.73
Sun-Target sep (deg) : 122.97
Sun-Moon sep (deg)   : 47.13
B (ring opening deg) : -1.06
PA of pole (deg)     : -10.77
Pole direction: RA (deg): 268.05659
Dec (deg): 64.49656
C/A sky separation (") : 0.709
C/A sky separation (km) : 2314.4
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
    
```

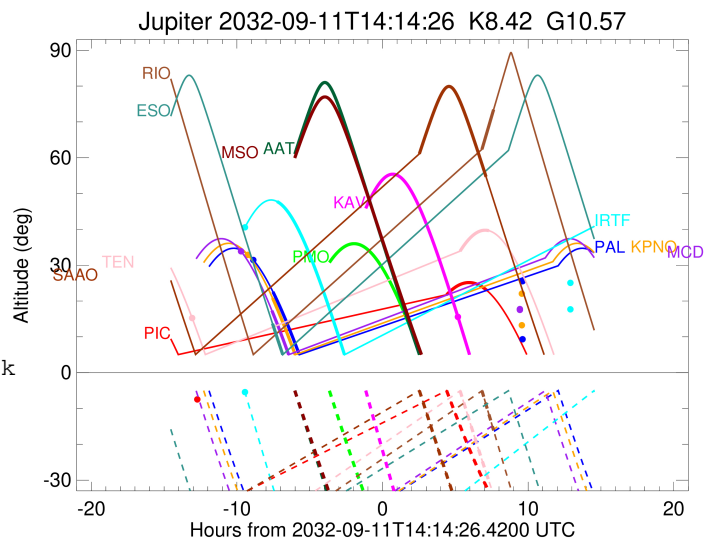
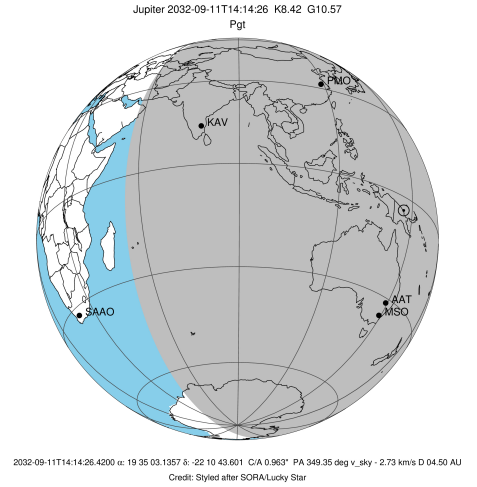


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-09-11T06:41:03.339	20.86	-52.55	71492.0	0.63	0.72
Jupiter	E	2032-09-11T22:10:58.442	-4.78x	41.81x	71492.0	0.90	1.03

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2032-09-11T14:04:23.970
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      : 6771862737899181056
2Mass ID (if available) : 19350313-2210437
ICRS Star Coord at Epoch: 19h 35m 03.13571s -22:10:43.60089s
RUWE (>1.4 is poor) : 2.16
K magnitude          : 8.417
G magnitude          : 10.572
RP magnitude         : 9.886
BP magnitude         : 11.103
DUPflag             : 0
Distance (au)       : 4.500
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -2.73
Sun-Target sep (deg) : 122.97
Sun-Moon sep (deg)  : 47.04
B (ring opening deg) : -1.06
PA of pole (deg)    : -10.77
Pole direction: RA (deg): 268.05659
Dec (deg): 64.49656
C/A sky separation (") : 0.740
C/A sky separation (km) : 2417.0
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
    
```

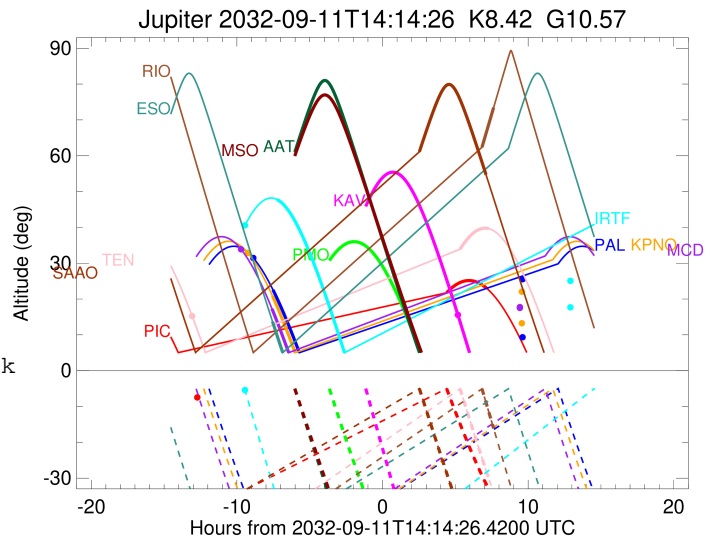
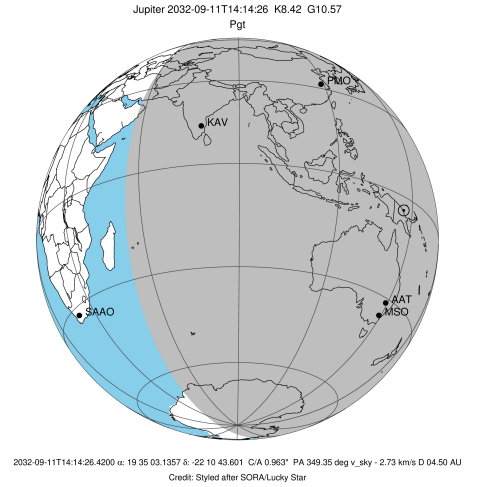


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-09-11T06:38:32.405	17.35	-55.02	71492.0	0.34	0.38
Jupiter	E	2032-09-11T22:10:18.059	1.51x	36.46x	71492.0	1.01	1.16

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2032-09-11T14:44:51.270
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      : 6771862737899181056
2Mass ID (if available) : 19350313-2210437
ICRS Star Coord at Epoch: 19h 35m 03.13571s -22:10:43.60089s
RUWE (>1.4 is poor) : 2.16
K magnitude         : 8.417
G magnitude         : 10.572
RP magnitude        : 9.886
BP magnitude        : 11.103
DUPflag            : 0
Distance (au)      : 4.501
f0 (km)            : 0.00
g0 (km)            : 0.00
skyplane vel. (km/s) : -2.73
Sun-Target sep (deg) : 122.97
Sun-Moon sep (deg)  : 46.77
B (ring opening deg) : -1.06
PA of pole (deg)    : -10.77
Pole direction: RA (deg): 268.05659
Dec (deg): 64.49656
C/A sky separation (") : 0.109
C/A sky separation (km) : 355.4
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
    
```

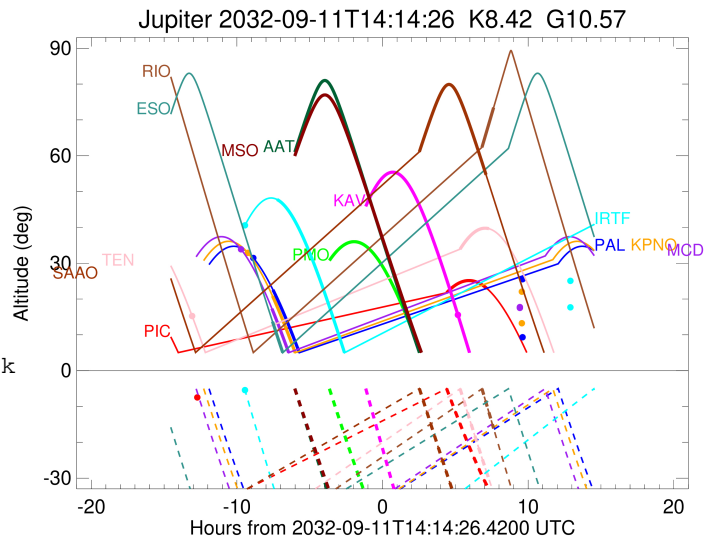
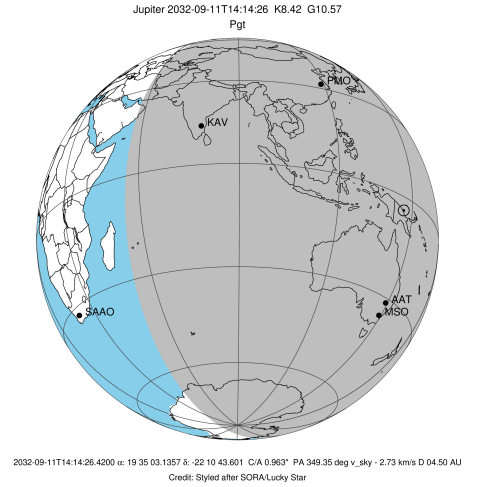


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-09-11T06:47:14.779	-55.13x	-1.32x	71492.0	-2.01	-2.30
Jupiter	E	2032-09-11T21:32:54.944	39.62	-30.26	71492.0	1.20	1.38

```

target                : Jupiter
target radius (km)    : 71492.00
C/A epoch              : 2032-09-11T13:37:23.700
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        : 6771862737899181056
2Mass ID (if available) : 19350313-2210437
ICRS Star Coord at Epoch: 19h 35m 03.13571s -22:10:43.60089s
RUWE (>1.4 is poor) : 2.16
K magnitude            : 8.417
G magnitude           : 10.572
RP magnitude          : 9.886
BP magnitude          : 11.103
DUPflag               : 0
Distance (au)         : 4.500
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -2.73
Sun-Target sep (deg)  : 122.97
Sun-Moon sep (deg)   : 47.77
B (ring opening deg) : -1.06
PA of pole (deg)     : -10.77
Pole direction: RA (deg): 268.05659
Dec (deg): 64.49656
C/A sky separation (") : 0.877
C/A sky separation (km) : 2861.0
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
    
```

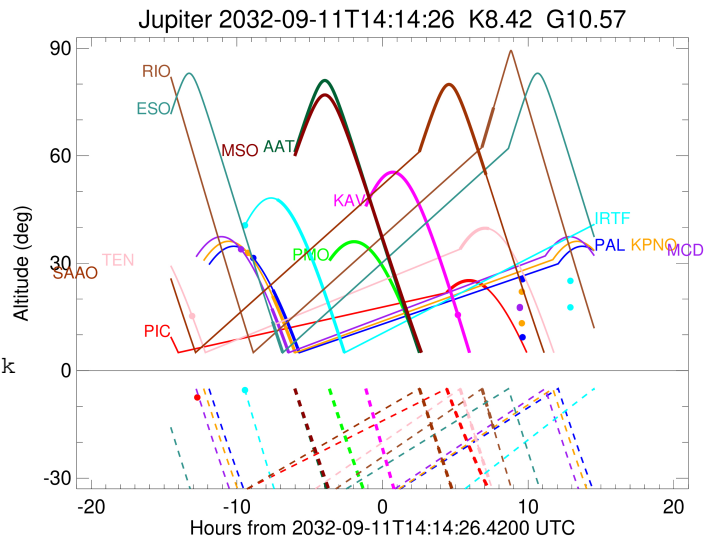
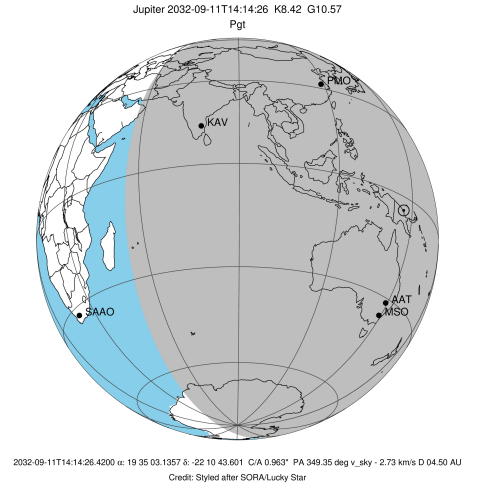


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-09-11T06:59:46.790	47.77	-35.63	71492.0	0.87	1.00
Jupiter	E	2032-09-11T22:11:18.168	-39.21x	74.27x	71492.0	-1.31	-1.50

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2032-09-11T14:50:15.920
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        : 6771862737899181056
2Mass ID (if available) : 19350313-2210437
ICRS Star Coord at Epoch: 19h 35m 03.13571s -22:10:43.60089s
RUWE (>1.4 is poor) : 2.16
K magnitude           : 8.417
G magnitude           : 10.572
RP magnitude          : 9.886
BP magnitude          : 11.103
DUPflag              : 0
Distance (au)         : 4.501
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -2.73
Sun-Target sep (deg) : 122.97
Sun-Moon sep (deg)   : 46.81
B (ring opening deg) : -1.06
PA of pole (deg)     : -10.77
Pole direction: RA (deg): 268.05659
Dec (deg): 64.49656
C/A sky separation (") : 1.737
C/A sky separation (km) : 5670.2
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
    
```

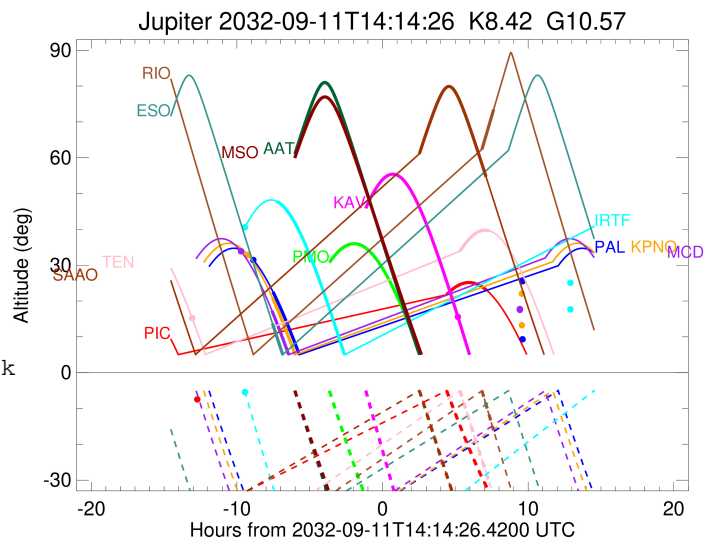
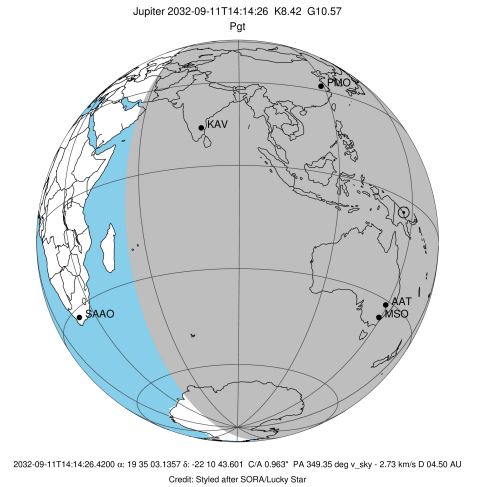


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-09-11T06:42:57.825	-11.74x	-30.73	71492.0	-5.69	-6.50
Jupiter	E	2032-09-11T21:52:33.144	73.49	-16.18	71492.0	-2.46	-2.81


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2032-09-11T14:36:45.870
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      : 6771862737899181056
2Mass ID (if available) : 19350313-2210437
ICRS Star Coord at Epoch: 19h 35m 03.13571s -22:10:43.60089s
RUWE (>1.4 is poor) : 2.16
K magnitude          : 8.417
G magnitude          : 10.572
RP magnitude         : 9.886
BP magnitude         : 11.103
DUPflag             : 0
Distance (au)       : 4.501
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -2.73
Sun-Target sep (deg) : 122.97
Sun-Moon sep (deg)  : 46.95
B (ring opening deg) : -1.06
PA of pole (deg)    : -10.77
Pole direction: RA (deg): 268.05659
Dec (deg): 64.49656
C/A sky separation ("): 2.258
C/A sky separation (km): 7369.2
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
    
```

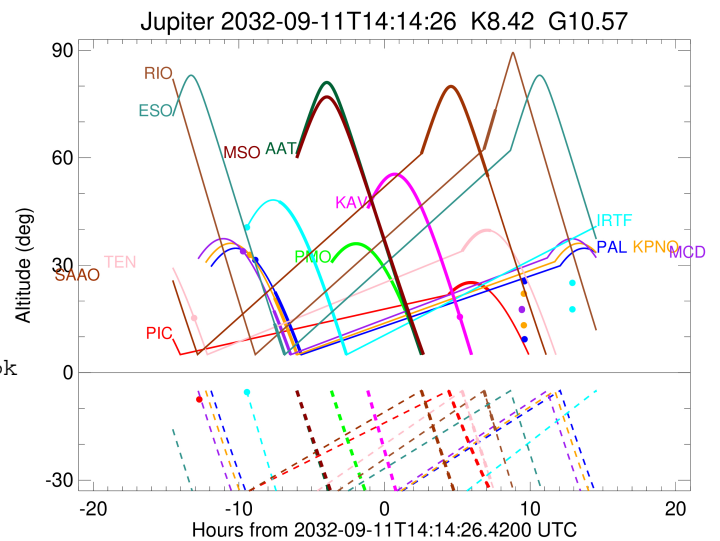
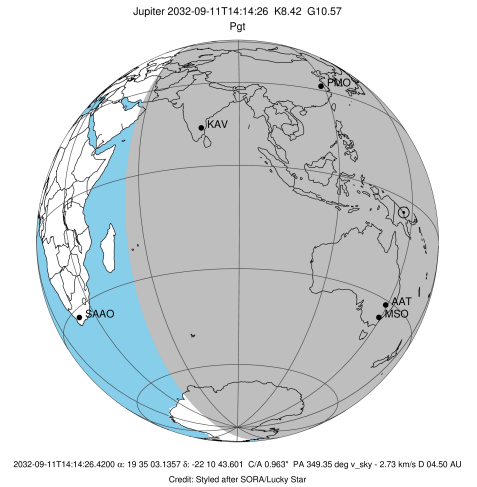


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2032-09-11T06:41:07.527	13.73	-51.99	71492.0	-5.36	-6.13
Jupiter	E	2032-09-11T22:05:51.302	51.66	5.27x	71492.0	-3.06	-3.50

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2032-09-11T14:45:59.470
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      : 6771862737899181056
2Mass ID (if available) : 19350313-2210437
ICRS Star Coord at Epoch: 19h 35m 03.13571s -22:10:43.60089s
RUWE (>1.4 is poor) : 2.16
K magnitude         : 8.417
G magnitude         : 10.572
RP magnitude        : 9.886
BP magnitude        : 11.103
DUPflag            : 0
Distance (au)       : 4.501
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : -2.73
Sun-Target sep (deg) : 122.97
Sun-Moon sep (deg)  : 47.39
B (ring opening deg) : -1.06
PA of pole (deg)    : -10.77
Pole direction: RA (deg): 268.05659
Dec (deg): 64.49656
C/A sky separation (") : 1.336
C/A sky separation (km) : 4360.4
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	2032-09-11T07:20:23.595	-35.22x	31.48x	71492.0	-6.34	-7.24
Jupiter	E	2032-09-11T21:21:00.003	54.69	-57.20	71492.0	-4.32	-4.94