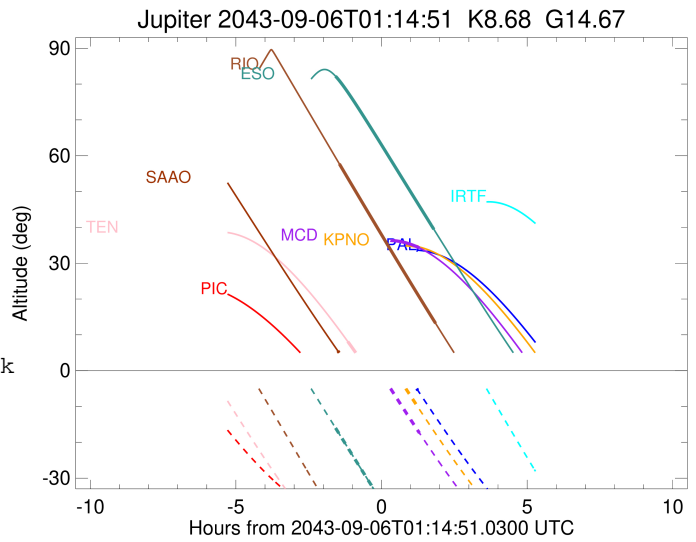
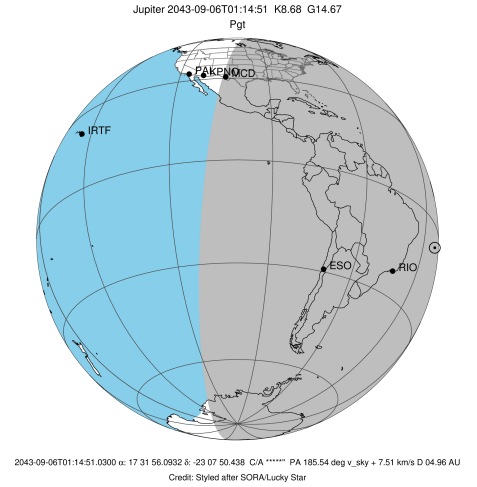



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-06T01:08:29.270
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      : 4117422595110657920
2Mass ID (if available) : 17315609-2307501
ICRS Star Coord at Epoch: 17h 31m 56.09317s -23:07:50.43803s
RUWE (>1.4 is poor) : 1.08
K magnitude          : 8.680
G magnitude          : 14.672
RP magnitude         : 13.212
BP magnitude         : 17.470
DUPflag             : 0
Distance (au)       : 4.956
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 7.51
Sun-Target sep (deg) : 100.78
Sun-Moon sep (deg)  : 71.76
B (ring opening deg) : -2.28
PA of pole (deg)    : 2.18
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation ("): 17.415
C/A sky separation (km): 62600.0
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
    
```

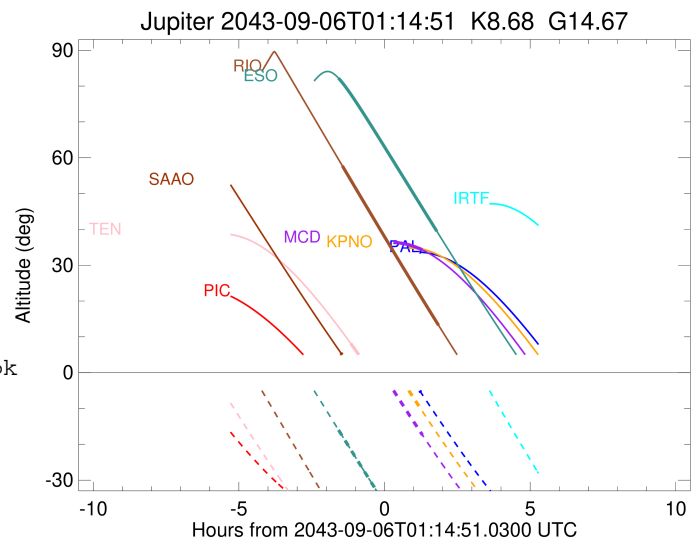
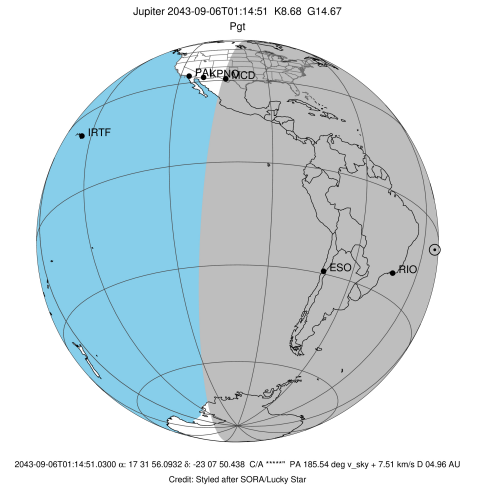


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-05T23:47:44.459	22.73	28.20x	71487.0	56.86	60.13
Jupiter	E	2043-09-06T02:29:32.071	33.62	-5.47	71486.2	64.84	67.53

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-06T01:09:47.850
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        : 4117422595110657920
2Mass ID (if available) : 17315609-2307501
ICRS Star Coord at Epoch: 17h 31m 56.09317s -23:07:50.43803s
RUWE (>1.4 is poor) : 1.08
K magnitude           : 8.680
G magnitude           : 14.672
RP magnitude          : 13.212
BP magnitude          : 17.470
DUPflag              : 0
Distance (au)         : 4.956
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 7.51
Sun-Target sep (deg) : 100.78
Sun-Moon sep (deg)   : 71.82
B (ring opening deg) : -2.28
PA of pole (deg)     : 2.18
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation ("): 17.418
C/A sky separation (km): 62611.0
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
    
```

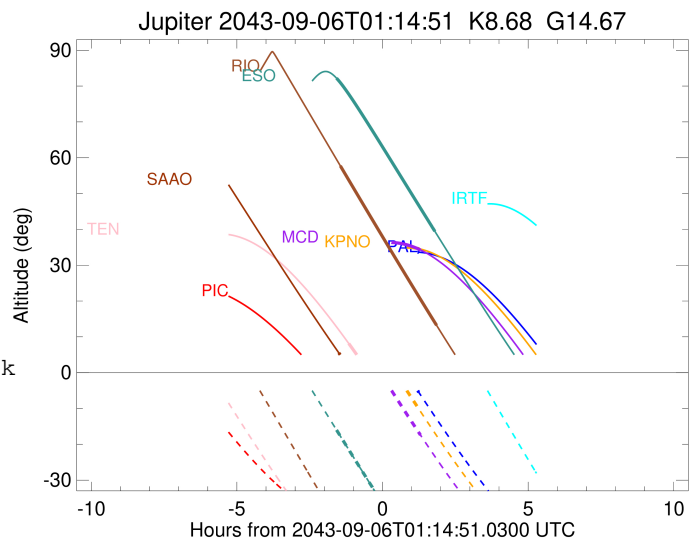
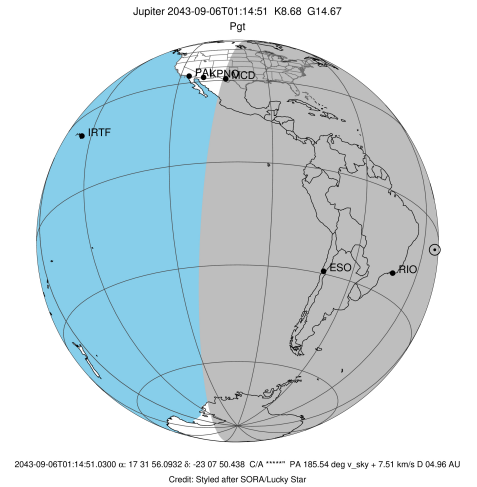


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-05T23:48:47.856	26.60	23.82x	71487.0	56.96	60.22
Jupiter	E	2043-09-06T02:30:56.997	34.56	-10.39	71486.2	64.75	67.45

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-06T01:11:51.170
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       : 4117422595110657920
2Mass ID (if available) : 17315609-2307501
ICRS Star Coord at Epoch: 17h 31m 56.09317s -23:07:50.43803s
RUWE (>1.4 is poor) : 1.08
K magnitude           : 8.680
G magnitude           : 14.672
RP magnitude          : 13.212
BP magnitude          : 17.470
DUPflag              : 0
Distance (au)        : 4.956
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 7.51
Sun-Target sep (deg) : 100.78
Sun-Moon sep (deg)   : 71.88
B (ring opening deg) : -2.28
PA of pole (deg)     : 2.18
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 17.427
C/A sky separation (km) : 62640.8
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
    
```

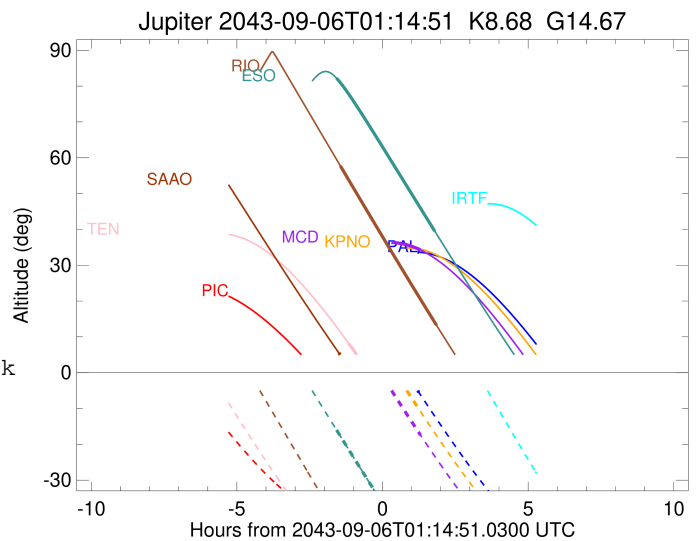
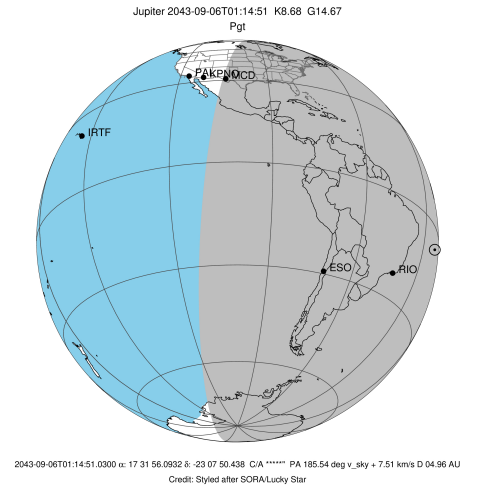


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-05T23:50:39.028	31.21	17.07x	71487.0	57.15	60.40
Jupiter	E	2043-09-06T02:32:58.227	34.26	-17.39	71486.2	64.63	67.33

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-06T01:29:32.260
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        : 4117422595110657920
2Mass ID (if available) : 17315609-2307501
ICRS Star Coord at Epoch: 17h 31m 56.09317s -23:07:50.43803s
RUWE (>1.4 is poor) : 1.08
K magnitude           : 8.680
G magnitude           : 14.672
RP magnitude          : 13.212
BP magnitude          : 17.470
DUPflag              : 0
Distance (au)         : 4.956
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 7.51
Sun-Target sep (deg)  : 100.78
Sun-Moon sep (deg)    : 71.55
B (ring opening deg) : -2.28
PA of pole (deg)      : 2.18
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 16.958
C/A sky separation (km) : 60960.0
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
    
```

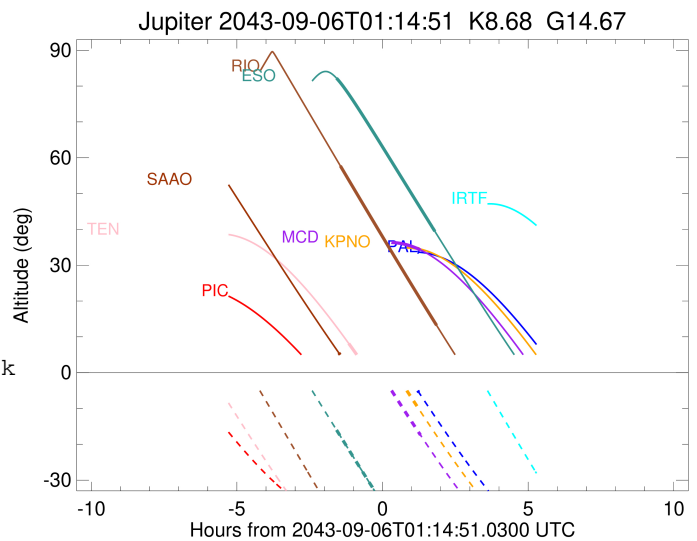
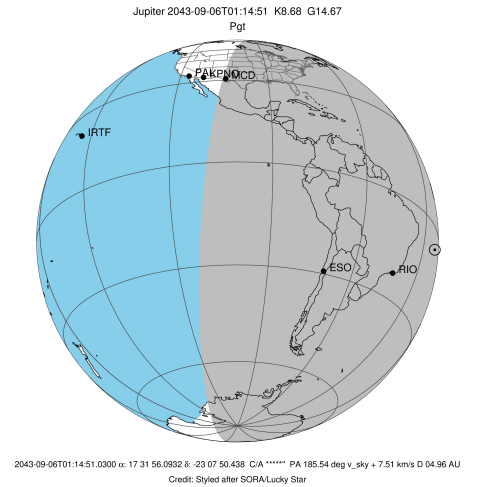


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-06T00:05:12.368	8.16	-52.48	71487.1	56.22	59.52
Jupiter	E	2043-09-06T02:51:46.818	-25.79x	-46.75	71486.6	60.55	63.57

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-06T01:28:33.150
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        : 4117422595110657920
2Mass ID (if available) : 17315609-2307501
ICRS Star Coord at Epoch: 17h 31m 56.09317s -23:07:50.43803s
RUWE (>1.4 is poor)  : 1.08
K magnitude           : 8.680
G magnitude           : 14.672
RP magnitude          : 13.212
BP magnitude          : 17.470
DUPflag              : 0
Distance (au)         : 4.956
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s)  : 7.51
Sun-Target sep (deg)  : 100.78
Sun-Moon sep (deg)    : 72.14
B (ring opening deg)  : -2.28
PA of pole (deg)      : 2.18
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 15.839
C/A sky separation (km) : 56934.4
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
    
```

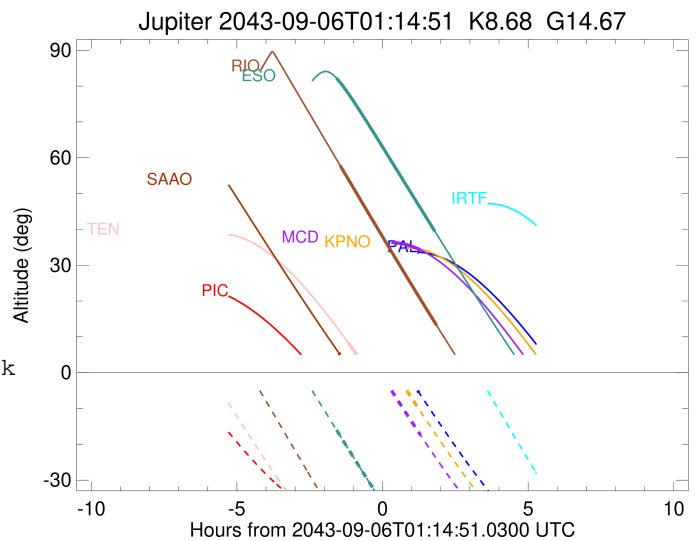
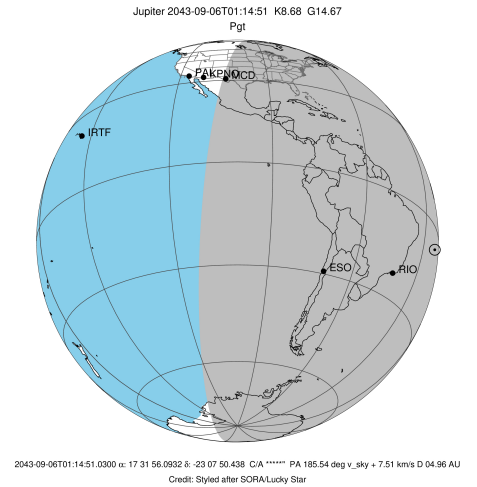


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-05T23:48:00.838	57.72	-43.03	71487.8	50.14	53.72
Jupiter	E	2043-09-06T03:06:20.731	13.19	-73.35	71487.2	54.94	58.31

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-06T01:22:19.830
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        : 4117422595110657920
2Mass ID (if available) : 17315609-2307501
ICRS Star Coord at Epoch: 17h 31m 56.09317s -23:07:50.43803s
RUWE (>1.4 is poor) : 1.08
K magnitude           : 8.680
G magnitude           : 14.672
RP magnitude          : 13.212
BP magnitude          : 17.470
DUPflag              : 0
Distance (au)         : 4.956
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 7.51
Sun-Target sep (deg)  : 100.78
Sun-Moon sep (deg)    : 72.29
B (ring opening deg) : -2.28
PA of pole (deg)      : 2.18
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (" ) : 15.820
C/A sky separation (km) : 56868.1
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
    
```

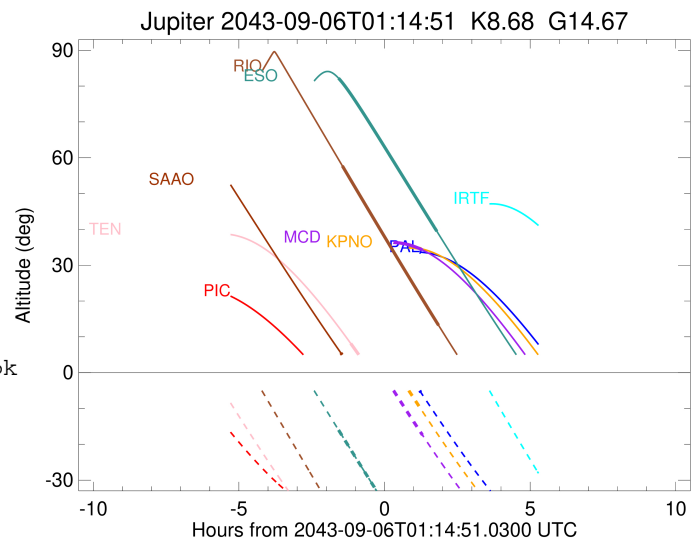
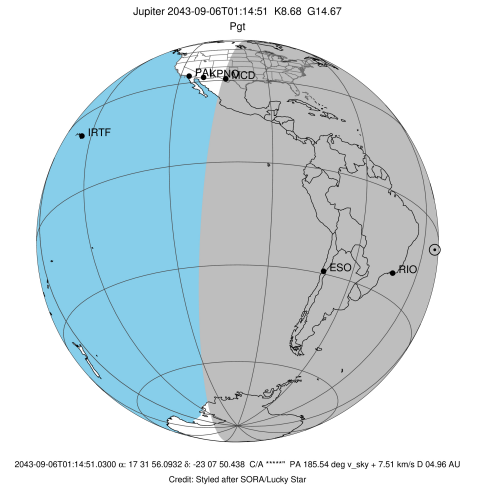


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-05T23:40:08.225	82.19	-15.99	71487.9	49.40	53.01
Jupiter	E	2043-09-06T03:02:43.760	39.45	-57.57	71487.2	55.33	58.69


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-06T01:27:51.790
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       : 4117422595110657920
2Mass ID (if available) : 17315609-2307501
ICRS Star Coord at Epoch: 17h 31m 56.09317s -23:07:50.43803s
RUWE (>1.4 is poor) : 1.08
K magnitude           : 8.680
G magnitude           : 14.672
RP magnitude          : 13.212
BP magnitude          : 17.470
DUPflag              : 0
Distance (au)        : 4.956
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 7.51
Sun-Target sep (deg) : 100.78
Sun-Moon sep (deg)   : 71.43
B (ring opening deg) : -2.28
PA of pole (deg)     : 2.18
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 14.938
C/A sky separation (km) : 53697.1
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	2043-09-05T23:44:53.478	5.52	-59.65	71488.3	46.44	50.12
Jupiter	E	2043-09-06T03:08:19.764	-27.37x	-21.81	71487.7	51.03	54.58