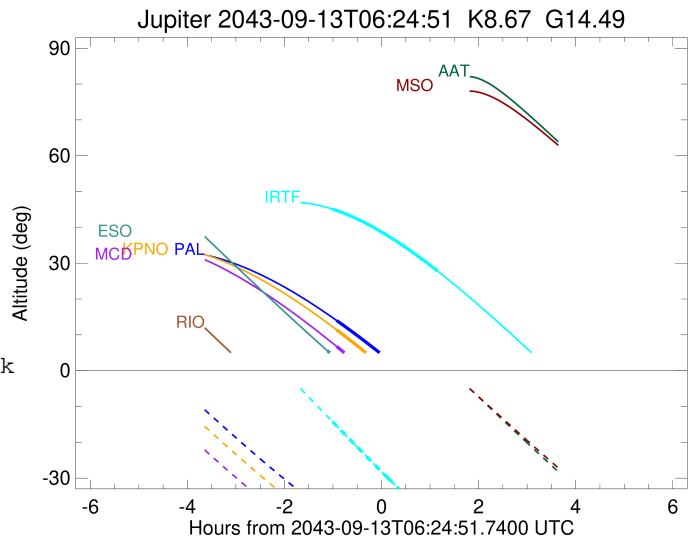
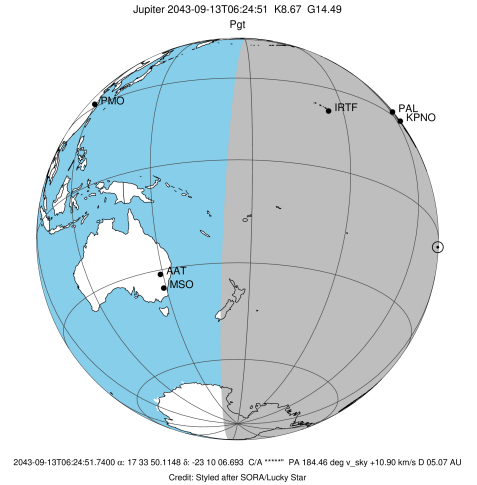



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-13T06:33:08.940
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       : 4116671147660993792
2Mass ID (if available) : 17335012-2310064
ICRS Star Coord at Epoch: 17h 33m 50.11483s -23:10:06.69313s
RUWE (>1.4 is poor) : 0.99
K magnitude           : 8.667
G magnitude           : 14.494
RP magnitude         : 13.040
BP magnitude         : 17.288
DUPflag              : 0
Distance (au)        : 5.066
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 10.90
Sun-Target sep (deg) : 94.21
Sun-Moon sep (deg)   : 15.45
B (ring opening deg) : -2.26
PA of pole (deg)     : 1.98
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation ("): 15.963
C/A sky separation (km): 58647.6
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
    
```

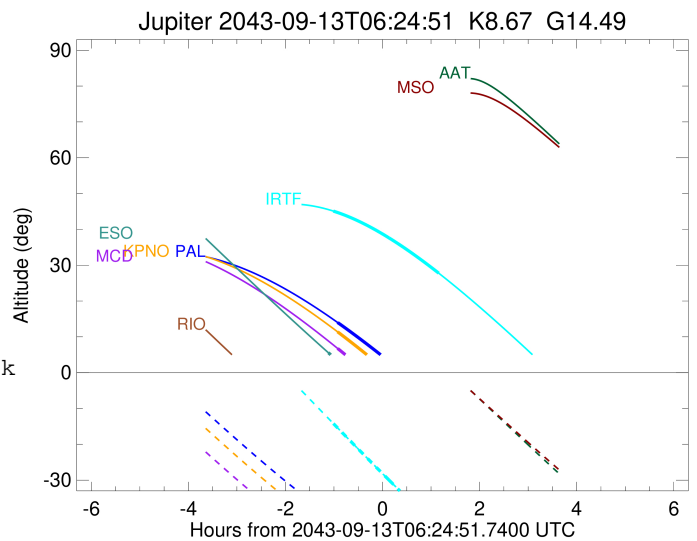
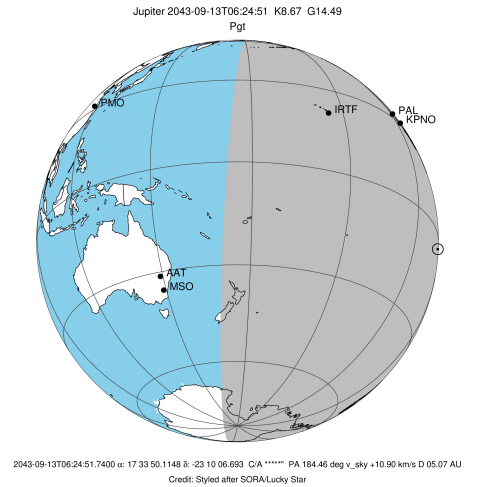


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-13T05:29:21.708	14.01	-41.28	71487.5	53.23	56.69
Jupiter	E	2043-09-13T07:36:11.330	-8.76x	-52.99	71487.1	56.78	60.05

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-13T06:33:36.370
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      : 4116671147660993792
2Mass ID (if available) : 17335012-2310064
ICRS Star Coord at Epoch: 17h 33m 50.11483s -23:10:06.69313s
RUWE (>1.4 is poor) : 0.99
K magnitude          : 8.667
G magnitude          : 14.494
RP magnitude         : 13.040
BP magnitude         : 17.288
DUPflag             : 0
Distance (au)       : 5.066
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 10.90
Sun-Target sep (deg) : 94.21
Sun-Moon sep (deg)  : 15.39
B (ring opening deg) : -2.26
PA of pole (deg)    : 1.98
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (" ) : 15.886
C/A sky separation (km) : 58367.7
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
    
```

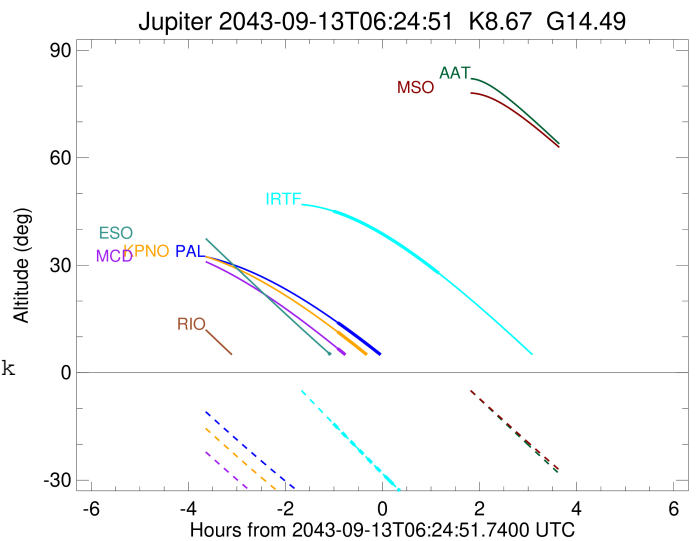
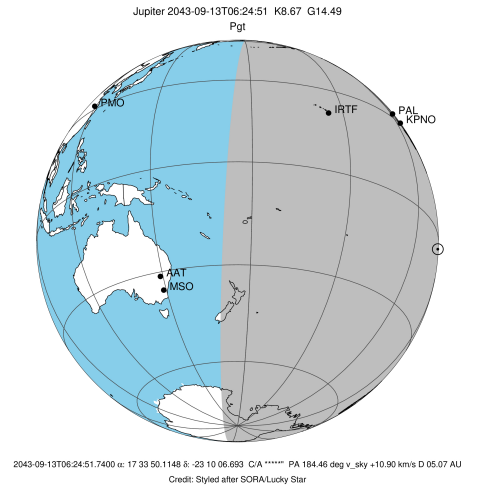


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-13T05:29:23.317	11.40	-45.40	71487.6	52.89	56.37
Jupiter	E	2043-09-13T07:37:02.290	-12.58x	-54.25	71487.2	56.35	59.64

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-13T06:34:02.860
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        : 4116671147660993792
2Mass ID (if available) : 17335012-2310064
ICRS Star Coord at Epoch: 17h 33m 50.11483s -23:10:06.69313s
RUWE (>1.4 is poor) : 0.99
K magnitude           : 8.667
G magnitude           : 14.494
RP magnitude          : 13.040
BP magnitude          : 17.288
DUPflag              : 0
Distance (au)         : 5.066
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 10.90
Sun-Target sep (deg) : 94.21
Sun-Moon sep (deg)   : 15.31
B (ring opening deg) : -2.26
PA of pole (deg)     : 1.98
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation ("): 15.785
C/A sky separation (km): 57995.8
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
    
```

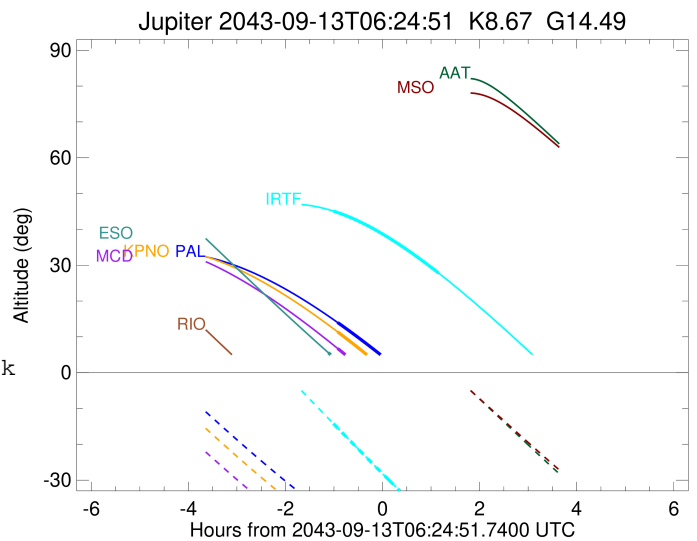
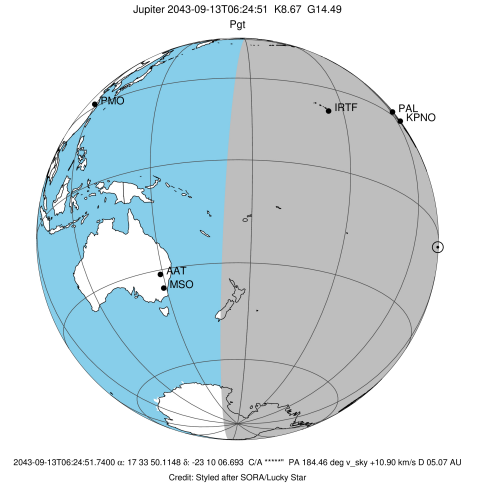


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-13T05:29:19.725	6.78	-50.39	71487.6	52.45	55.94
Jupiter	E	2043-09-13T07:37:56.594	-18.53x	-54.00	71487.2	55.80	59.13

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-13T06:29:28.800
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      : 4116671147660993792
2Mass ID (if available) : 17335012-2310064
ICRS Star Coord at Epoch: 17h 33m 50.11483s -23:10:06.69313s
RUWE (>1.4 is poor) : 0.99
K magnitude          : 8.667
G magnitude          : 14.494
RP magnitude         : 13.040
BP magnitude         : 17.288
DUPflag             : 0
Distance (au)       : 5.066
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 10.90
Sun-Target sep (deg) : 94.21
Sun-Moon sep (deg)  : 15.84
B (ring opening deg) : -2.26
PA of pole (deg)    : 1.98
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (" ) : 15.945
C/A sky separation (km) : 58582.3
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
    
```

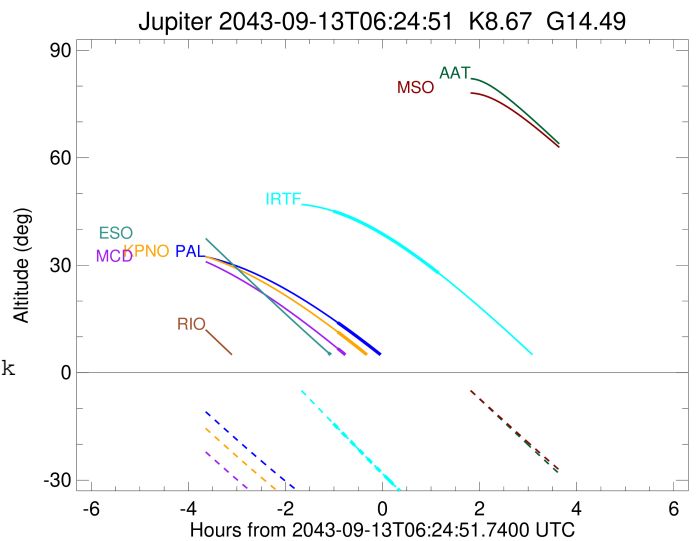
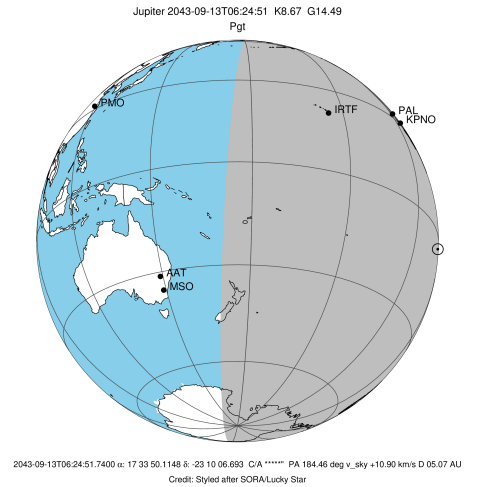


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-09-13T05:24:06.989	45.10	-14.20	71487.6	52.68	56.16
Jupiter	E	2043-09-13T07:34:19.258	27.78	-43.47	71487.1	57.00	60.26

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-09-13T06:34:02.070
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        : 4116671147660993792
2Mass ID (if available) : 17335012-2310064
ICRS Star Coord at Epoch: 17h 33m 50.11483s -23:10:06.69313s
RUWE (>1.4 is poor) : 0.99
K magnitude           : 8.667
G magnitude           : 14.494
RP magnitude          : 13.040
BP magnitude          : 17.288
DUPflag              : 0
Distance (au)         : 5.066
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 10.90
Sun-Target sep (deg)  : 94.21
Sun-Moon sep (deg)    : 14.95
B (ring opening deg) : -2.26
PA of pole (deg)      : 1.98
Pole direction: RA (deg): 268.05673
Dec (deg): 64.49731
C/A sky separation (") : 13.860
C/A sky separation (km) : 50921.9
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	2043-09-13T05:18:00.020	5.55	-63.08	71488.7	43.74	47.45
Jupiter	E	2043-09-13T07:49:01.585	-21.88x	-38.37	71488.3	47.09	50.76