

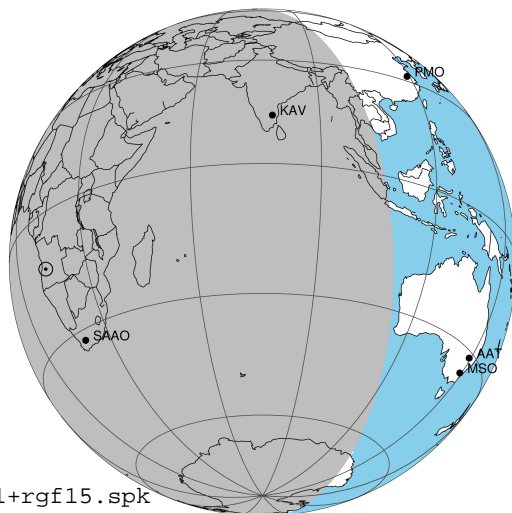
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-04-24T22:57:36.530
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4066457379353634688
 2Mass ID (if available) : 18124827-2258297

Jupiter 2043-04-24T22:57:36 K8.63 G11.57 Pgt

ICRS Star Coord at Epoch: 18h 12m 48.28139s -22:58:29.99208s

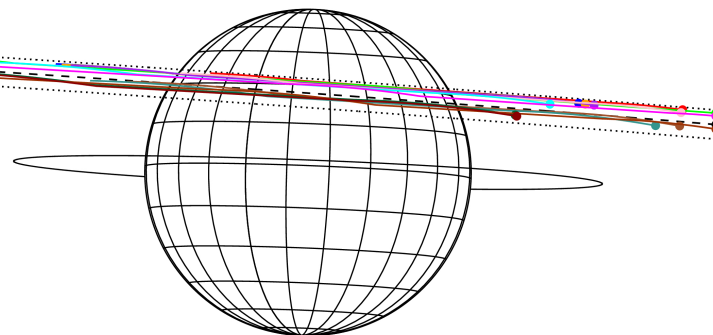
RUWE (>1.4 is poor) : 0.84
 K magnitude : 8.630
 G magnitude : 11.568
 RP magnitude : 10.715
 BP magnitude : 12.340
 DUPflag : 0
 Distance (au) : 4.695
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -2.13
 Sun-Target sep (deg) : 121.11
 Sun-Moon sep (deg) : 51.93
 B (ring opening deg) : -2.44
 PA of pole (deg) : -2.21
 Pole direction: RA (deg): 268.05665
 Dec (deg): 64.49732
 C/A sky separation (") : 10.188
 C/A sky separation (km) : 34695.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-04-24T22:57:36 K8.63 G11.57
 Pgt



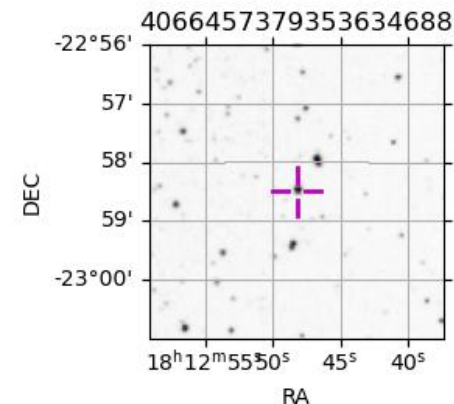
2043-04-24T22:57:36.5300 α: 18 12 48.2814 δ: -22 58 29.992 C/A ***** PA 175.90 deg v_sky - 2.13 km/s D 04.70 AU
 Credit: Styled after SORA/Lucky Star

- Earth
- PIC
- PAL
- PMO
- KPNO
- MCD
- TEN
- IRTF
- KAV
- RIO
- ESO
- AAT
- SAAO
- MSO



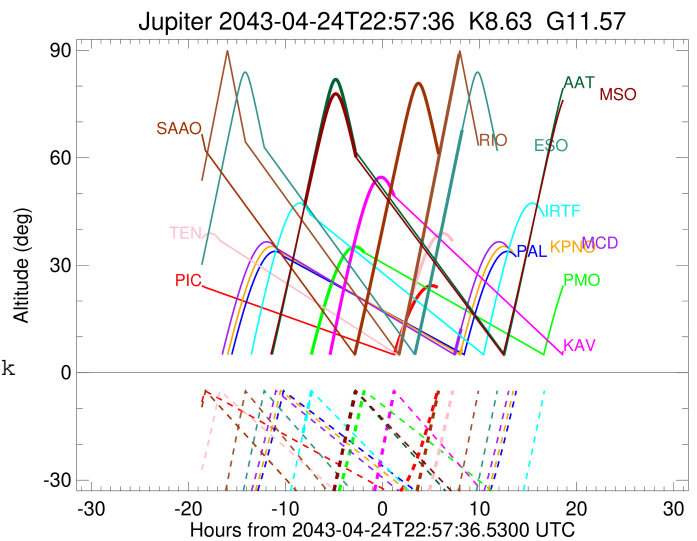
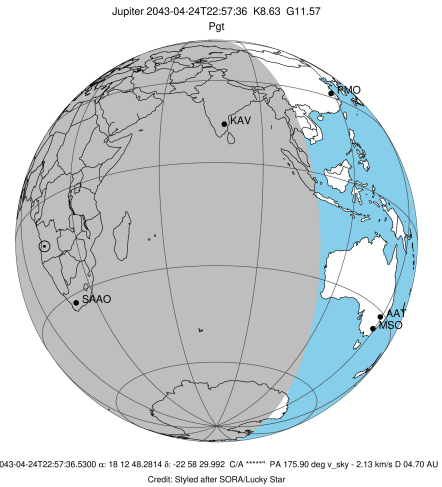
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1			Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	APR 25 07:05 - APR 25 07:05	Pne
MCD	McDonald Obs. 2.7m	30.7	256.0	+	APR 25 07:03 - APR 25 07:03	Pne
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+	APR 24 14:45 - APR 24 14:45	Pin
KAV	Kavalur Observatory	12.6	78.8			Pnn
RIO	Rio de Janeiro	-22.9	316.8	+	APR 25 06:51 - APR 25 06:51	Pne
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	APR 25 07:10 - APR 25 07:10	Pne
AAT	Siding Spring (AAT)	-31.3	149.1	+	APR 24 14:59 - APR 24 14:59	Pin
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	APR 24 14:57 - APR 24 14:57	Pin



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-04-24T22:49:06.340
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      : 4066457379353634688
2Mass ID (if available) : 18124827-2258297
ICRS Star Coord at Epoch: 18h 12m 48.28139s -22:58:29.99208s
RUWE (>1.4 is poor) : 0.84
K magnitude          : 8.630
G magnitude          : 11.568
RP magnitude         : 10.715
BP magnitude         : 12.340
DUPflag             : 0
Distance (au)       : 4.695
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -2.13
Sun-Target sep (deg) : 121.11
Sun-Moon sep (deg)  : 51.32
B (ring opening deg) : -2.44
PA of pole (deg)    : -2.21
Pole direction: RA (deg): 268.05665
Dec (deg): 64.49732
C/A sky separation ("): 10.463
C/A sky separation (km): 35631.1
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
    
```

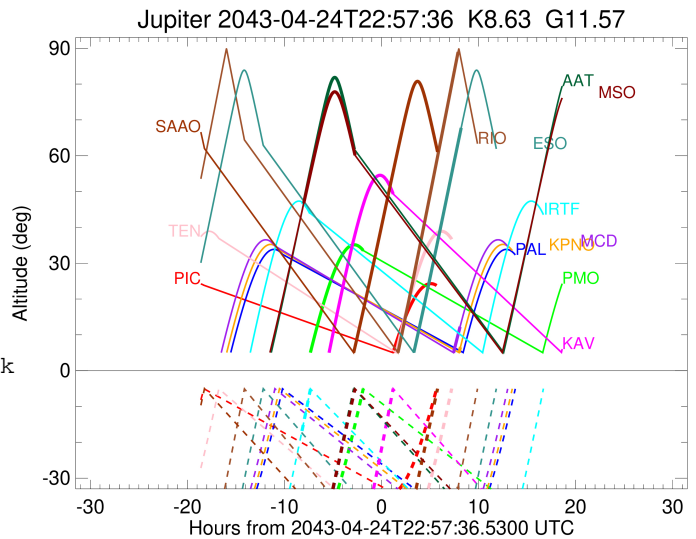
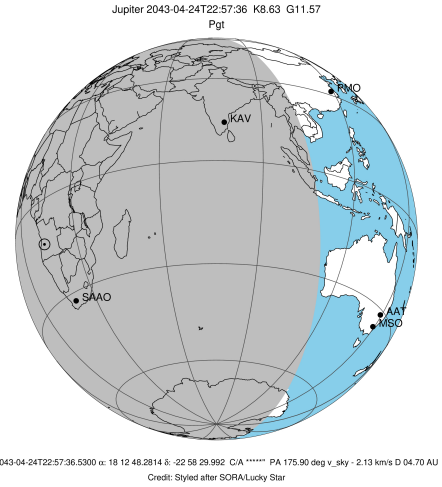


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-24T14:19:51.778	22.07	18.44x	71489.8	31.10	34.53
Jupiter	E	2043-04-25T07:05:34.403	6.59	-44.80	71489.4	34.84	38.43

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-04-24T22:51:33.920
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       : 4066457379353634688
2Mass ID (if available) : 18124827-2258297
ICRS Star Coord at Epoch: 18h 12m 48.28139s -22:58:29.99208s
RUWE (>1.4 is poor) : 0.84
K magnitude           : 8.630
G magnitude           : 11.568
RP magnitude         : 10.715
BP magnitude         : 12.340
DUPflag              : 0
Distance (au)        : 4.695
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -2.13
Sun-Target sep (deg) : 121.11
Sun-Moon sep (deg)   : 51.25
B (ring opening deg) : -2.44
PA of pole (deg)     : -2.21
Pole direction: RA (deg): 268.05665
Dec (deg): 64.49732
C/A sky separation ("): 10.430
C/A sky separation (km): 35519.2
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
    
```

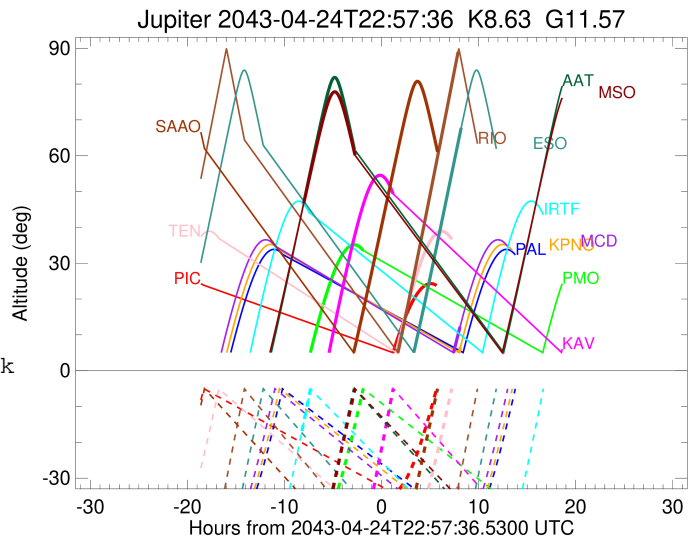
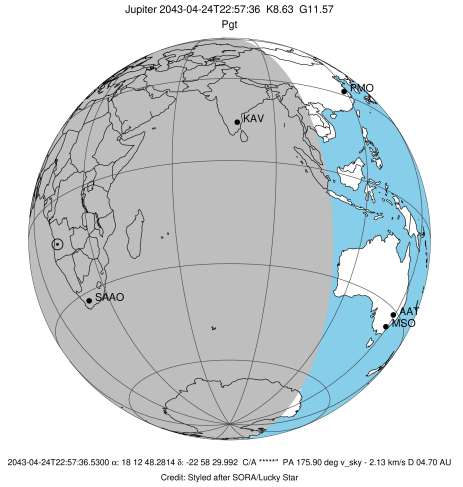


```

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  2043-04-24T14:14:28.664  19.27  23.70x  71489.9  30.82  34.24
Jupiter E  2043-04-25T07:03:11.786  12.26 -46.26  71489.3  34.94  38.54
    
```

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-04-24T22:35:57.080
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        : 4066457379353634688
2Mass ID (if available) : 18124827-2258297
ICRS Star Coord at Epoch: 18h 12m 48.28139s -22:58:29.99208s
RUWE (>1.4 is poor) : 0.84
K magnitude           : 8.630
G magnitude           : 11.568
RP magnitude          : 10.715
BP magnitude          : 12.340
DUPflag              : 0
Distance (au)         : 4.696
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -2.13
Sun-Target sep (deg)  : 121.11
Sun-Moon sep (deg)   : 51.88
B (ring opening deg) : -2.44
PA of pole (deg)     : -2.21
Pole direction: RA (deg): 268.05665
Dec (deg): 64.49732
C/A sky separation (") : 10.308
C/A sky separation (km) : 35106.0
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
    
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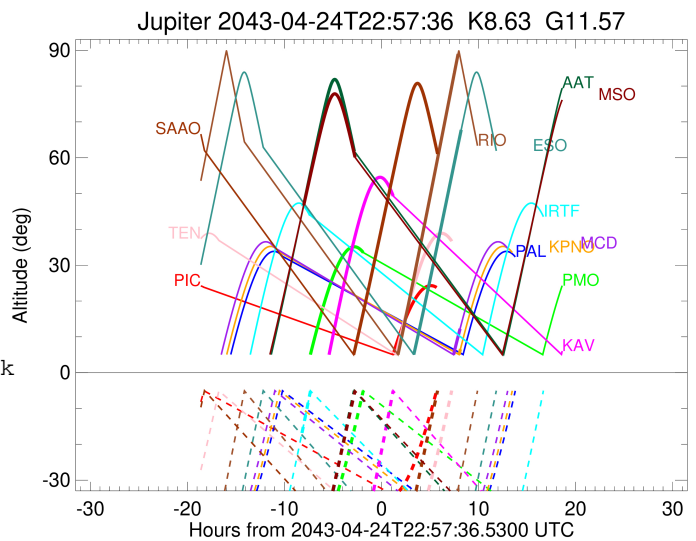
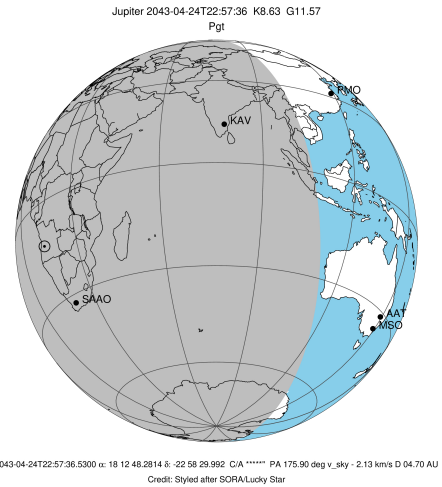


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-24T14:45:50.654	47.09	-16.90	71489.9	31.01	34.44
Jupiter	E	2043-04-25T07:24:40.128	-20.78x	-35.78	71489.7	32.47	35.97

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-04-24T23:20:27.560
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        : 4066457379353634688
2Mass ID (if available) : 18124827-2258297
ICRS Star Coord at Epoch: 18h 12m 48.28139s -22:58:29.99208s
RUWE (>1.4 is poor) : 0.84
K magnitude           : 8.630
G magnitude           : 11.568
RP magnitude          : 10.715
BP magnitude          : 12.340
DUPflag              : 0
Distance (au)         : 4.695
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -2.13
Sun-Target sep (deg) : 121.11
Sun-Moon sep (deg)   : 51.27
B (ring opening deg) : -2.44
PA of pole (deg)     : -2.21
Pole direction: RA (deg): 268.05665
Dec (deg): 64.49732
C/A sky separation ("): 9.403
C/A sky separation (km): 32018.4
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
    
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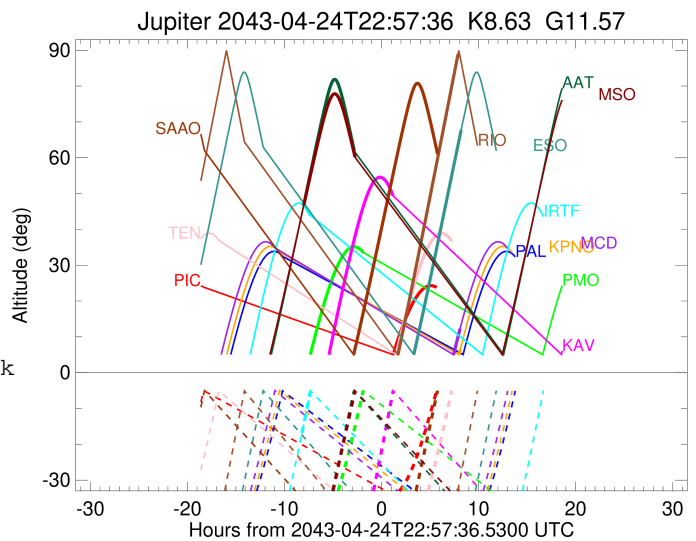
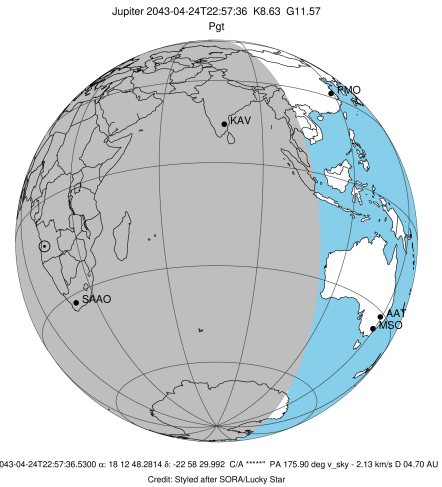


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-24T13:30:26.372	1.86x	49.21x	71490.6	24.27	27.23
Jupiter	E	2043-04-25T06:51:18.083	89.02	-32.39	71489.9	30.83	34.25

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-04-24T23:10:27.290
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       : 4066457379353634688
2Mass ID (if available) : 18124827-2258297
ICRS Star Coord at Epoch: 18h 12m 48.28139s -22:58:29.99208s
RUWE (>1.4 is poor) : 0.84
K magnitude          : 8.630
G magnitude           : 11.568
RP magnitude         : 10.715
BP magnitude         : 12.340
DUPflag              : 0
Distance (au)        : 4.695
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -2.13
Sun-Target sep (deg) : 121.11
Sun-Moon sep (deg)  : 51.29
B (ring opening deg) : -2.44
PA of pole (deg)    : -2.21
Pole direction: RA (deg): 268.05665
Dec (deg): 64.49732
C/A sky separation ("): 8.929
C/A sky separation (km): 30406.2
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
    
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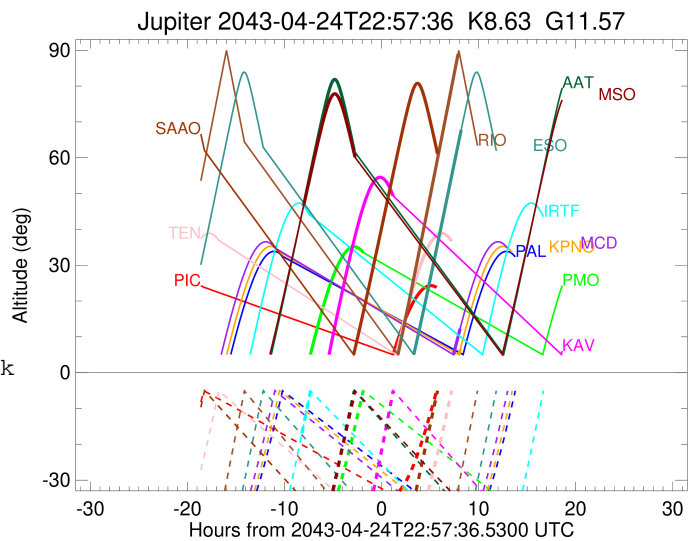
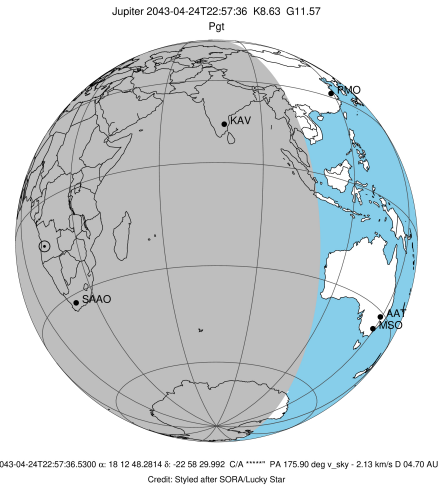


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-24T13:36:28.277	25.97	28.76x	71490.6	24.67	27.67
Jupiter	E	2043-04-25T07:10:19.920	67.82	-51.92	71490.0	30.17	33.55

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-04-24T22:36:44.000
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : AAT
Location            : Siding Spring (AAT)
Latitude (deg)      : -31.27703
E. Longitude (deg)  : 149.06608
Altitude (km)       : 1.164
Gaia source ID      : 4066457379353634688
2Mass ID (if available) : 18124827-2258297
ICRS Star Coord at Epoch: 18h 12m 48.28139s -22:58:29.99208s
RUWE (>1.4 is poor) : 0.84
K magnitude          : 8.630
G magnitude          : 11.568
RP magnitude         : 10.715
BP magnitude         : 12.340
DUPflag             : 0
Distance (au)       : 4.696
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -2.13
Sun-Target sep (deg) : 121.11
Sun-Moon sep (deg)  : 52.67
B (ring opening deg) : -2.44
PA of pole (deg)    : -2.21
Pole direction: RA (deg): 268.05665
Dec (deg): 64.49732
C/A sky separation ("): 9.450
C/A sky separation (km): 32183.5
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
    
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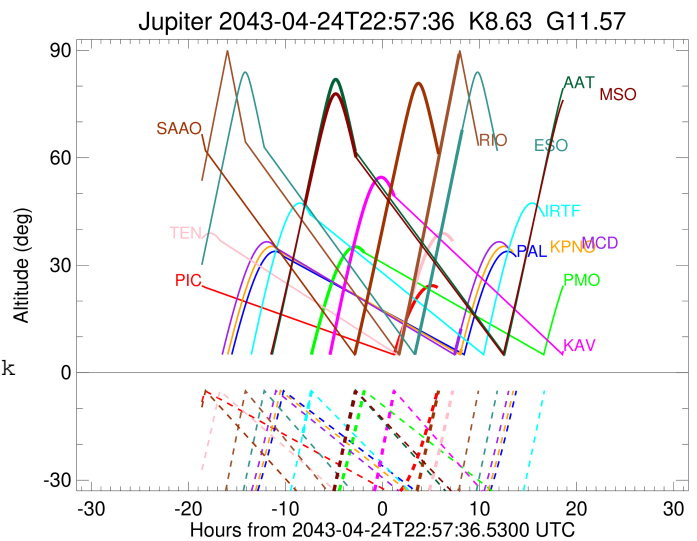
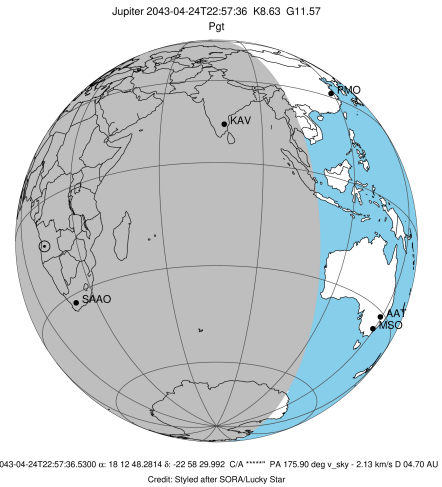


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-24T14:59:59.062	47.46	-67.46	71490.5	25.87	28.97
Jupiter	E	2043-04-25T07:24:54.290	-32.73x	0.88x	71490.4	26.42	29.55

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-04-24T22:37:47.300
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : MSO
Location             : Mt. Stromlo Observatory
Latitude (deg)       : -35.32000
E. Longitude (deg)   : 149.00833
Altitude (km)        : 0.770
Gaia source ID       : 4066457379353634688
2Mass ID (if available) : 18124827-2258297
ICRS Star Coord at Epoch: 18h 12m 48.28139s -22:58:29.99208s
RUWE (>1.4 is poor) : 0.84
K magnitude           : 8.630
G magnitude           : 11.568
RP magnitude         : 10.715
BP magnitude         : 12.340
DUPflag              : 0
Distance (au)        : 4.696
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -2.13
Sun-Target sep (deg) : 121.11
Sun-Moon sep (deg)  : 52.66
B (ring opening deg) : -2.44
PA of pole (deg)    : -2.21
Pole direction: RA (deg): 268.05665
Dec (deg): 64.49732
C/A sky separation ("): 9.339
C/A sky separation (km): 31805.8
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	2043-04-24T14:57:12.584	46.76	-64.57	71490.5	25.47	28.54
Jupiter	E	2043-04-25T07:25:19.954	-28.96x	-0.27x	71490.4	26.19	29.31