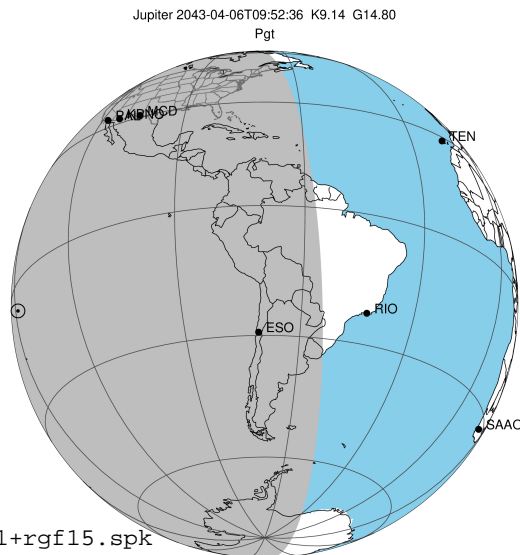


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-04-06T09:52:36.400
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4066624711234210304
 2Mass ID (if available) : 18114122-2258121

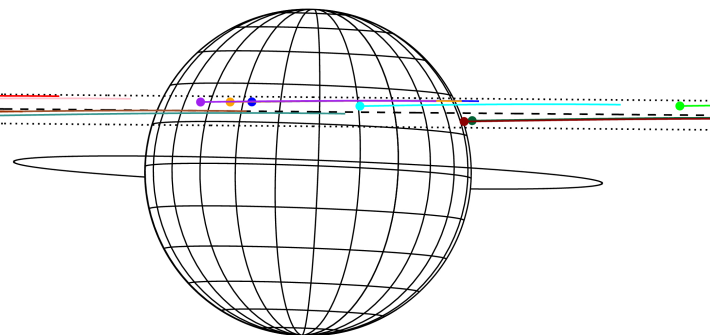
Jupiter 2043-04-06T09:52:36 K9.14 G14.80 Pgt

ICRS Star Coord at Epoch: 18h 11m 41.21644s -22:58:12.06597s
 RUWE (>1.4 is poor) : 1.00
 K magnitude : 9.138
 G magnitude : 14.797
 RP magnitude : 13.468
 BP magnitude : 16.890
 DUPflag : 0
 Distance (au) : 4.973
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 6.40
 Sun-Target sep (deg) : 103.21
 Sun-Moon sep (deg) : 57.34
 B (ring opening deg) : -2.45
 PA of pole (deg) : -2.09
 Pole direction: RA (deg): 268.05664
 Dec (deg): 64.49732
 C/A sky separation (") : 7.382
 C/A sky separation (km) : 26624.3
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



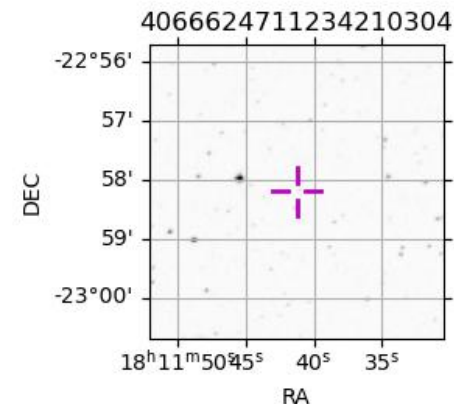
2043-04-06T09:52:36.4000 at: 18 11 41.2164 s: -22 58 12.066 C/A 7.372" PA 179.48 deg v_sky + 6.40 km/s D 04.97 AU
 Credit: Styled after SORA/Lucky Star

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



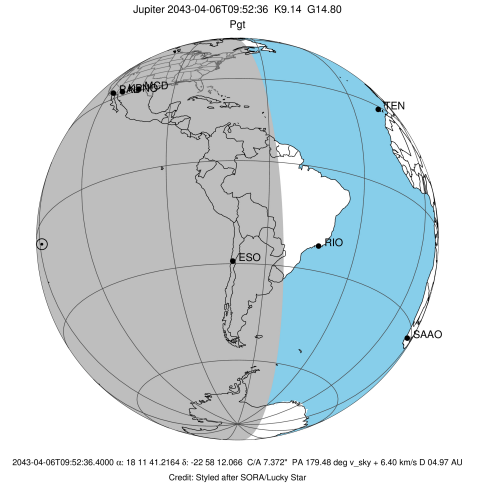
Observable events with sun below -5 deg and altitude above 5 deg

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	+	APR 06 12:38 - APR 06 12:38	Pne
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	APR 06 12:40 - APR 06 12:40	Pne
MCD	McDonald Obs. 2.7m	30.7	256.0			Pnn
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+	APR 06 12:30 - APR 06 12:30	Pne
KAV	Kavalur Observatory	12.6	78.8			Pnn
RIO	Rio de Janeiro	-22.9	316.8	+	APR 06 06:55 - APR 06 06:55	Pin
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	APR 06 06:48 - APR 06 06:48	Pin
AAT	Siding Spring (AAT)	-31.3	149.1			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn

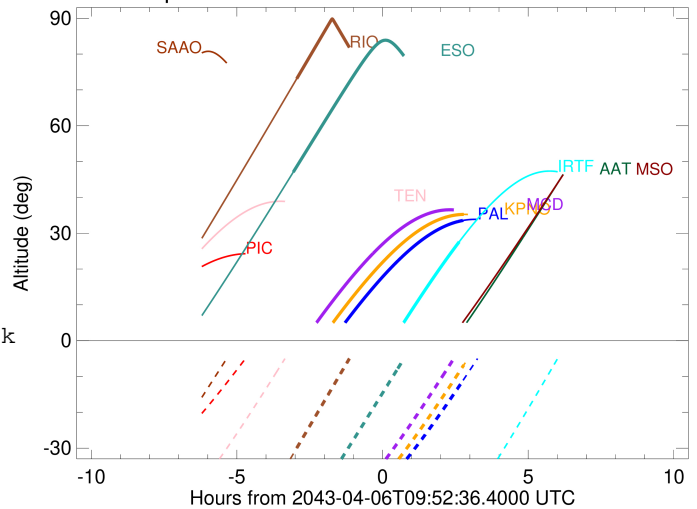


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-04-06T09:40:31.240
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        : 4066624711234210304
2Mass ID (if available) : 18114122-2258121
ICRS Star Coord at Epoch: 18h 11m 41.21644s -22:58:12.06597s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 9.138
G magnitude           : 14.797
RP magnitude          : 13.468
BP magnitude          : 16.890
DUPflag              : 0
Distance (au)         : 4.973
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 6.40
Sun-Target sep (deg)  : 103.21
Sun-Moon sep (deg)   : 57.93
B (ring opening deg) : -2.45
PA of pole (deg)     : -2.09
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 8.655
C/A sky separation (km) : 31214.5
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
    
```



Jupiter 2043-04-06T09:52:36 K9.14 G14.80

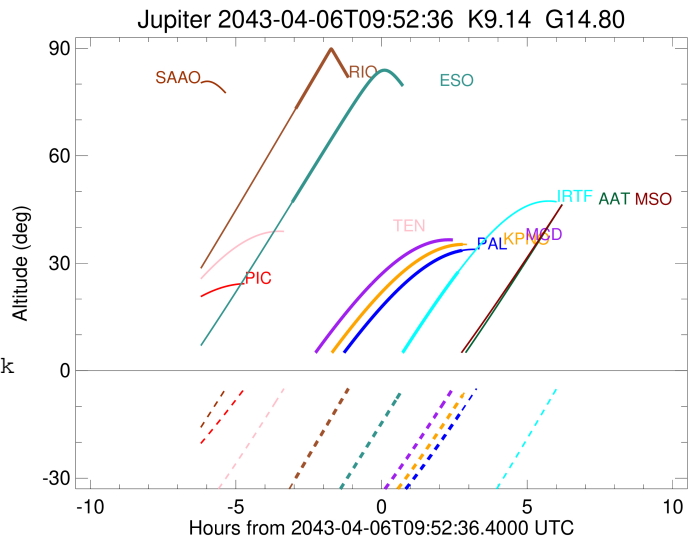
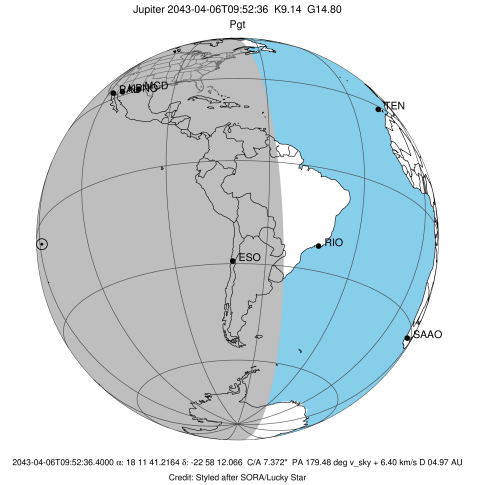


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-06T06:50:34.835	-14.95x	-47.95	71490.7	23.03	25.89
Jupiter	E	2043-04-06T12:38:35.607	33.56	-11.07	71490.2	28.06	31.32

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-04-06T09:41:21.400
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      : 4066624711234210304
2Mass ID (if available) : 18114122-2258121
ICRS Star Coord at Epoch: 18h 11m 41.21644s -22:58:12.06597s
RUWE (>1.4 is poor) : 1.00
K magnitude          : 9.138
G magnitude          : 14.797
RP magnitude         : 13.468
BP magnitude         : 16.890
DUPflag             : 0
Distance (au)       : 4.973
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 6.40
Sun-Target sep (deg) : 103.21
Sun-Moon sep (deg)  : 57.96
B (ring opening deg) : -2.45
PA of pole (deg)    : -2.09
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 8.668
C/A sky separation (km) : 31261.0
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
    
```

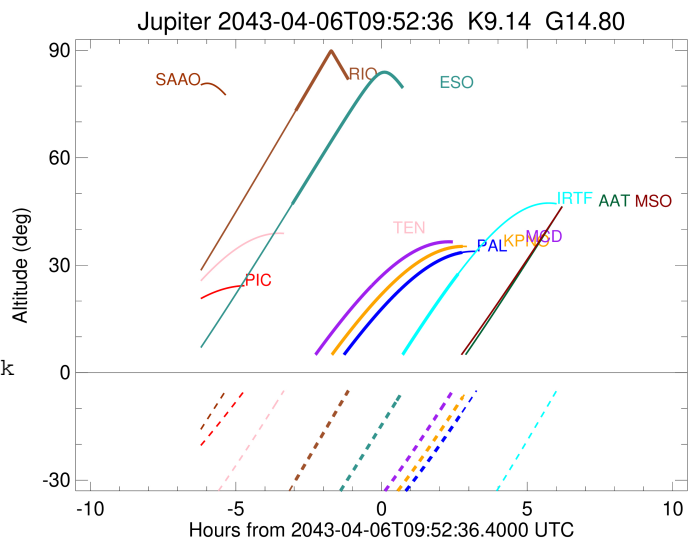
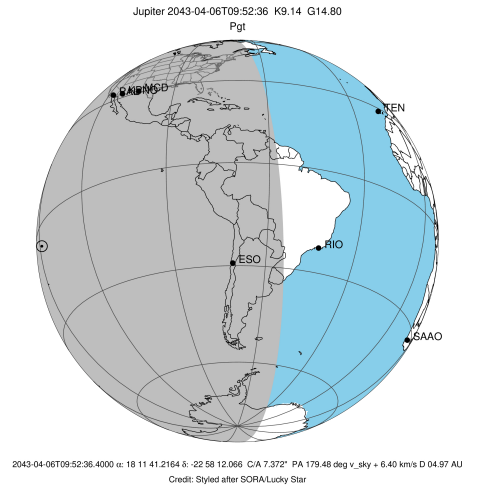


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-06T06:50:26.276	-10.33x	-50.69	71490.7	23.09	25.96
Jupiter	E	2043-04-06T12:40:04.315	35.25	-6.79	71490.2	27.99	31.24

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-04-06T09:35:03.850
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       : 4066624711234210304
2Mass ID (if available) : 18114122-2258121
ICRS Star Coord at Epoch: 18h 11m 41.21644s -22:58:12.06597s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 9.138
G magnitude           : 14.797
RP magnitude          : 13.468
BP magnitude          : 16.890
DUPflag              : 0
Distance (au)        : 4.973
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 6.40
Sun-Target sep (deg) : 103.21
Sun-Moon sep (deg)   : 57.77
B (ring opening deg) : -2.45
PA of pole (deg)     : -2.09
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation ("): 7.949
C/A sky separation (km): 28668.4
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
    
```

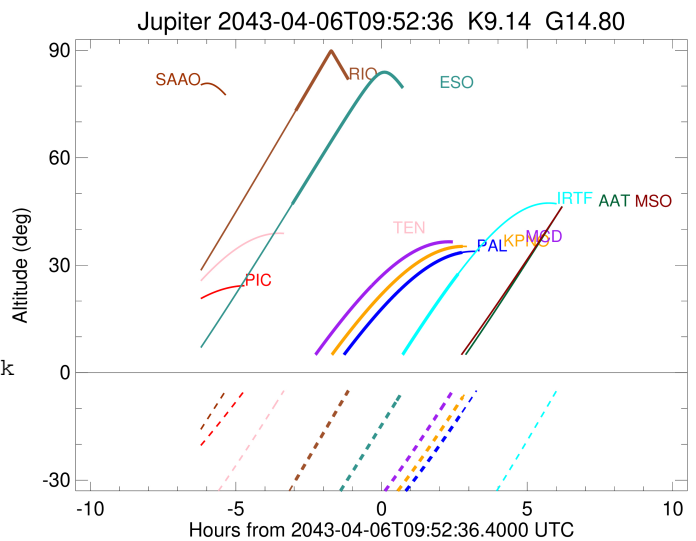
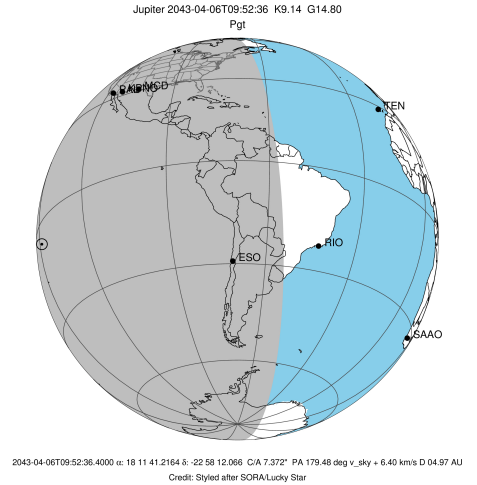


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-06T06:49:43.172	-45.48x	-31.11	71491.0	20.67	23.32
Jupiter	E	2043-04-06T12:30:37.383	27.59	-49.32	71490.4	26.61	29.76

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-04-06T10:00:44.060
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       : 4066624711234210304
2Mass ID (if available) : 18114122-2258121
ICRS Star Coord at Epoch: 18h 11m 41.21644s -22:58:12.06597s
RUWE (>1.4 is poor) : 1.00
K magnitude          : 9.138
G magnitude           : 14.797
RP magnitude         : 13.468
BP magnitude         : 16.890
DUPflag              : 0
Distance (au)        : 4.973
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 6.40
Sun-Target sep (deg) : 103.21
Sun-Moon sep (deg)   : 57.89
B (ring opening deg) : -2.45
PA of pole (deg)     : -2.09
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 7.304
C/A sky separation (km) : 26343.5
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
    
```

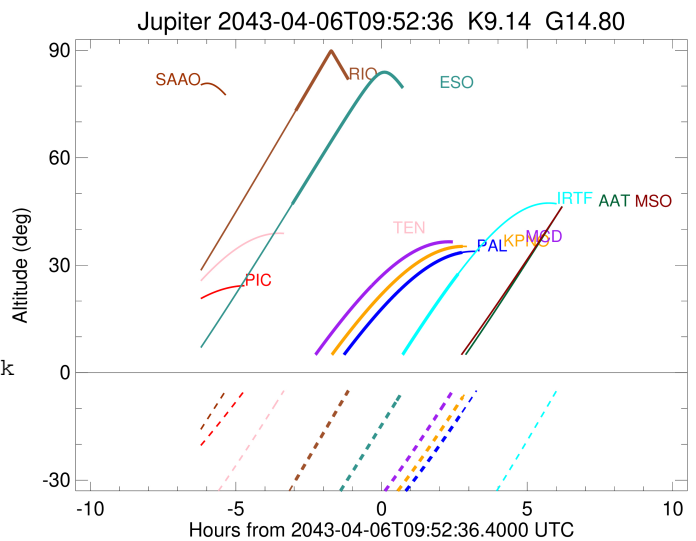
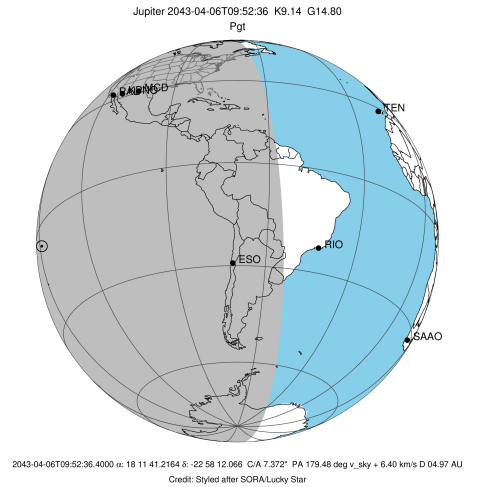


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-06T06:55:51.003	73.11	-29.98	71491.0	20.21	22.81
Jupiter	E	2043-04-06T13:02:37.341	23.00	49.79x	71490.9	21.96	24.73

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-04-06T09:52:10.420
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       : 4066624711234210304
2Mass ID (if available) : 18114122-2258121
ICRS Star Coord at Epoch: 18h 11m 41.21644s -22:58:12.06597s
RUWE (>1.4 is poor) : 1.00
K magnitude           : 9.138
G magnitude           : 14.797
RP magnitude          : 13.468
BP magnitude          : 16.890
DUPflag              : 0
Distance (au)        : 4.973
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 6.40
Sun-Target sep (deg) : 103.21
Sun-Moon sep (deg)   : 58.17
B (ring opening deg) : -2.45
PA of pole (deg)     : -2.09
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 7.193
C/A sky separation (km) : 25943.9
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	2043-04-06T06:48:41.532	47.03	-53.14	71491.1	19.12	21.61
Jupiter	E	2043-04-06T12:57:48.876	49.45	24.78x	71490.8	22.25	25.04