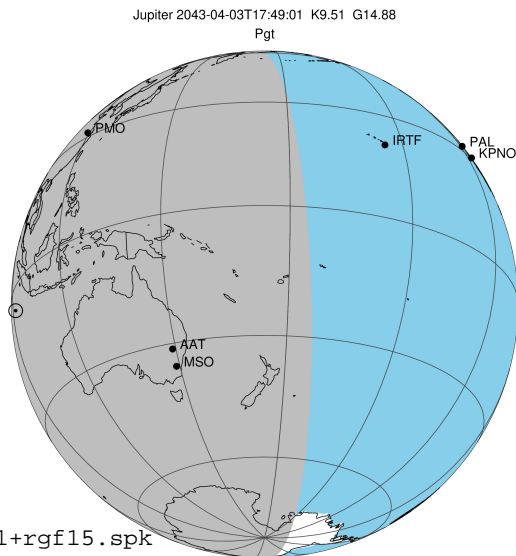


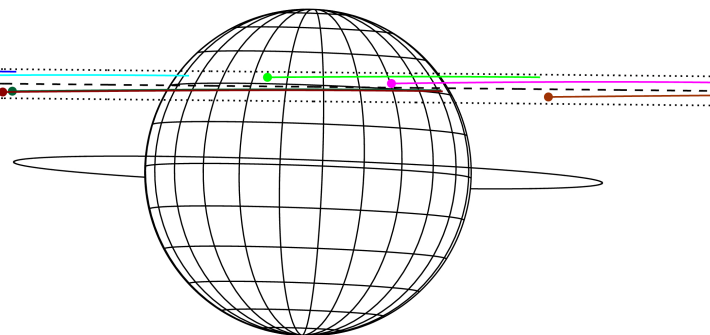
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-04-03T17:49:01.360  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4066630513669529856  
 2Mass ID (if available) : 18110877-2258133

Jupiter 2043-04-03T17:49:01 K9.51 G14.88 Pgt

ICRS Star Coord at Epoch: 18h 11m 08.77056s -22:58:13.41747s  
 RUWE (>1.4 is poor) : 0.96  
 K magnitude : 9.509  
 G magnitude : 14.883  
 RP magnitude : 13.595  
 BP magnitude : 16.781  
 DUPflag : 0  
 Distance (au) : 5.015  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 7.67  
 Sun-Target sep (deg) : 100.71  
 Sun-Moon sep (deg) : 22.45  
 B (ring opening deg) : -2.45  
 PA of pole (deg) : -2.04  
 Pole direction: RA (deg): 268.05664  
 Dec (deg): 64.49732  
 C/A sky separation (") : 10.321  
 C/A sky separation (km) : 37541.1  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk



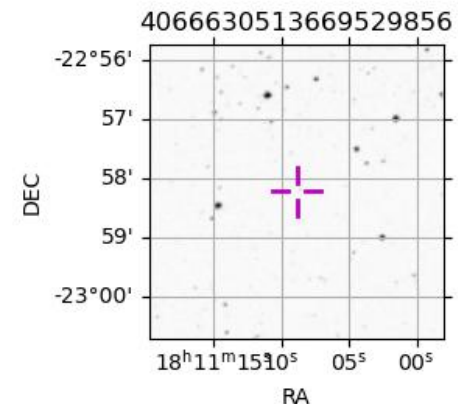
Earth  
 PAL  
 PMO  
 KPNO  
 MCD  
 IRTF  
 KAV  
 AAT  
 SAAO  
 MSO



2043-04-03T17:49:01.3600 α: 18 11 08.7706 δ: -22 58 13.417 C/A \*\*\*\*\* PA 179.41 deg v\_sky = 7.67 km/s D 05.01 AU  
 Credit: Styled after SORA/Lucky Star

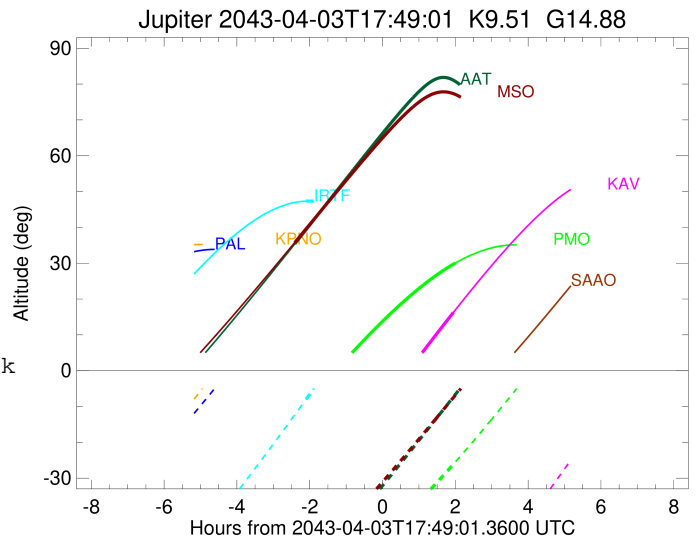
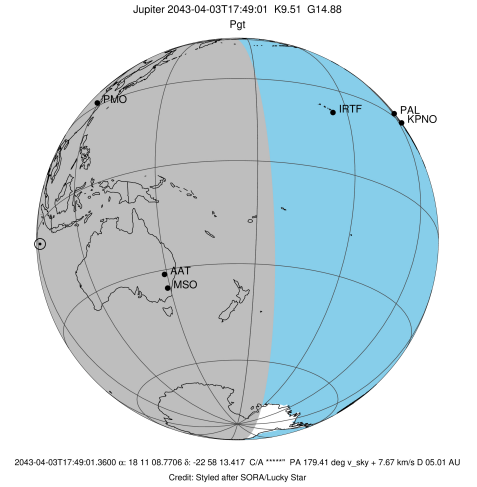
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
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	+	APR 03 19:49 - APR 03 19:49	Pne
KPNO	Kitt Peak Natl Obs	32.0	248.4			Pnn
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 03 15:43 - APR 03 15:43	Pin
KAV	Kavalur Observatory	12.6	78.8	+	APR 03 19:45 - APR 03 19:45	Pne
RIO	Rio de Janeiro	-22.9	316.8			Pnn
ESO	European Southern Obs. (3.6m)	-29.3	289.3			Pnn
AAT	Siding Spring (AAT)	-31.3	149.1	+	APR 03 15:24 - APR 03 15:24	Pin
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	APR 03 15:24 - APR 03 15:24	Pin



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-04-03T17:37:37.020
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : PMO
Location            : Purple Mtn Obs. Nanking
Latitude (deg)      : 32.06667
E. Longitude (deg)  : 118.82089
Altitude (km)       : 0.364
Gaia source ID      : 4066630513669529856
2Mass ID (if available) : 18110877-2258133
ICRS Star Coord at Epoch: 18h 11m 08.77056s -22:58:13.41747s
RUWE (>1.4 is poor) : 0.96
K magnitude          : 9.509
G magnitude          : 14.883
RP magnitude         : 13.595
BP magnitude         : 16.781
DUPflag             : 0
Distance (au)       : 5.015
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 7.67
Sun-Target sep (deg) : 100.71
Sun-Moon sep (deg)  : 23.26
B (ring opening deg) : -2.45
PA of pole (deg)    : -2.04
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 11.499
C/A sky separation (km) : 41825.9
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
    
```

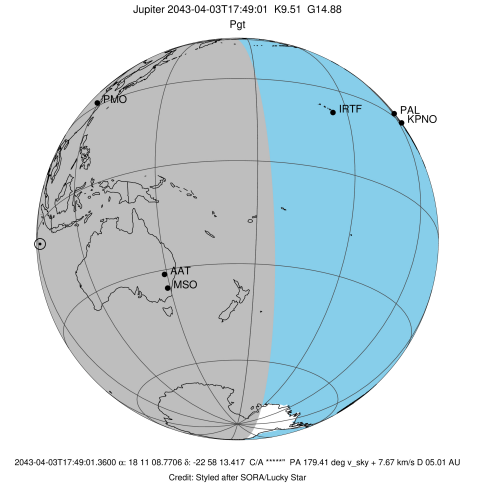


x: target alt < 5.0 deg or sun > -5.0 deg

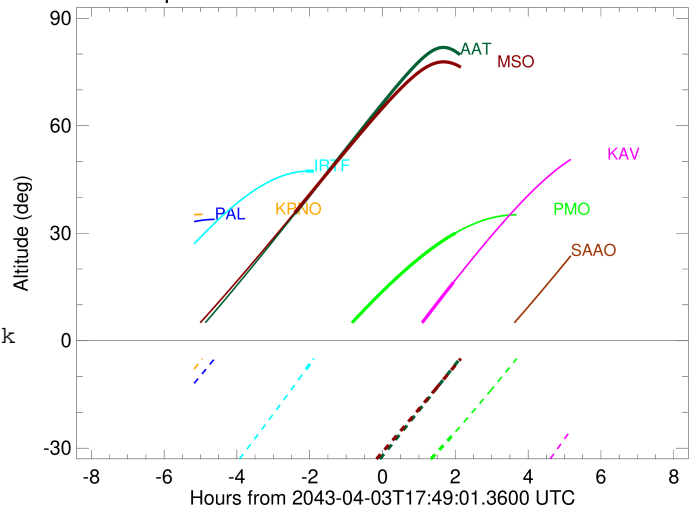
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-03T15:30:11.065	-12.04x	-51.61	71489.5	33.23	36.77
Jupiter	E	2043-04-03T19:49:12.478	30.06	-25.47	71488.9	37.97	41.65

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-04-03T17:57:20.240
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       : 4066630513669529856
2Mass ID (if available) : 18110877-2258133
ICRS Star Coord at Epoch: 18h 11m 08.77056s -22:58:13.41747s
RUWE (>1.4 is poor) : 0.96
K magnitude           : 9.509
G magnitude           : 14.883
RP magnitude          : 13.595
BP magnitude          : 16.781
DUPflag              : 0
Distance (au)        : 5.015
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 7.67
Sun-Target sep (deg) : 100.71
Sun-Moon sep (deg)   : 22.41
B (ring opening deg) : -2.45
PA of pole (deg)     : -2.04
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 11.398
C/A sky separation (km) : 41455.4
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
    
```



Jupiter 2043-04-03T17:49:01 K9.51 G14.88

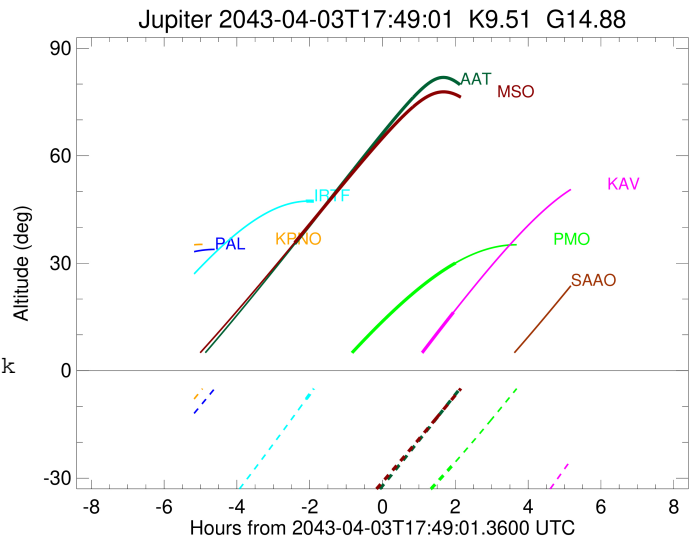
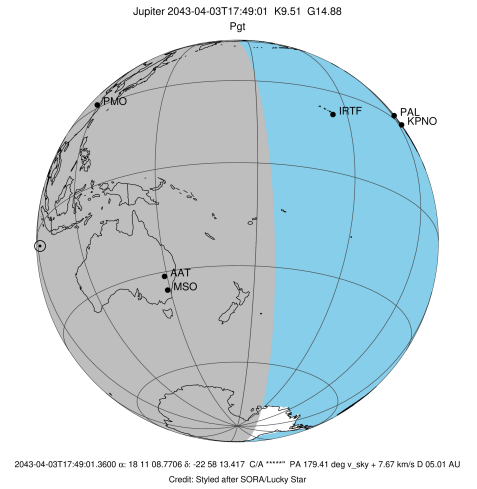


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-03T15:43:23.803	47.32	-7.91	71489.4	34.36	37.94
Jupiter	E	2043-04-03T20:09:30.782	13.15	54.13x	71489.2	35.83	39.46

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-04-03T17:33:48.570
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : KAV
Location            : Kavalur Observatory
Latitude (deg)      : 12.57556
E. Longitude (deg)  : 78.83167
Altitude (km)       : 0.722
Gaia source ID      : 4066630513669529856
2Mass ID (if available) : 18110877-2258133
ICRS Star Coord at Epoch: 18h 11m 08.77056s -22:58:13.41747s
RUWE (>1.4 is poor) : 0.96
K magnitude          : 9.509
G magnitude          : 14.883
RP magnitude         : 13.595
BP magnitude         : 16.781
DUPflag             : 0
Distance (au)       : 5.015
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 7.67
Sun-Target sep (deg) : 100.71
Sun-Moon sep (deg)  : 23.24
B (ring opening deg) : -2.45
PA of pole (deg)    : -2.04
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 10.591
C/A sky separation (km) : 38524.7
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
    
```

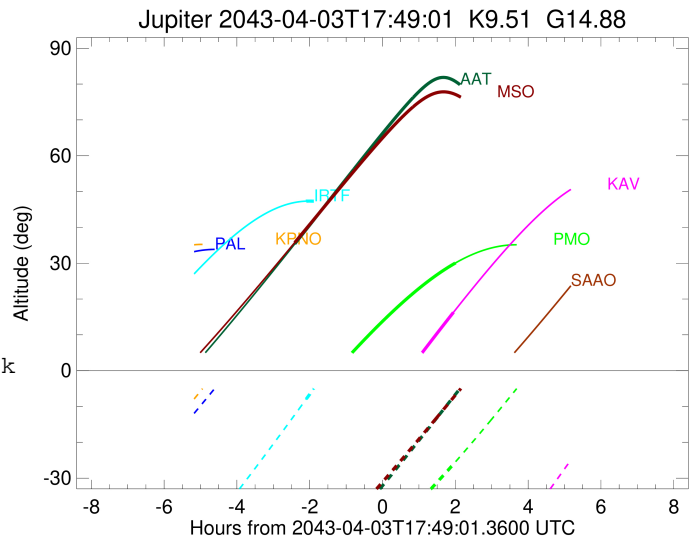
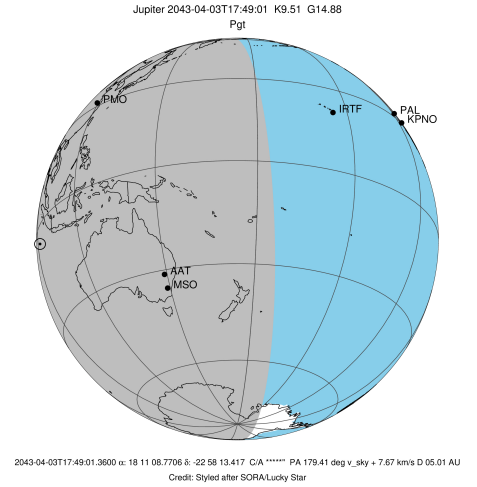


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-03T15:26:47.713	-42.41x	-36.93	71489.9	29.96	33.33
Jupiter	E	2043-04-03T19:45:54.137	16.27	-66.93	71489.3	35.32	38.93

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-04-03T17:42:58.440
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       : 4066630513669529856
2Mass ID (if available) : 18110877-2258133
ICRS Star Coord at Epoch: 18h 11m 08.77056s -22:58:13.41747s
RUWE (>1.4 is poor) : 0.96
K magnitude          : 9.509
G magnitude          : 14.883
RP magnitude         : 13.595
BP magnitude         : 16.781
DUPflag             : 0
Distance (au)        : 5.015
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 7.67
Sun-Target sep (deg) : 100.71
Sun-Moon sep (deg)   : 23.06
B (ring opening deg) : -2.45
PA of pole (deg)     : -2.04
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 10.021
C/A sky separation (km) : 36449.5
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
    
```

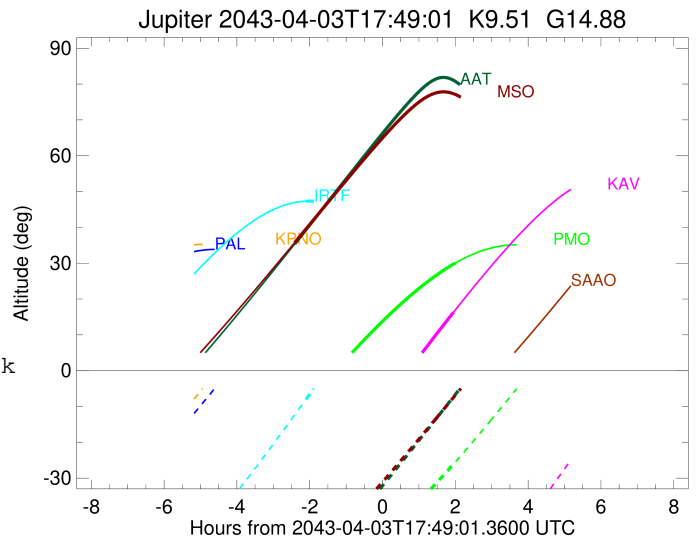
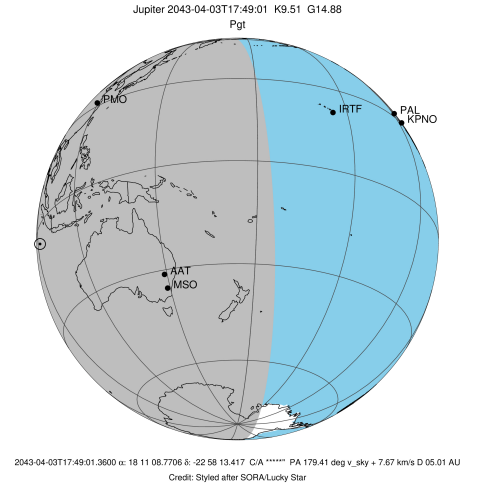


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-03T15:24:22.776	35.38	-58.55	71490.1	28.39	31.66
Jupiter	E	2043-04-03T20:04:36.152	78.68	-3.33x	71489.7	32.21	35.70

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-04-03T17:43:14.570
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        : 4066630513669529856
2Mass ID (if available) : 18110877-2258133
ICRS Star Coord at Epoch: 18h 11m 08.77056s -22:58:13.41747s
RUWE (>1.4 is poor) : 0.96
K magnitude           : 9.509
G magnitude           : 14.883
RP magnitude          : 13.595
BP magnitude          : 16.781
DUPflag              : 0
Distance (au)         : 5.015
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 7.67
Sun-Target sep (deg)  : 100.71
Sun-Moon sep (deg)    : 23.03
B (ring opening deg) : -2.45
PA of pole (deg)     : -2.04
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 9.902
C/A sky separation (km) : 36017.1
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	2043-04-03T15:24:20.416	35.75	-55.37	71490.2	28.02	31.27
Jupiter	E	2043-04-03T20:05:05.165	75.56	-3.58x	71489.7	31.80	35.27