

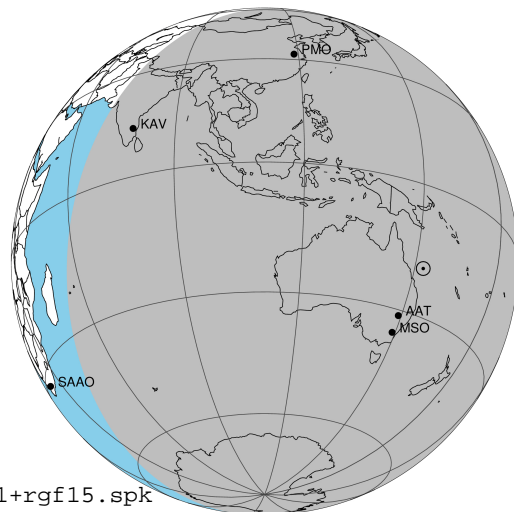
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-07-26T13:56:28.100
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116696917480719104
 2Mass ID (if available) : 17342248-2303002

Jupiter 2043-07-26T13:56:28 K9.82 G13.75 Pgt

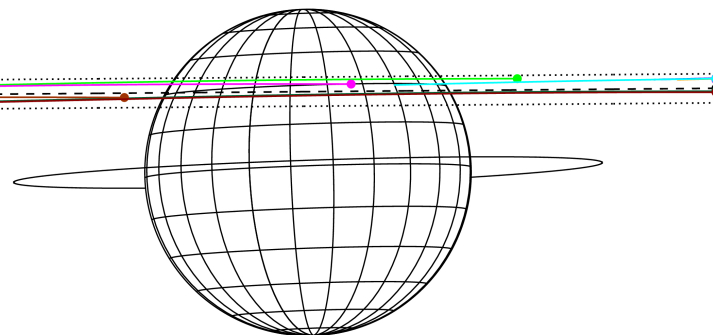
ICRS Star Coord at Epoch: 17h 34m 22.48384s -23°03'00.19022s

RUWE (>1.4 is poor) : 0.96
 K magnitude : 9.825
 G magnitude : 13.751
 RP magnitude : 12.672
 BP magnitude : 14.955
 DUPflag : 0
 Distance (au) : 4.424
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -10.00
 Sun-Target sep (deg) : 141.21
 Sun-Moon sep (deg) : 93.09
 B (ring opening deg) : -2.38
 PA of pole (deg) : 1.92
 Pole direction: RA (deg): 268.05670
 Dec (deg): 64.49731
 C/A sky separation (") : 11.038
 C/A sky separation (km) : 35412.3
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-07-26T13:56:28 K9.82 G13.75
 Pgt



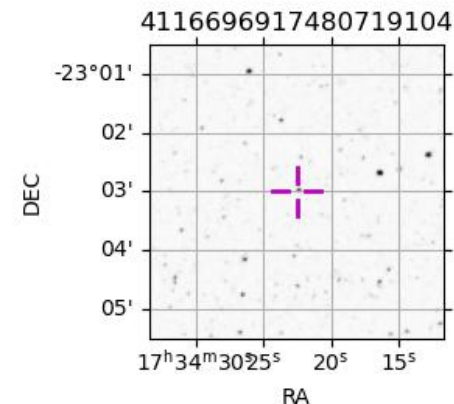
Earth
 PAL
 PMO
 KPNO
 MCD
 IRTF
 KAV
 AAT
 SAAO
 MSO



2043-07-26T13:56:28.1000 a: 17 34 22.48388 s: -23 03 00.190 C/A ***** PA 180.47 deg v_sky -10.00 km/s D 04.42 AU
 Credit: Styled after SORA/Lucky Star

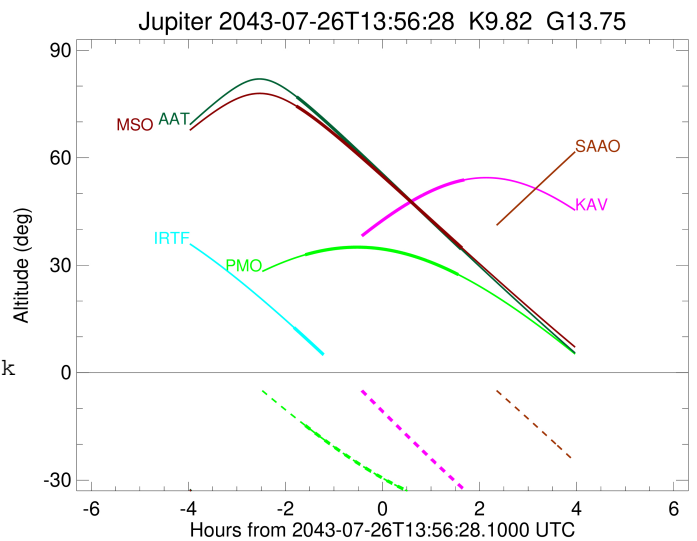
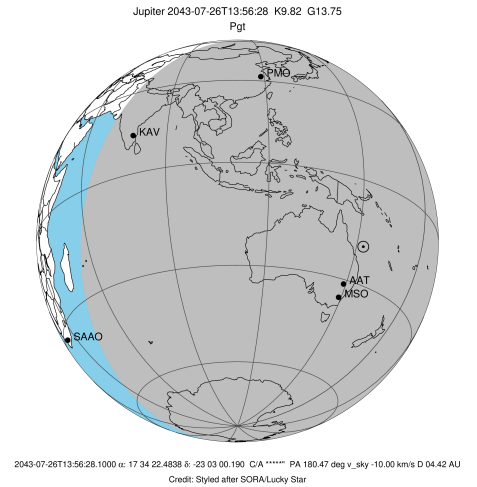
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	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	+ +	JUL 26 12:21 - JUL 26 15:30	Pie
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	+	JUL 26 12:06 - JUL 26 12:06	Pin
KAV	Kavalur Observatory	12.6	78.8	+	JUL 26 15:37 - JUL 26 15:37	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	+ +	JUL 26 12:10 - JUL 26 15:33	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	JUL 26 12:10 - JUL 26 15:34	Pie



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-07-26T13:55:25.830
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      : 4116696917480719104
2Mass ID (if available) : 17342248-2303002
ICRS Star Coord at Epoch: 17h 34m 22.48384s -23:03:00.19022s
RUWE (>1.4 is poor) : 0.96
K magnitude          : 9.825
G magnitude          : 13.751
RP magnitude         : 12.672
BP magnitude         : 14.955
DUPflag             : 0
Distance (au)       : 4.424
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -10.00
Sun-Target sep (deg) : 141.21
Sun-Moon sep (deg)  : 93.64
B (ring opening deg) : -2.38
PA of pole (deg)    : 1.92
Pole direction: RA (deg): 268.05670
Dec (deg): 64.49731
C/A sky separation ("): 12.659
C/A sky separation (km): 40614.5
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
    
```

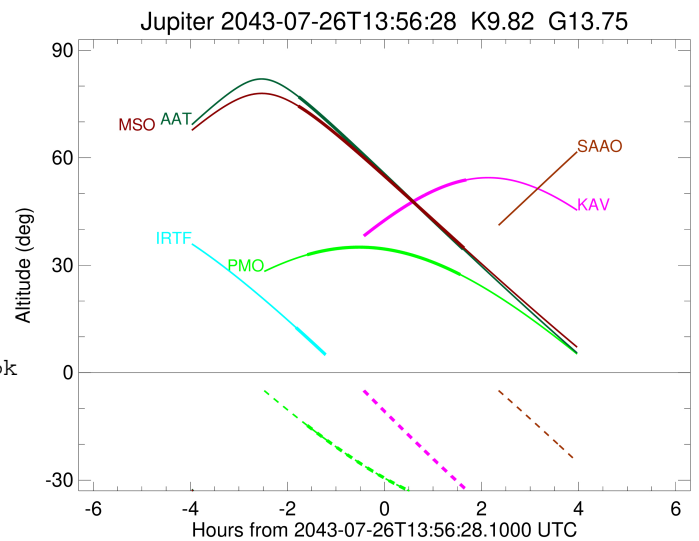
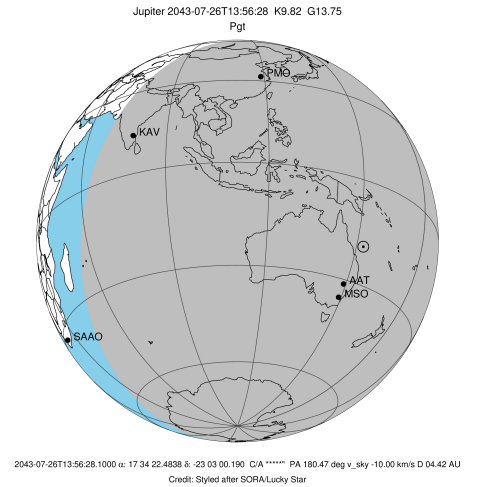


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-07-26T12:20:59.961	32.92	-14.73	71489.7	33.06	36.59
Jupiter	E	2043-07-26T15:30:13.773	27.37	-37.82	71489.4	35.76	39.39

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-07-26T13:47:32.810
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      : 4116696917480719104
2Mass ID (if available) : 17342248-2303002
ICRS Star Coord at Epoch: 17h 34m 22.48384s -23:03:00.19022s
RUWE (>1.4 is poor) : 0.96
K magnitude          : 9.825
G magnitude          : 13.751
RP magnitude         : 12.672
BP magnitude         : 14.955
DUPflag             : 0
Distance (au)       : 4.424
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -10.00
Sun-Target sep (deg) : 141.21
Sun-Moon sep (deg)  : 92.96
B (ring opening deg) : -2.38
PA of pole (deg)    : 1.92
Pole direction: RA (deg): 268.05670
Dec (deg): 64.49731
C/A sky separation (" ) : 11.646
C/A sky separation (km) : 37363.1
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
    
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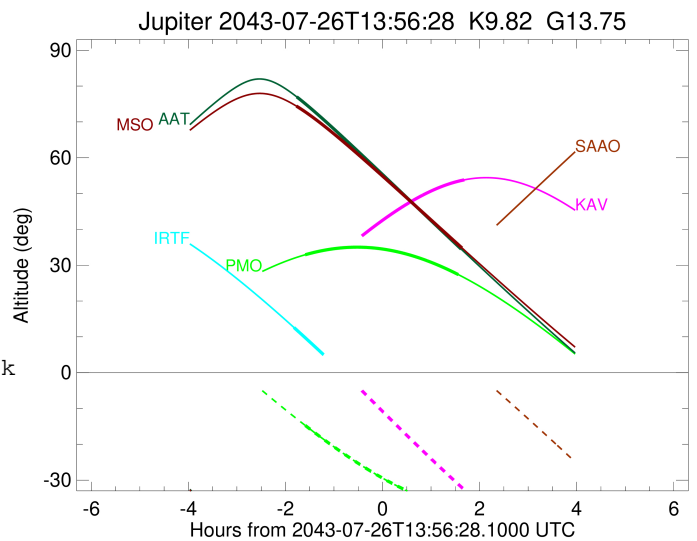
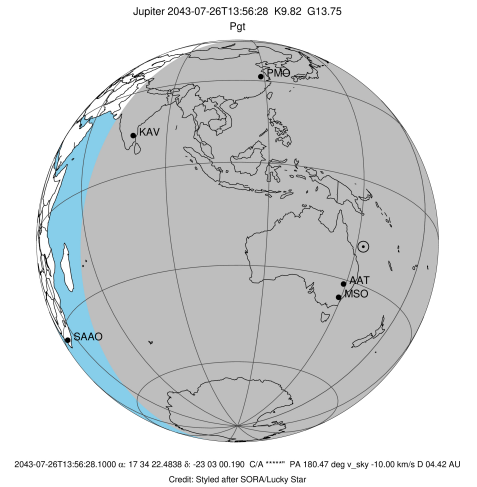


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-07-26T12:06:58.213	12.62	-44.05	71489.9	30.97	34.39
Jupiter	E	2043-07-26T15:30:13.069	-31.77x	-6.40	71489.8	31.98	35.45

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-07-26T14:01:14.550
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      : 4116696917480719104
2Mass ID (if available) : 17342248-2303002
ICRS Star Coord at Epoch: 17h 34m 22.48384s -23:03:00.19022s
RUWE (>1.4 is poor) : 0.96
K magnitude          : 9.825
G magnitude          : 13.751
RP magnitude         : 12.672
BP magnitude         : 14.955
DUPflag             : 0
Distance (au)       : 4.424
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -10.00
Sun-Target sep (deg) : 141.21
Sun-Moon sep (deg)  : 93.71
B (ring opening deg) : -2.38
PA of pole (deg)    : 1.92
Pole direction: RA (deg): 268.05670
Dec (deg): 64.49731
C/A sky separation ("): 12.083
C/A sky separation (km): 38765.7
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
    
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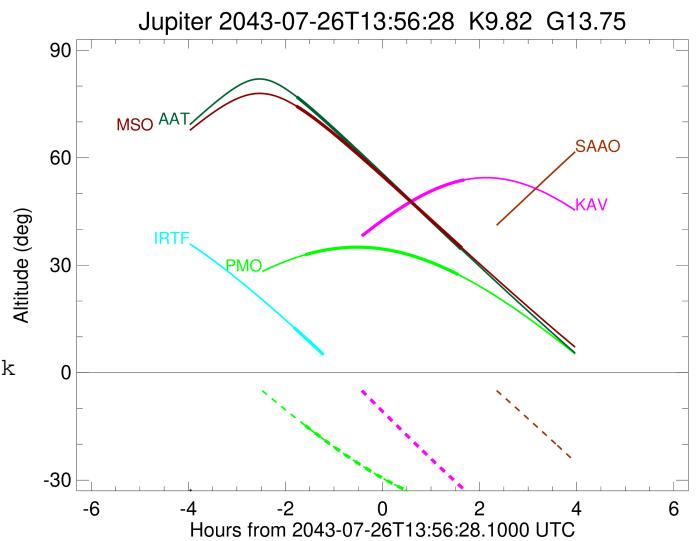
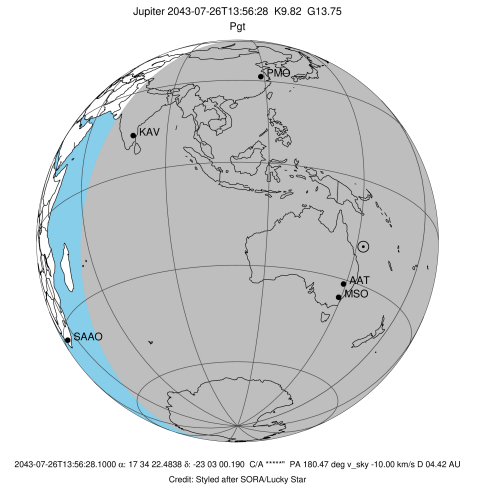


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-07-26T12:24:16.620	25.30	10.35x	71490.0	30.68	34.09
Jupiter	E	2043-07-26T15:37:31.354	53.81	-32.66	71489.5	34.58	38.17

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-07-26T13:51:30.930
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        : 4116696917480719104
2Mass ID (if available) : 17342248-2303002
ICRS Star Coord at Epoch: 17h 34m 22.48384s -23:03:00.19022s
RUWE (>1.4 is poor) : 0.96
K magnitude           : 9.825
G magnitude           : 13.751
RP magnitude          : 12.672
BP magnitude          : 14.955
DUPflag              : 0
Distance (au)         : 4.424
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -10.00
Sun-Target sep (deg)  : 141.21
Sun-Moon sep (deg)    : 93.92
B (ring opening deg) : -2.38
PA of pole (deg)      : 1.92
Pole direction: RA (deg): 268.05670
Dec (deg): 64.49731
C/A sky separation (" ) : 10.631
C/A sky separation (km) : 34107.4
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
    
```

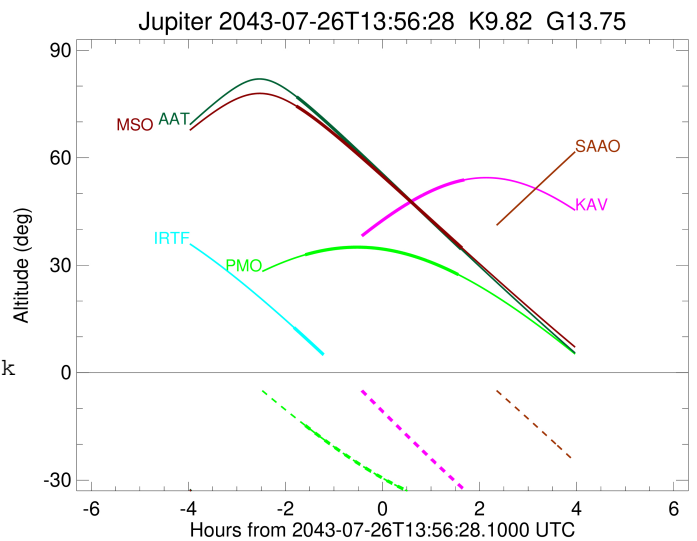
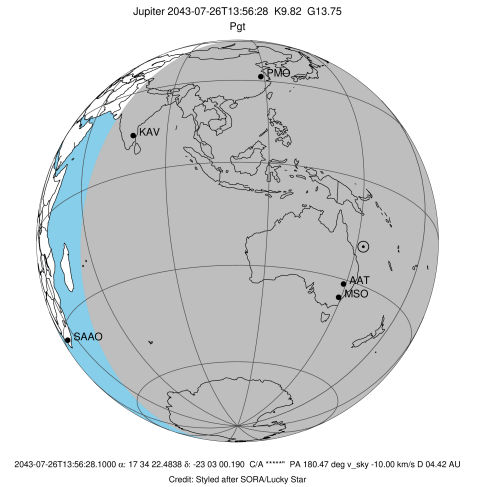


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-07-26T12:10:26.395	76.99	-60.61	71490.4	27.36	30.56
Jupiter	E	2043-07-26T15:33:48.004	34.47	-67.81	71490.1	29.27	32.60

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-07-26T13:51:43.880
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        : 4116696917480719104
2Mass ID (if available) : 17342248-2303002
ICRS Star Coord at Epoch: 17h 34m 22.48384s -23:03:00.19022s
RUWE (>1.4 is poor)  : 0.96
K magnitude           : 9.825
G magnitude           : 13.751
RP magnitude          : 12.672
BP magnitude          : 14.955
DUPflag              : 0
Distance (au)         : 4.424
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s)  : -10.00
Sun-Target sep (deg)  : 141.21
Sun-Moon sep (deg)    : 93.91
B (ring opening deg)  : -2.38
PA of pole (deg)      : 1.92
Pole direction: RA (deg): 268.05670
Dec (deg): 64.49731
C/A sky separation (") : 10.499
C/A sky separation (km) : 33684.9
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	2043-07-26T12:10:08.445	74.39	-59.15	71490.4	26.96	30.13
Jupiter	E	2043-07-26T15:34:29.944	34.85	-65.65	71490.2	28.91	32.22