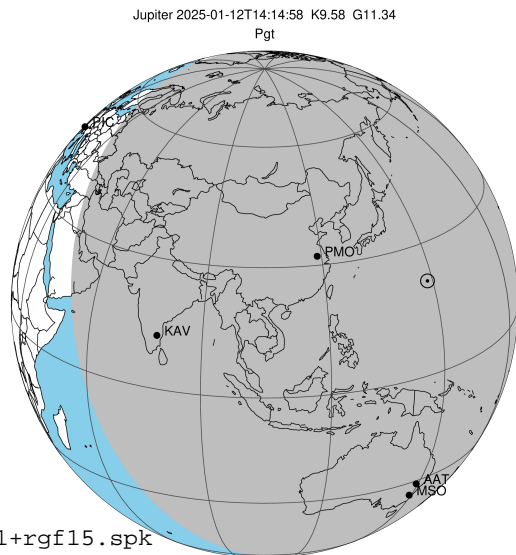


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2025-01-12T14:14:58.700
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3411449126863629696
 2Mass ID (if available) : 04412800+2138436

Jupiter 2025-01-12T14:14:58 K9.58 G11.34 Pgt

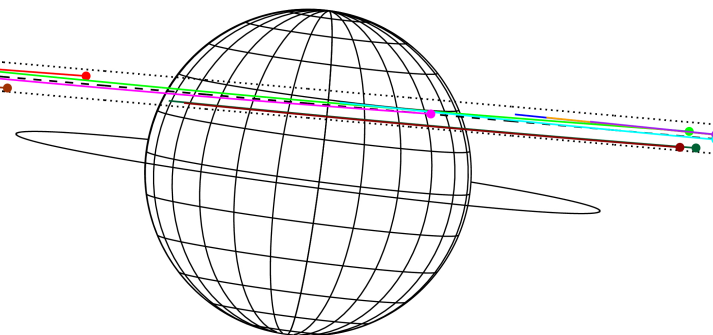
ICRS Star Coord at Epoch: 04h 41m 28.01156s +21:38:42.74344s

RUWE (>1.4 is poor) : 4.24
 K magnitude : 9.580
 G magnitude : 11.339
 RP magnitude : 10.734
 BP magnitude : 11.775
 DUPflag : 0
 Distance (au) : 4.298
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -9.77
 Sun-Target sep (deg) : 139.51
 Sun-Moon sep (deg) : 24.15
 B (ring opening deg) : 2.77
 PA of pole (deg) : -7.53
 Pole direction: RA (deg): 268.05783
 Dec (deg): 64.49672
 C/A sky separation (") : 9.679
 C/A sky separation (km) : 30171.7
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



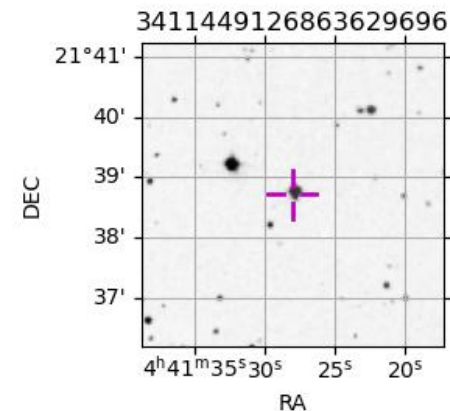
2025-01-12T14:14:58.7000 α: 04 41 28.0116 δ: +21 38 42.743 C/A 9.690° PA 175.01 deg v_sky - 9.77 km/s D 04.30 AU
 Credit: Styled after SORA/Lucky Star

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



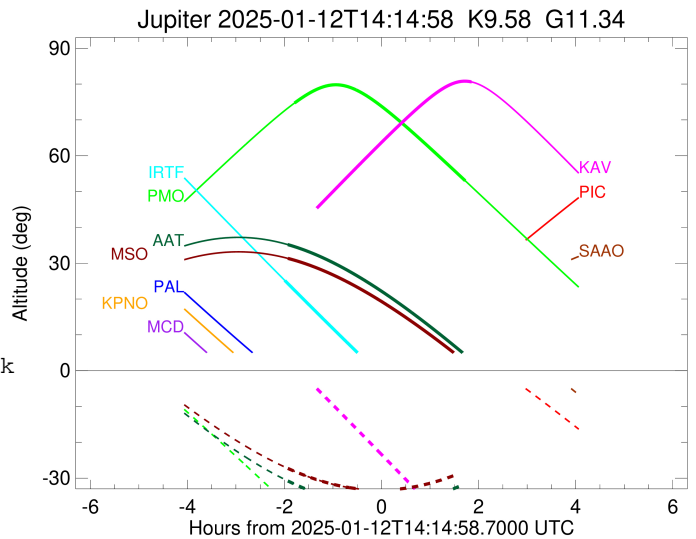
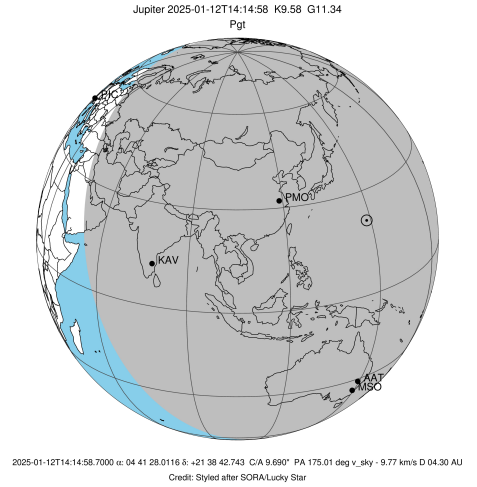
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	JAN 12 12:27 - JAN 12 15:58	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	+	JAN 12 12:15 - JAN 12 12:15	Pin
KAV	Kavalur Observatory	12.6	78.8	+	JAN 12 16:06 - JAN 12 16:06	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	+	JAN 12 12:19 - JAN 12 12:19	Pin
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	JAN 12 12:19 - JAN 12 12:19	Pin



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2025-01-12T14:12:38.540
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      : 3411449126863629696
2Mass ID (if available) : 04412800+2138436
ICRS Star Coord at Epoch: 04h 41m 28.01156s +21:38:42.74344s
RUWE (>1.4 is poor) : 4.24
K magnitude          : 9.580
G magnitude          : 11.339
RP magnitude         : 10.734
BP magnitude         : 11.775
DUPflag             : 0
Distance (au)       : 4.298
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -9.77
Sun-Target sep (deg) : 139.51
Sun-Moon sep (deg)  : 24.31
B (ring opening deg) : 2.77
PA of pole (deg)    : -7.53
Pole direction: RA (deg): 268.05783
Dec (deg): 64.49672
C/A sky separation ("): 10.023
C/A sky separation (km): 31244.3
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
    
```

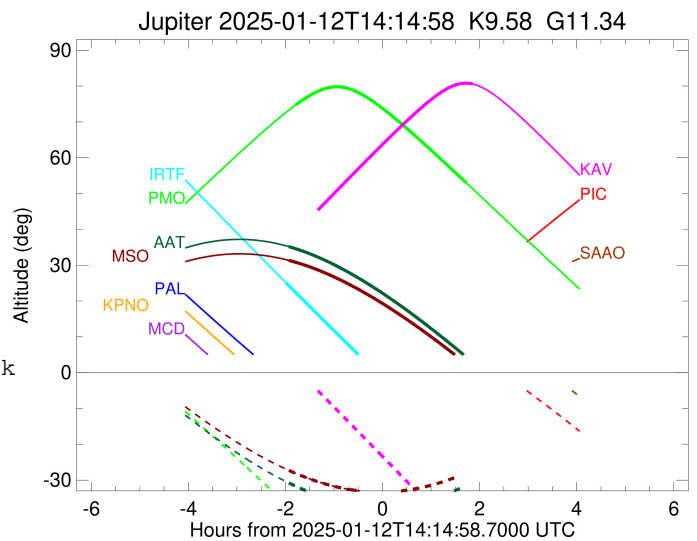
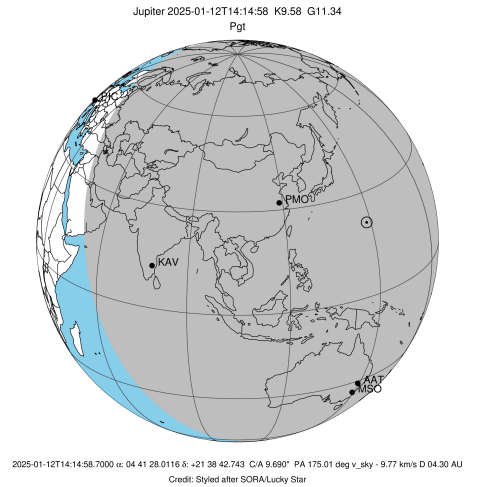


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2025-01-12T12:27:29.445	74.71	-39.12	71489.6	28.59	31.88
Jupiter	E	2025-01-12T15:58:25.889	53.01	-79.12	71490.3	23.55	26.46

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2025-01-12T14:03:36.030
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       : 3411449126863629696
2Mass ID (if available) : 04412800+2138436
ICRS Star Coord at Epoch: 04h 41m 28.01156s +21:38:42.74344s
RUWE (>1.4 is poor) : 4.24
K magnitude           : 9.580
G magnitude           : 11.339
RP magnitude         : 10.734
BP magnitude         : 11.775
DUPflag              : 0
Distance (au)        : 4.298
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -9.77
Sun-Target sep (deg) : 139.51
Sun-Moon sep (deg)   : 23.25
B (ring opening deg) : 2.77
PA of pole (deg)     : -7.53
Pole direction: RA (deg): 268.05783
Dec (deg): 64.49672
C/A sky separation (") : 10.244
C/A sky separation (km) : 31933.3
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
    
```

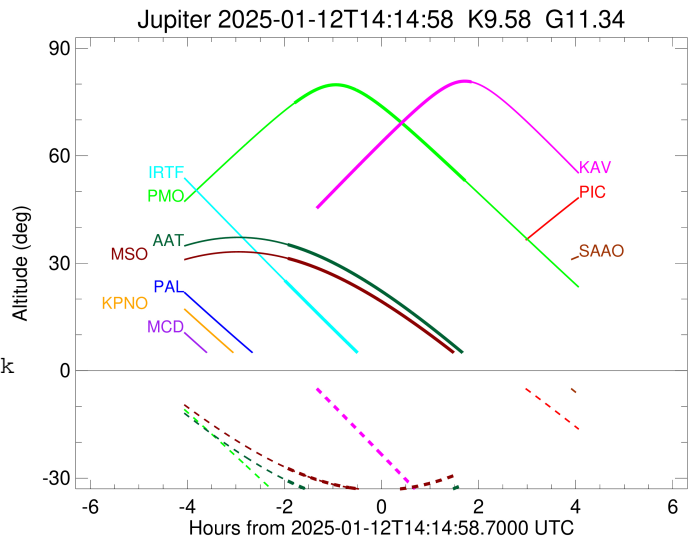
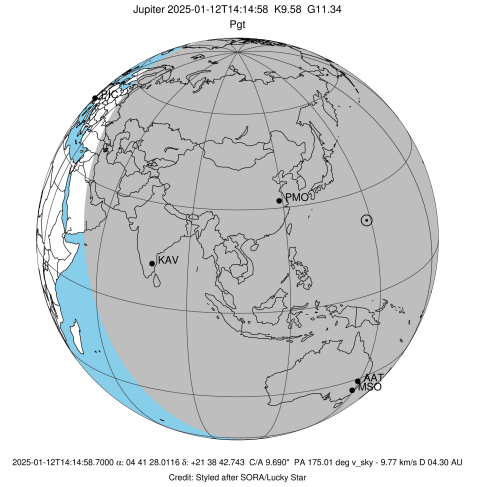


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2025-01-12T12:15:27.761	25.17	-65.36	71489.7	28.13	31.38
Jupiter	E	2025-01-12T15:54:23.521	-21.99x	-15.11	71490.1	24.93	27.95

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2025-01-12T14:20:00.880
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       : 3411449126863629696
2Mass ID (if available) : 04412800+2138436
ICRS Star Coord at Epoch: 04h 41m 28.01156s +21:38:42.74344s
RUWE (>1.4 is poor) : 4.24
K magnitude           : 9.580
G magnitude           : 11.339
RP magnitude          : 10.734
BP magnitude          : 11.775
DUPflag              : 0
Distance (au)        : 4.298
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -9.77
Sun-Target sep (deg) : 139.51
Sun-Moon sep (deg)   : 24.91
B (ring opening deg) : 2.77
PA of pole (deg)     : -7.53
Pole direction: RA (deg): 268.05783
Dec (deg): 64.49672
C/A sky separation ("): 9.490
C/A sky separation (km): 29584.0
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
    
```

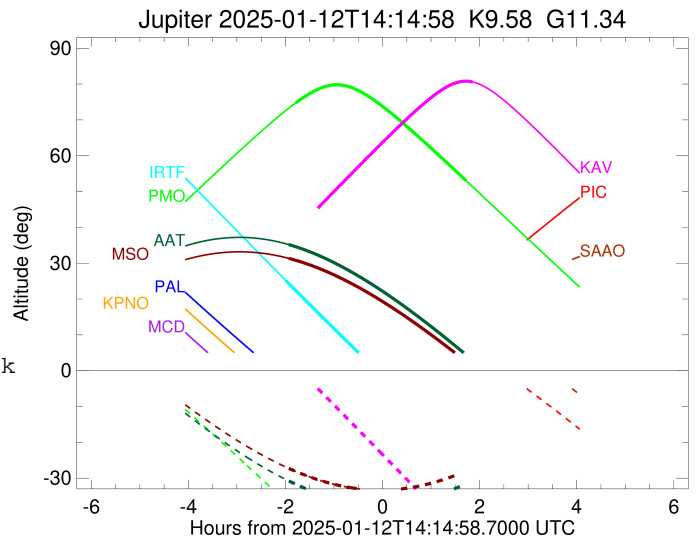
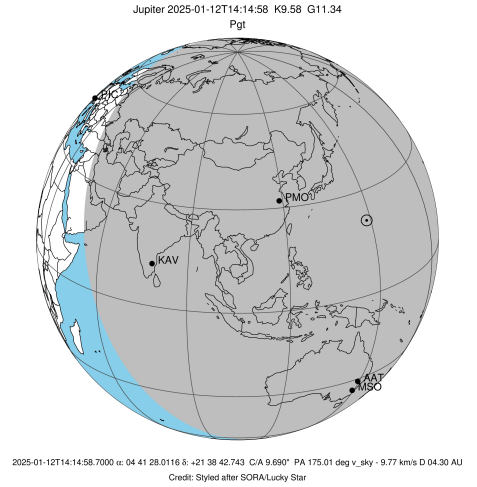


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2025-01-12T12:33:04.066	40.25	-0.01x	71489.7	27.69	30.91
Jupiter	E	2025-01-12T16:06:13.945	80.60	-49.22	71490.6	21.49	24.21

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2025-01-12T14:08:59.910
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       : 3411449126863629696
2Mass ID (if available) : 04412800+2138436
ICRS Star Coord at Epoch: 04h 41m 28.01156s +21:38:42.74344s
RUWE (>1.4 is poor) : 4.24
K magnitude           : 9.580
G magnitude           : 11.339
RP magnitude         : 10.734
BP magnitude         : 11.775
DUPflag              : 0
Distance (au)        : 4.298
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -9.77
Sun-Target sep (deg) : 139.51
Sun-Moon sep (deg)   : 24.05
B (ring opening deg) : 2.77
PA of pole (deg)     : -7.53
Pole direction: RA (deg): 268.05783
Dec (deg): 64.49672
C/A sky separation ("): 8.128
C/A sky separation (km): 25337.1
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
    
```

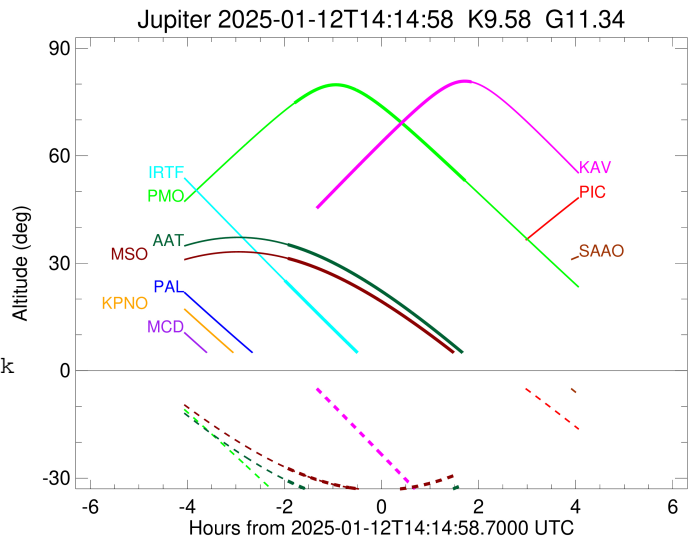
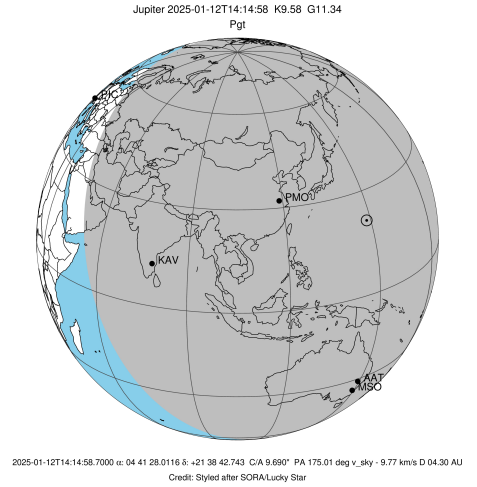


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2025-01-12T12:19:13.047	35.18	-30.79	71490.4	23.02	25.88
Jupiter	E	2025-01-12T16:00:26.760	4.02x	-31.32	71490.9	18.79	21.24

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2025-01-12T14:09:20.290
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       : 3411449126863629696
2Mass ID (if available) : 04412800+2138436
ICRS Star Coord at Epoch: 04h 41m 28.01156s +21:38:42.74344s
RUWE (>1.4 is poor) : 4.24
K magnitude           : 9.580
G magnitude           : 11.339
RP magnitude         : 10.734
BP magnitude         : 11.775
DUPflag              : 0
Distance (au)        : 4.298
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -9.77
Sun-Target sep (deg) : 139.51
Sun-Moon sep (deg)   : 24.07
B (ring opening deg) : 2.77
PA of pole (deg)     : -7.53
Pole direction: RA (deg): 268.05783
Dec (deg): 64.49672
C/A sky separation (") : 8.043
C/A sky separation (km) : 25071.5
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	2025-01-12T12:19:12.826	31.34	-27.28	71490.4	22.81	25.65
Jupiter	E	2025-01-12T16:01:04.714	2.03x	-27.76	71490.9	18.54	20.96