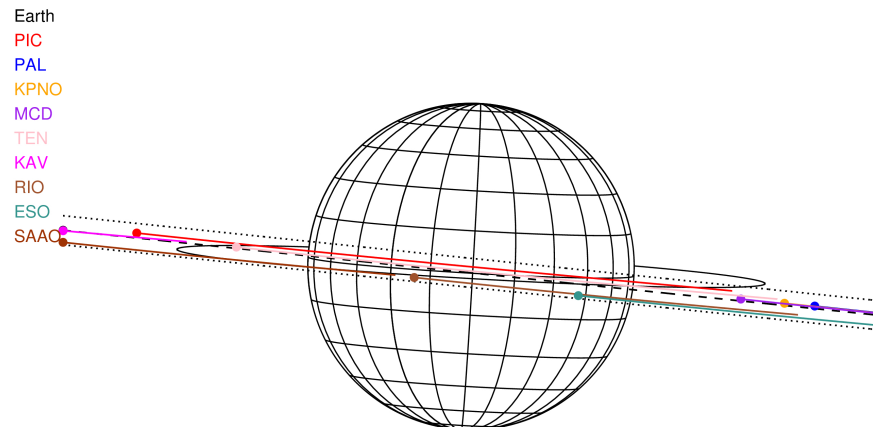
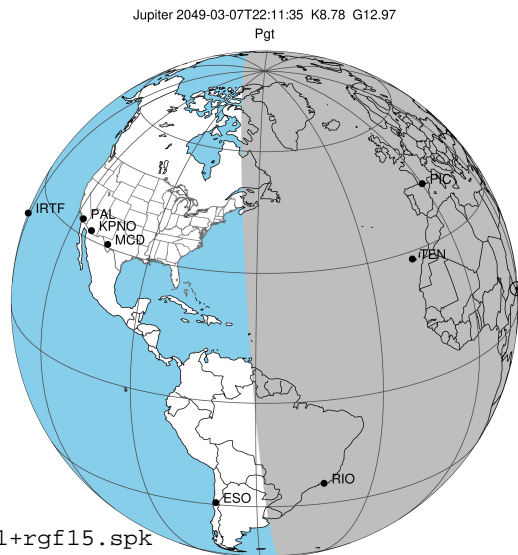


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2049-03-07T22:11:35.770
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3414829609722583168
 2Mass ID (if available) : 05210663+2256263

Jupiter 2049-03-07T22:11:35 K8.78 G12.97 Pgt

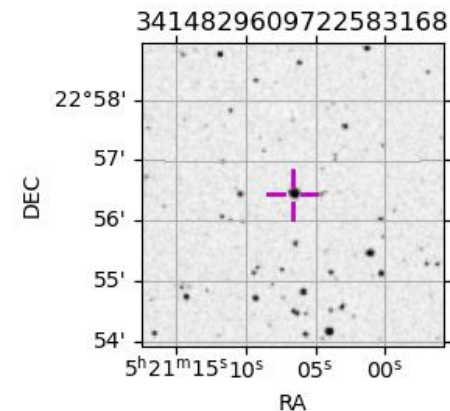
ICRS Star Coord at Epoch: 05h 21m 06.64482s +22:56:26.23513s
 RUWE (>1.4 is poor) : 0.98
 K magnitude : 8.776
 G magnitude : 12.972
 RP magnitude : 11.844
 BP magnitude : 14.320
 DUPflag : 0
 Distance (au) : 4.969
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 10.58
 Sun-Target sep (deg) : 93.97
 Sun-Moon sep (deg) : 44.25
 B (ring opening deg) : 2.35
 PA of pole (deg) : -3.34
 Pole direction: RA (deg): 268.05741
 Dec (deg): 64.49720
 C/A sky separation (") : 0.770
 C/A sky separation (km) : 2776.0
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



2049-03-07T22:11:35.7700 cc: 05 21 06.6448 s: +22 56 26.235 C/A 0.761" PA 354.05 deg v_sky +10.58 km/s D 04.97 AU
 Credit: Styled after SORA/Lucky Star

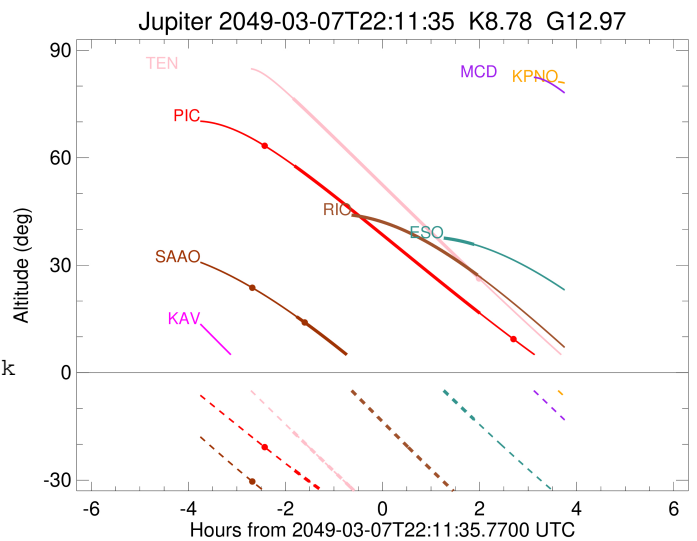
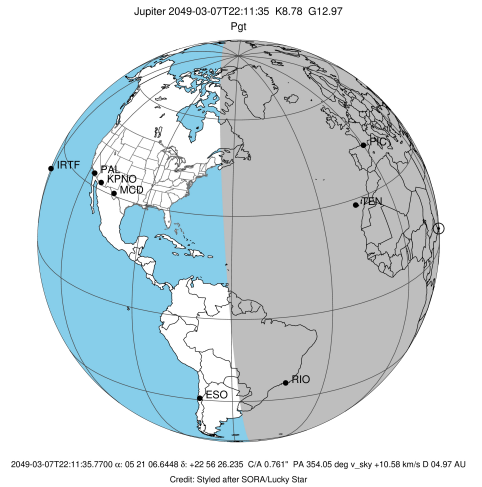
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1	+ +	MAR 07 20:22 - MAR 08 00:11	Pie
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			Pnn
MCD	McDonald Obs. 2.7m	30.7	256.0			Pnn
TEN	Teide Obs./Tenerife	28.3	343.5	+ +	MAR 07 20:21 - MAR 08 00:12	Pie
IRTF	Mauna Kea/IRTF	19.8	204.5			Pnn
KAV	Kavalur Observatory	12.6	78.8			Pnn
RIO	Rio de Janeiro	-22.9	316.8	+	MAR 08 00:09 - MAR 08 00:09	Pne
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	MAR 08 00:04 - MAR 08 00:04	Pne
AAT	Siding Spring (AAT)	-31.3	149.1			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+	MAR 07 20:25 - MAR 07 20:25	Pin
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2049-03-07T22:18:24.610
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : PIC
Location           : Pic du Midi
Latitude (deg)     : 42.93656
E. Longitude (deg) : 0.14231
Altitude (km)     : 2.890
Gaia source ID     : 3414829609722583168
2Mass ID (if available) : 05210663+2256263
ICRS Star Coord at Epoch: 05h 21m 06.64482s +22:56:26.23513s
RUWE (>1.4 is poor) : 0.98
K magnitude        : 8.776
G magnitude        : 12.972
RP magnitude       : 11.844
BP magnitude       : 14.320
DUPflag           : 0
Distance (au)     : 4.969
f0 (km)           : 0.00
g0 (km)           : 0.00
skyplane vel. (km/s) : 10.58
Sun-Target sep (deg) : 93.97
Sun-Moon sep (deg) : 45.08
B (ring opening deg) : 2.35
PA of pole (deg)   : -3.34
Pole direction: RA (deg): 268.05741
Dec (deg): 64.49720
C/A sky separation (") : 0.035
C/A sky separation (km) : 126.9
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
    
```

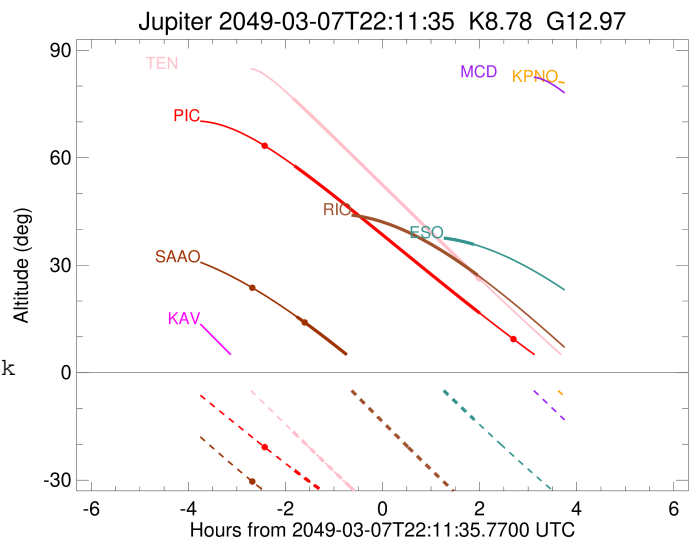
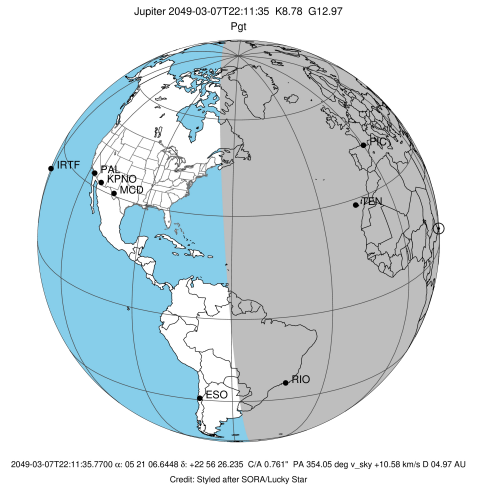


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-03-07T20:22:57.937	57.70	-27.28	71492.0	2.12	2.42
Jupiter	E	2049-03-08T00:11:51.387	16.60	-52.05	71492.0	-2.06	-2.36

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2049-03-07T22:17:48.740
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : TEN
Location              : Teide Obs./Tenerife
Latitude (deg)        : 28.30050
E. Longitude (deg)    : 343.48909
Altitude (km)         : 2.395
Gaia source ID        : 3414829609722583168
2Mass ID (if available) : 05210663+2256263
ICRS Star Coord at Epoch: 05h 21m 06.64482s +22:56:26.23513s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 8.776
G magnitude           : 12.972
RP magnitude          : 11.844
BP magnitude          : 14.320
DUPflag              : 0
Distance (au)         : 4.969
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 10.58
Sun-Target sep (deg)  : 93.97
Sun-Moon sep (deg)    : 45.17
B (ring opening deg) : 2.35
PA of pole (deg)     : -3.34
Pole direction: RA (deg): 268.05741
Dec (deg): 64.49720
C/A sky separation (") : 0.554
C/A sky separation (km) : 1997.2
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
    
```

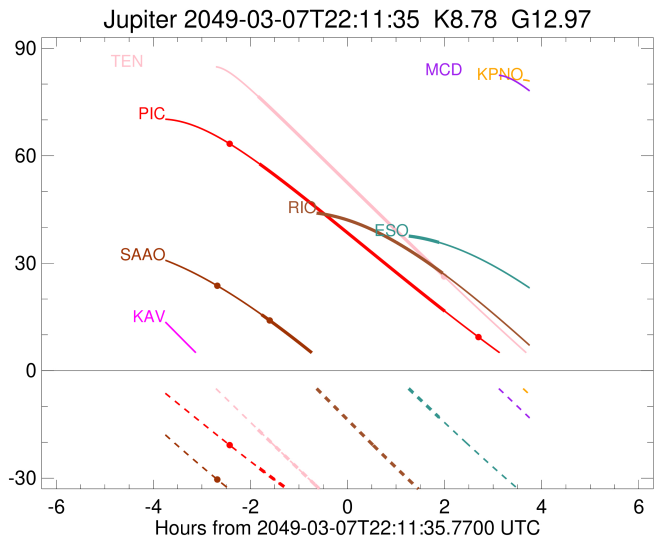
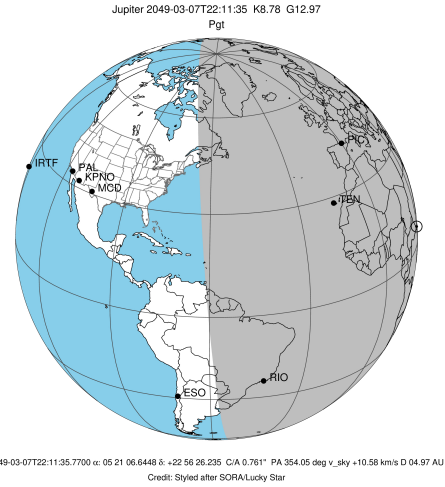


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-03-07T20:21:04.142	76.56	-16.48	71492.0	0.79	0.90
Jupiter	E	2049-03-08T00:12:35.859	25.95	-62.15	71492.0	-3.58	-4.10

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2049-03-07T22:13:18.920
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      : 3414829609722583168
2Mass ID (if available) : 05210663+2256263
ICRS Star Coord at Epoch: 05h 21m 06.64482s +22:56:26.23513s
RUWE (>1.4 is poor) : 0.98
K magnitude          : 8.776
G magnitude          : 12.972
RP magnitude         : 11.844
BP magnitude         : 14.320
DUPflag             : 0
Distance (au)       : 4.969
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 10.58
Sun-Target sep (deg) : 93.97
Sun-Moon sep (deg)  : 44.86
B (ring opening deg) : 2.35
PA of pole (deg)    : -3.34
Pole direction: RA (deg): 268.05741
Dec (deg): 64.49720
C/A sky separation (") : 2.051
C/A sky separation (km) : 7391.6
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
    
```

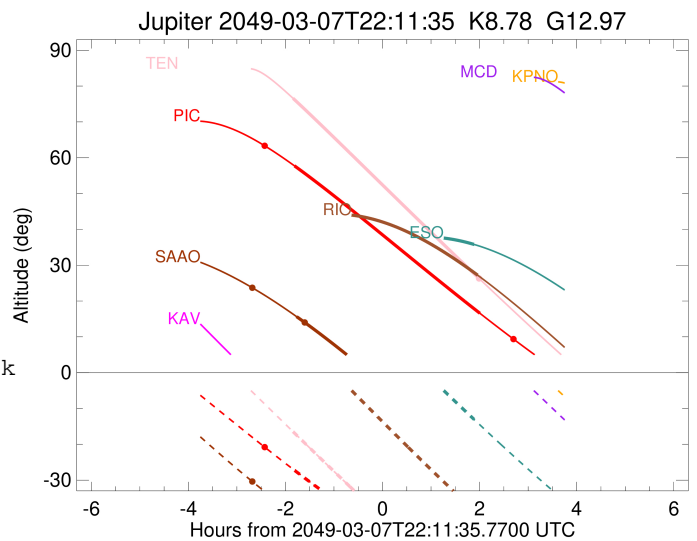
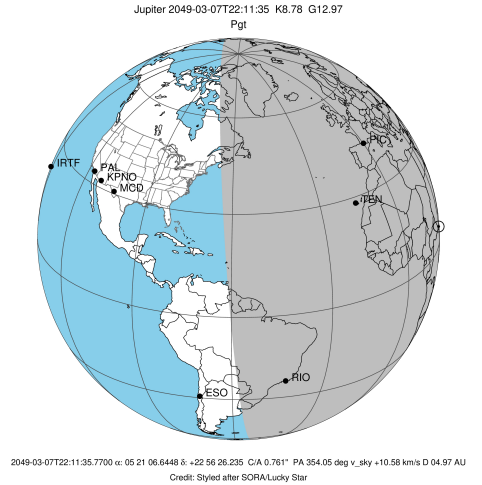


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-03-07T20:16:24.626	42.24	12.73x	71492.0	-3.09	-3.54
Jupiter	E	2049-03-08T00:09:12.063	27.21	-39.30	71491.8	-8.27	-9.44

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2049-03-07T22:08:42.010
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      : 3414829609722583168
2Mass ID (if available) : 05210663+2256263
ICRS Star Coord at Epoch: 05h 21m 06.64482s +22:56:26.23513s
RUWE (>1.4 is poor) : 0.98
K magnitude         : 8.776
G magnitude         : 12.972
RP magnitude        : 11.844
BP magnitude        : 14.320
DUPflag            : 0
Distance (au)       : 4.969
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 10.58
Sun-Target sep (deg) : 93.97
Sun-Moon sep (deg)  : 44.53
B (ring opening deg) : 2.35
PA of pole (deg)    : -3.34
Pole direction: RA (deg): 268.05741
Dec (deg): 64.49720
C/A sky separation (") : 2.107
C/A sky separation (km) : 7593.6
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
    
```

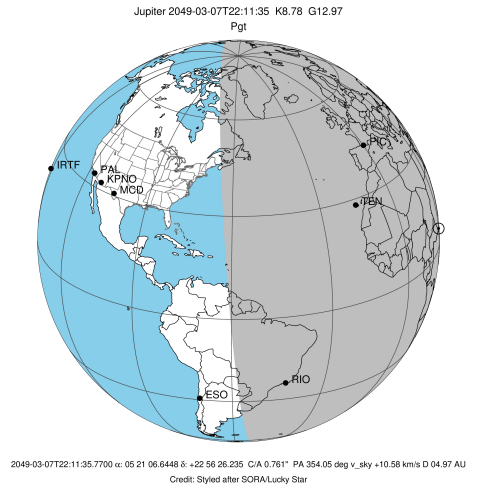


x: target alt < 5.0 deg or sun > -5.0 deg

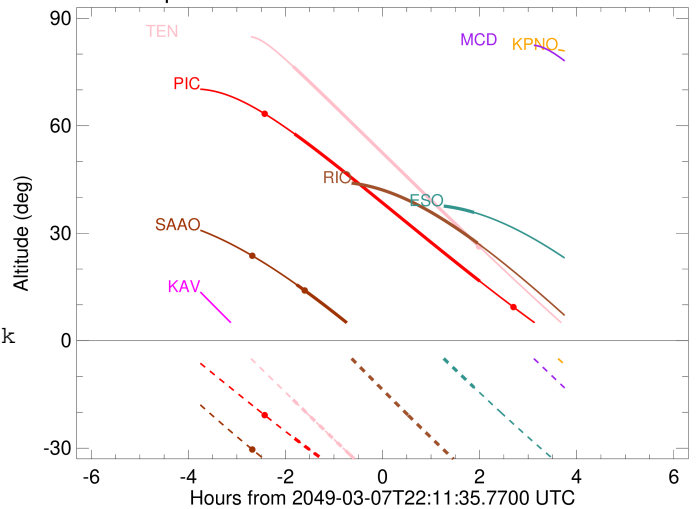
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-03-07T20:12:42.239	23.74	37.11x	71492.0	-2.88	-3.29
Jupiter	E	2049-03-08T00:04:51.394	35.79	-13.06	71491.8	-8.90	-10.15

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2049-03-07T22:19:32.720
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : SAAO
Location              : So. Afr. Astro. Obs. (Sutherland)
Latitude (deg)        : -32.37953
E. Longitude (deg)    : 20.81070
Altitude (km)         : 1.768
Gaia source ID        : 3414829609722583168
2Mass ID (if available) : 05210663+2256263
ICRS Star Coord at Epoch: 05h 21m 06.64482s +22:56:26.23513s
RUWE (>1.4 is poor)  : 0.98
K magnitude           : 8.776
G magnitude           : 12.972
RP magnitude          : 11.844
BP magnitude          : 14.320
DUPflag              : 0
Distance (au)         : 4.969
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s)  : 10.58
Sun-Target sep (deg)  : 93.97
Sun-Moon sep (deg)    : 44.77
B (ring opening deg)  : 2.35
PA of pole (deg)      : -3.34
Pole direction: RA (deg): 268.05741
Dec (deg): 64.49720
C/A sky separation (") : 1.873
C/A sky separation (km) : 6749.2
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
    
```



Jupiter 2049-03-07T22:11:35 K8.78 G12.97



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	2049-03-07T20:25:27.526	15.64	-39.89	71492.0	-3.48	-3.98
Jupiter	E	2049-03-08T00:11:11.340	-27.30x	-47.98	71491.9	-7.18	-8.20