

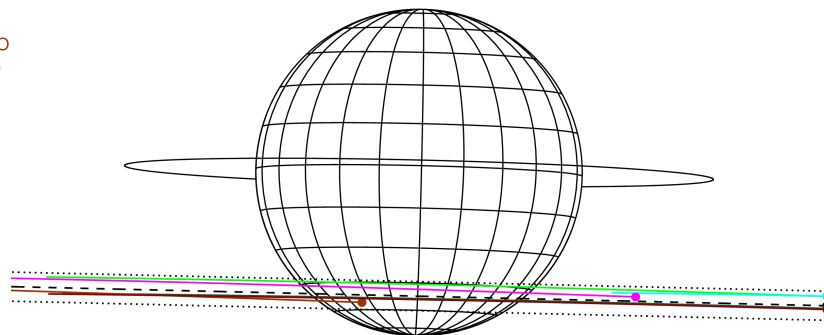
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-05-25T17:18:25.900  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4069584424694149376  
 2Mass ID (if available) : 18044697-2302393

Jupiter 2043-05-25T17:18:25 K9.51 G13.43 Pgt

ICRS Star Coord at Epoch: 18h 04m 46.97743s -23°02'39.47474s  
 RUWE (>1.4 is poor) : 1.03  
 K magnitude : 9.508  
 G magnitude : 13.428  
 RP magnitude : 12.360  
 BP magnitude : 14.601  
 DUPflag : 0  
 Distance (au) : 4.355  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : -13.11  
 Sun-Target sep (deg) : 152.71  
 Sun-Moon sep (deg) : 9.75  
 B (ring opening deg) : -2.42  
 PA of pole (deg) : -1.35  
 Pole direction: RA (deg): 268.05667  
 Dec (deg): 64.49732  
 C/A sky separation (") : 17.150  
 C/A sky separation (km) : 54167.3  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk



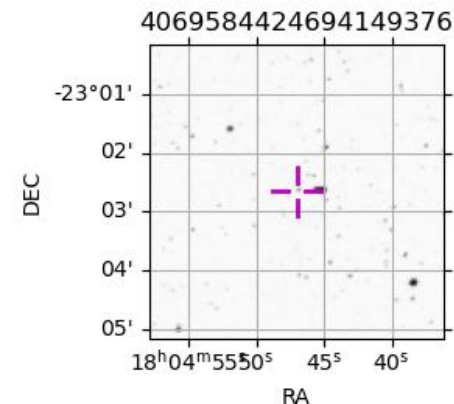
Earth  
 PMO  
 IRTF  
 KAV  
 AAT  
 SAAO  
 MSO



2043-05-25T17:18:25.9000 a: 18 04 46.9774 s: -23 02 39.475 C/A \*\*\*\*\* PA 358.66 deg v\_sky -13.11 km/s D 04.35 AU  
 Credit: Styled after SORA/Lucky Star

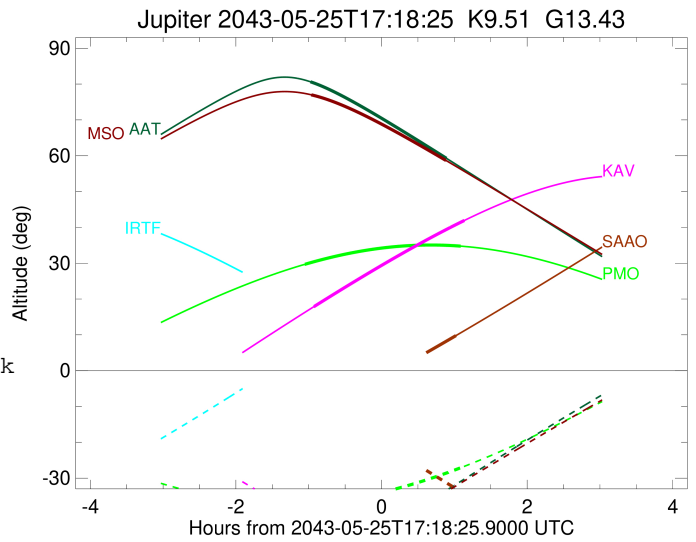
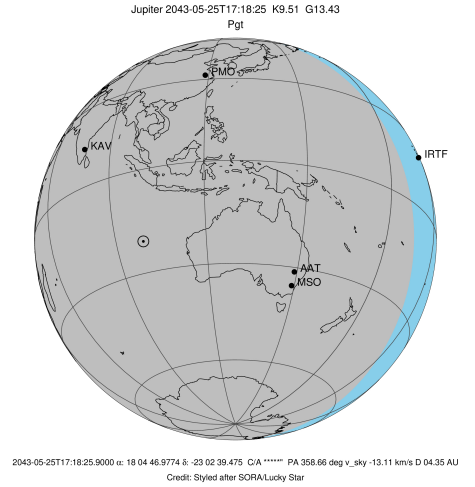
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	MAY 25 16:15 - MAY 25 18:23	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			Pnn
KAV	Kavalur Observatory	12.6	78.8	+ +	MAY 25 16:22 - MAY 25 18:26	Pie
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	+ +	MAY 25 16:19 - MAY 25 18:11	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+ +	MAY 25 18:19 - MAY 25 18:19	Pne
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	MAY 25 16:20 - MAY 25 18:11	Pie



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-05-25T17:19:30.450
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       : 4069584424694149376
2Mass ID (if available) : 18044697-2302393
ICRS Star Coord at Epoch: 18h 04m 46.97743s -23:02:39.47474s
RUWE (>1.4 is poor) : 1.03
K magnitude          : 9.508
G magnitude          : 13.428
RP magnitude         : 12.360
BP magnitude         : 14.601
DUPflag             : 0
Distance (au)        : 4.355
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -13.11
Sun-Target sep (deg) : 152.71
Sun-Moon sep (deg)   : 10.15
B (ring opening deg) : -2.42
PA of pole (deg)     : -1.35
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 15.501
C/A sky separation (km) : 48959.2
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
    
```

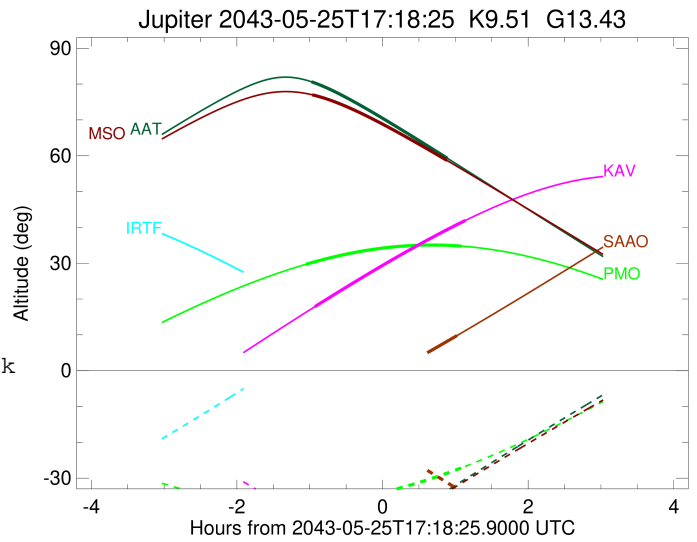
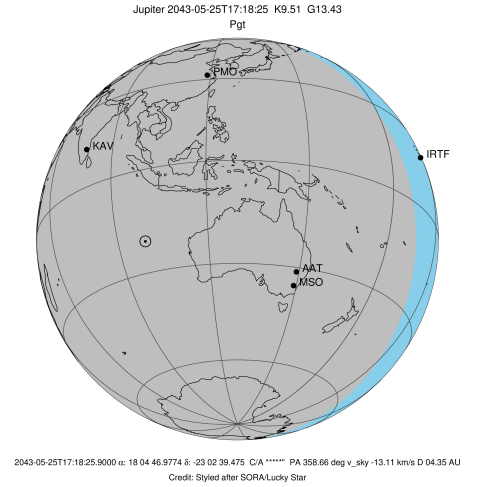


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-05-25T16:15:10.967	29.67	-36.99	71488.2	-43.32	-47.04
Jupiter	E	2043-05-25T18:23:41.875	34.76	-27.10	71488.2	-43.21	-46.93

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-05-25T17:24:52.230
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      : 4069584424694149376
2Mass ID (if available) : 18044697-2302393
ICRS Star Coord at Epoch: 18h 04m 46.97743s -23:02:39.47474s
RUWE (>1.4 is poor) : 1.03
K magnitude          : 9.508
G magnitude          : 13.428
RP magnitude         : 12.360
BP magnitude         : 14.601
DUPflag             : 0
Distance (au)       : 4.355
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -13.11
Sun-Target sep (deg) : 152.71
Sun-Moon sep (deg)  : 9.51
B (ring opening deg) : -2.42
PA of pole (deg)    : -1.35
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 16.198
C/A sky separation (km) : 51158.2
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
    
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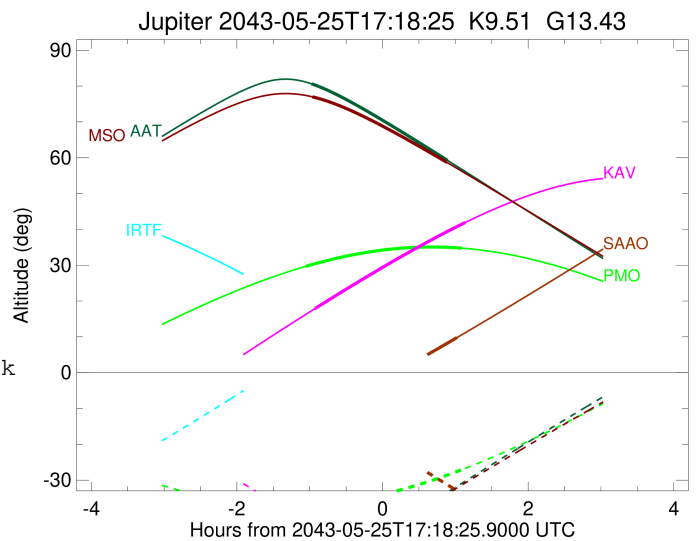
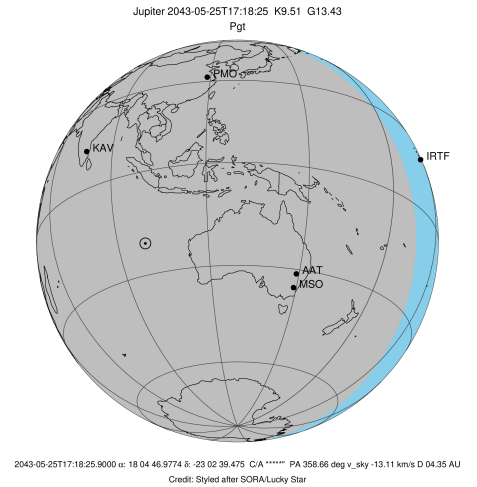


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-05-25T16:22:38.820	17.85	-42.17	71487.8	-46.23	-49.92
Jupiter	E	2043-05-25T18:26:37.041	41.91	-56.28	71487.9	-45.20	-48.90

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-05-25T17:15:50.510
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      : 4069584424694149376
2Mass ID (if available) : 18044697-2302393
ICRS Star Coord at Epoch: 18h 04m 46.97743s -23:02:39.47474s
RUWE (>1.4 is poor) : 1.03
K magnitude          : 9.508
G magnitude          : 13.428
RP magnitude         : 12.360
BP magnitude         : 14.601
DUPflag             : 0
Distance (au)       : 4.355
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : -13.11
Sun-Target sep (deg) : 152.71
Sun-Moon sep (deg)  : 10.03
B (ring opening deg) : -2.42
PA of pole (deg)    : -1.35
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (" ) : 17.488
C/A sky separation (km) : 55233.5
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
    
```

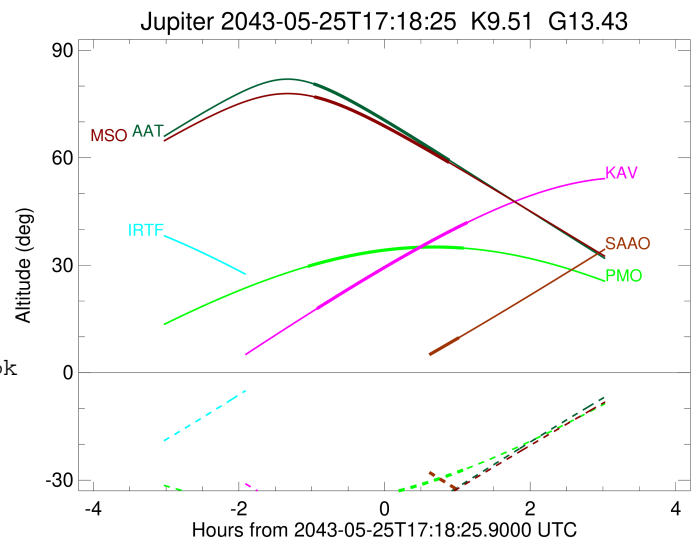
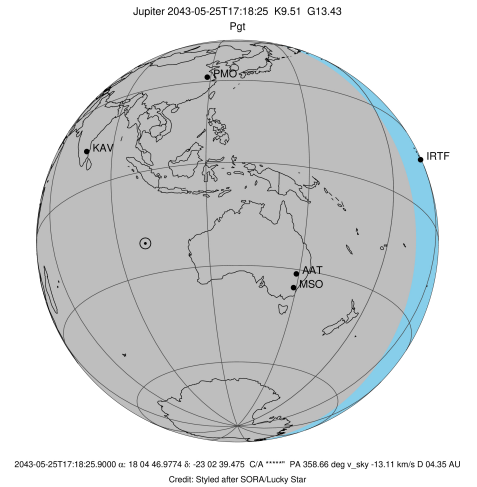


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-05-25T16:19:51.424	80.63	-57.31	71487.2	-50.33	-53.91
Jupiter	E	2043-05-25T18:11:55.982	59.27	-33.40	71487.1	-50.88	-54.43

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-05-25T17:25:59.630
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      : 4069584424694149376
2Mass ID (if available) : 18044697-2302393
ICRS Star Coord at Epoch: 18h 04m 46.97743s -23:02:39.47474s
RUWE (>1.4 is poor) : 1.03
K magnitude          : 9.508
G magnitude          : 13.428
RP magnitude        : 12.360
BP magnitude        : 14.601
DUPflag             : 0
Distance (au)       : 4.355
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : -13.11
Sun-Target sep (deg) : 152.71
Sun-Moon sep (deg)  : 8.85
B (ring opening deg) : -2.42
PA of pole (deg)    : -1.35
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (" ) : 18.283
C/A sky separation (km) : 57744.2
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
    
```

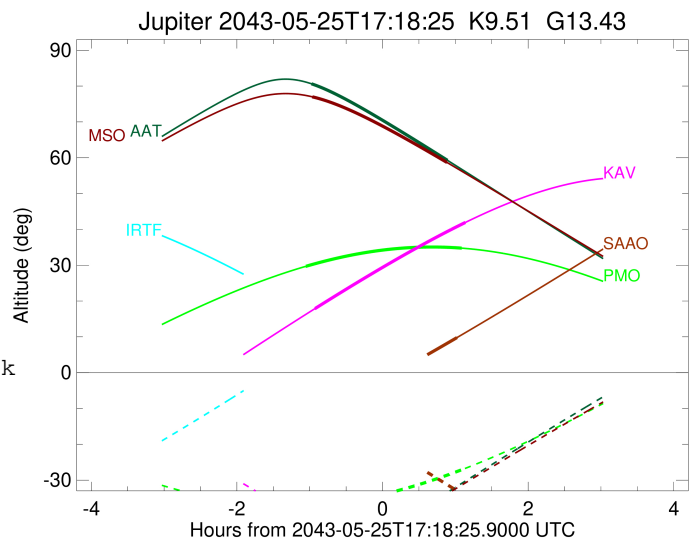
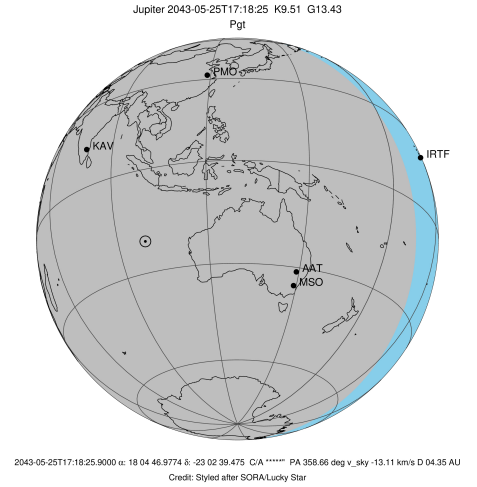


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-05-25T16:31:44.905	-10.37x	-10.63	71486.7	-54.44	-57.84
Jupiter	E	2043-05-25T18:19:49.054	9.79	-32.96	71486.8	-53.15	-56.61

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-05-25T17:15:58.560
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      : 4069584424694149376
2Mass ID (if available) : 18044697-2302393
ICRS Star Coord at Epoch: 18h 04m 46.97743s -23:02:39.47474s
RUWE (>1.4 is poor) : 1.03
K magnitude          : 9.508
G magnitude          : 13.428
RP magnitude         : 12.360
BP magnitude         : 14.601
DUPflag             : 0
Distance (au)       : 4.355
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -13.11
Sun-Target sep (deg) : 152.71
Sun-Moon sep (deg)  : 9.99
B (ring opening deg) : -2.42
PA of pole (deg)    : -1.35
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (" ) : 17.625
C/A sky separation (km) : 55666.4
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	2043-05-25T16:20:34.366	76.99	-56.34	71487.1	-50.89	-54.44
Jupiter	E	2043-05-25T18:11:28.640	58.69	-33.87	71487.1	-51.41	-54.94