

target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2024-11-17T20:25:36.080
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3415285975768572544
 2Mass ID (if available) : 05101526+2214336

Jupiter 2024-11-17T20:25:36 K9.30 G12.37 Pgt

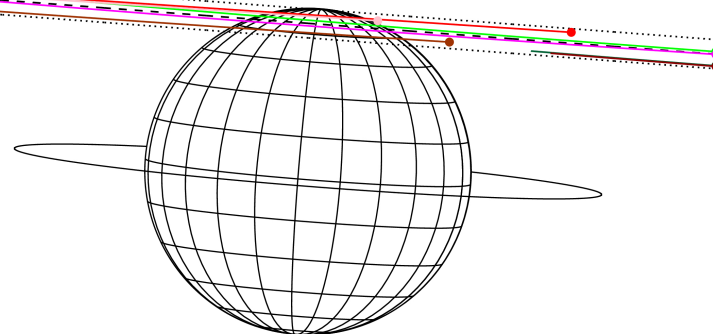
ICRS Star Coord at Epoch: 05h 10m 15.26785s +22:14:33.72058s

RUWE (>1.4 is poor) : 1.42
 K magnitude : 9.297
 G magnitude : 12.368
 RP magnitude : 11.472
 BP magnitude : 13.196
 DUPflag : 0
 Distance (au) : 4.143
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -14.58
 Sun-Target sep (deg) : 157.13
 Sun-Moon sep (deg) : 6.85
 B (ring opening deg) : 2.88
 PA of pole (deg) : -4.50
 Pole direction: RA (deg): 268.05786
 Dec (deg): 64.49673
 C/A sky separation (") : 21.542
 C/A sky separation (km) : 64727.7
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2024-11-17T20:25:36 K9.30 G12.37
 Pgt



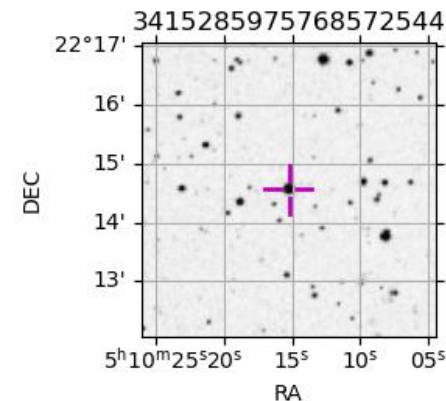
Earth
 PIC
 PMO
 TEN
 KAV
 RIO
 AAT
 SAAO
 MSO



2024-11-17T20:25:36.0800 a: 05 10 15.2678 s: +22 14 33.721 C/A ***** PA 175.67 deg v_sky -14.58 km/s D 04.14 AU
 Credit: Styled after SORA/Lucky Star

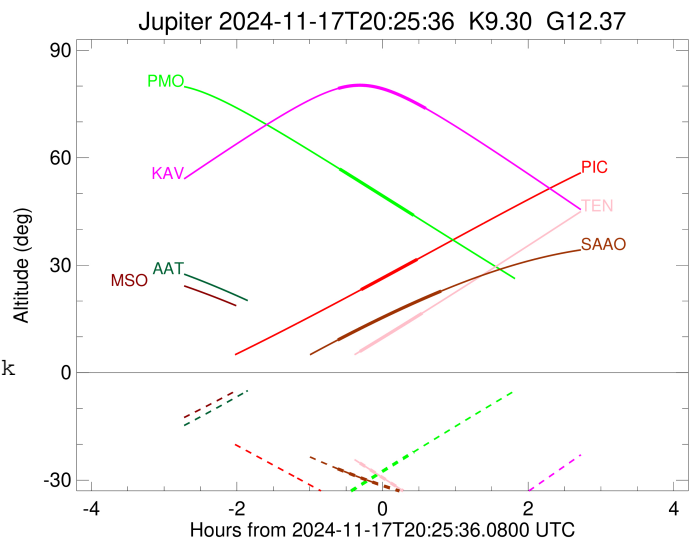
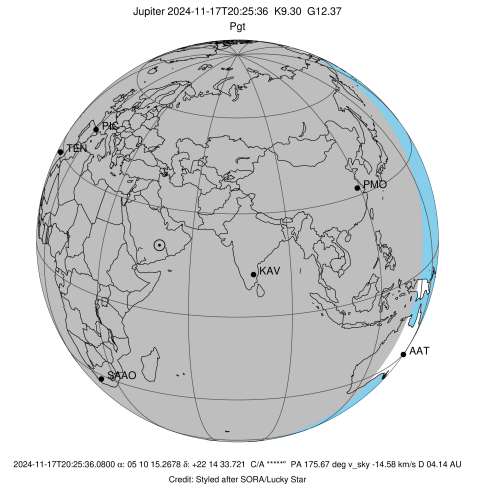
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1	+ +	NOV 17 20:07 - NOV 17 20:54	Pie
PAL	Palomar Mt (200")	33.4	243.1			Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8	+ +	NOV 17 19:50 - NOV 17 20:51	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	+ +	NOV 17 20:06 - NOV 17 20:58	Pie
IRTF	Mauna Kea/IRTF	19.8	204.5			Pnn
KAV	Kavalur Observatory	12.6	78.8	+ +	NOV 17 19:49 - NOV 17 21:01	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			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+ +	NOV 17 19:48 - NOV 17 21:13	Pie
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2024-11-17T20:31:06.070
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       : 3415285975768572544
2Mass ID (if available) : 05101526+2214336
ICRS Star Coord at Epoch: 05h 10m 15.26785s +22:14:33.72058s
RUWE (>1.4 is poor) : 1.42
K magnitude           : 9.297
G magnitude           : 12.368
RP magnitude         : 11.472
BP magnitude         : 13.196
DUPflag              : 0
Distance (au)        : 4.143
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -14.58
Sun-Target sep (deg) : 157.13
Sun-Moon sep (deg)   : 6.82
B (ring opening deg) : 2.88
PA of pole (deg)     : -4.50
Pole direction: RA (deg): 268.05786
Dec (deg): 64.49673
C/A sky separation (") : 22.804
C/A sky separation (km) : 68519.3
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
    
```

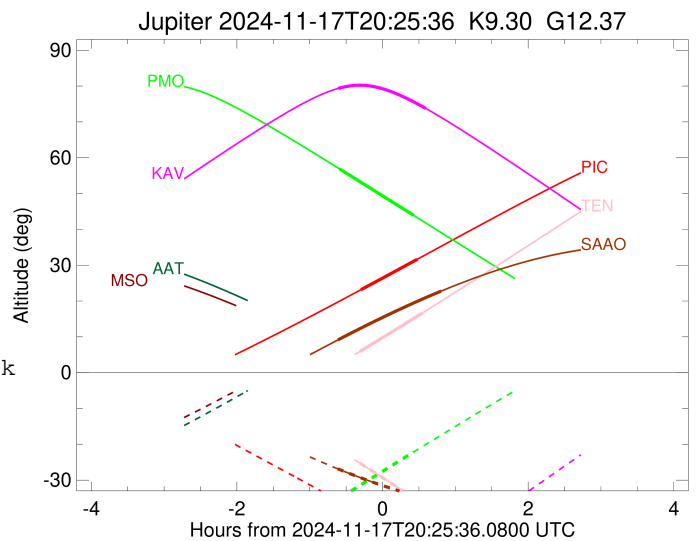
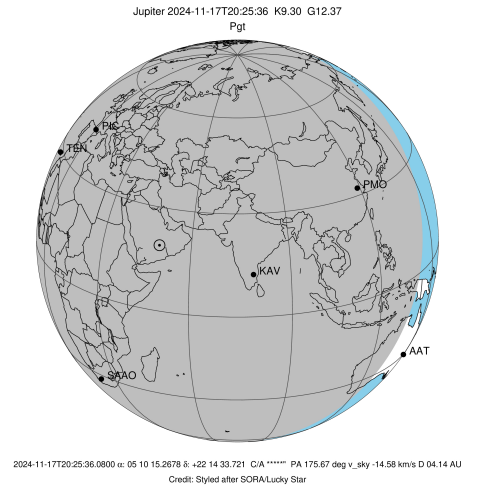


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2024-11-17T20:07:56.425	23.17	-39.03	71481.5	73.88	75.71
Jupiter	E	2024-11-17T20:54:12.178	31.63	-47.25	71481.6	72.54	74.51

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2024-11-17T20:20:48.370
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        : 3415285975768572544
2Mass ID (if available) : 05101526+2214336
ICRS Star Coord at Epoch: 05h 10m 15.26785s +22:14:33.72058s
RUWE (>1.4 is poor) : 1.42
K magnitude           : 9.297
G magnitude           : 12.368
RP magnitude          : 11.472
BP magnitude          : 13.196
DUPflag              : 0
Distance (au)         : 4.143
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -14.58
Sun-Target sep (deg)  : 157.13
Sun-Moon sep (deg)   : 6.44
B (ring opening deg) : 2.88
PA of pole (deg)     : -4.50
Pole direction: RA (deg): 268.05786
Dec (deg): 64.49673
C/A sky separation (") : 21.992
C/A sky separation (km) : 66080.0
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
    
```

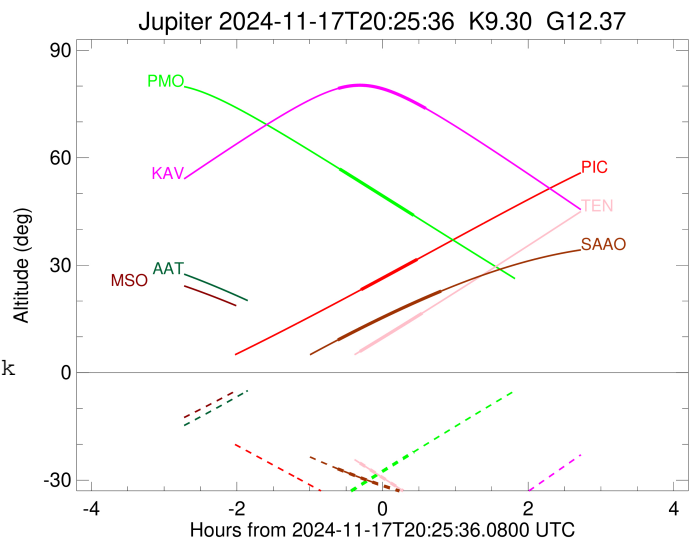
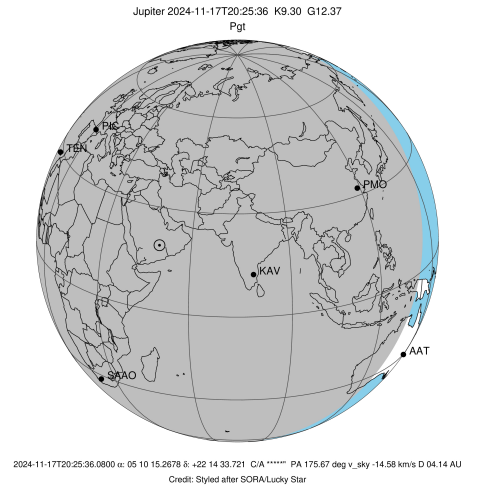


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2024-11-17T19:50:19.402	56.86	-35.00	71482.3	67.30	69.77
Jupiter	E	2024-11-17T20:51:21.238	43.89	-22.13	71482.3	67.58	70.03

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2024-11-17T20:32:36.690
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      : 3415285975768572544
2Mass ID (if available) : 05101526+2214336
ICRS Star Coord at Epoch: 05h 10m 15.26785s +22:14:33.72058s
RUWE (>1.4 is poor) : 1.42
K magnitude          : 9.297
G magnitude          : 12.368
RP magnitude         : 11.472
BP magnitude         : 13.196
DUPflag             : 0
Distance (au)       : 4.143
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -14.58
Sun-Target sep (deg) : 157.13
Sun-Moon sep (deg)  : 6.98
B (ring opening deg) : 2.88
PA of pole (deg)    : -4.50
Pole direction: RA (deg): 268.05786
Dec (deg): 64.49673
C/A sky separation (" ) : 22.589
C/A sky separation (km) : 67875.2
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
    
```

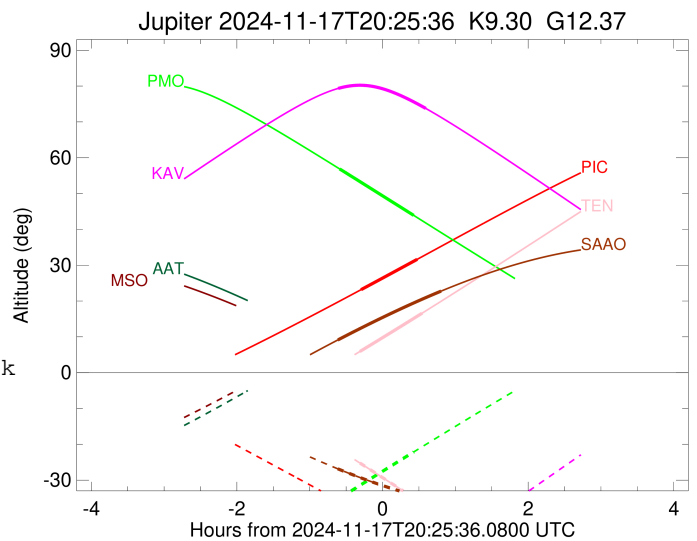
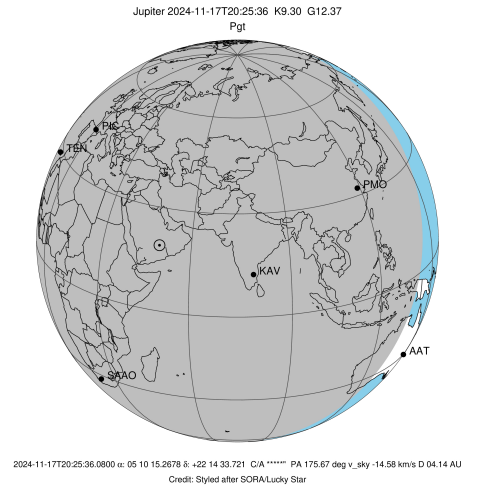


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2024-11-17T20:06:55.401	5.90	-25.21	71481.7	72.27	74.27
Jupiter	E	2024-11-17T20:58:12.585	16.59	-36.43	71481.9	70.73	72.88

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2024-11-17T20:25:13.060
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       : 3415285975768572544
2Mass ID (if available) : 05101526+2214336
ICRS Star Coord at Epoch: 05h 10m 15.26785s +22:14:33.72058s
RUWE (>1.4 is poor) : 1.42
K magnitude           : 9.297
G magnitude           : 12.368
RP magnitude          : 11.472
BP magnitude          : 13.196
DUPflag              : 0
Distance (au)        : 4.143
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -14.58
Sun-Target sep (deg) : 157.13
Sun-Moon sep (deg)   : 7.08
B (ring opening deg) : 2.88
PA of pole (deg)     : -4.50
Pole direction: RA (deg): 268.05786
Dec (deg): 64.49673
C/A sky separation ("): 21.173
C/A sky separation (km): 63618.5
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
    
```

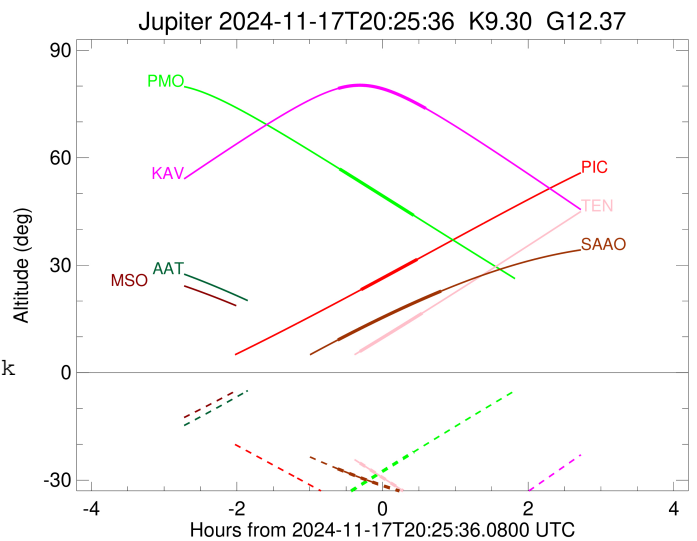
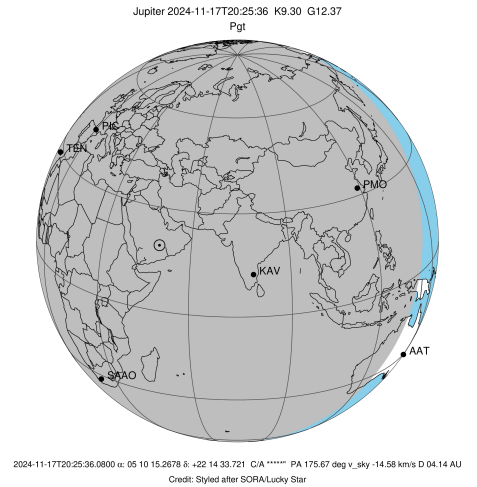


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2024-11-17T19:49:07.629	79.34	-69.79	71483.0	63.03	65.86
Jupiter	E	2024-11-17T21:01:18.270	73.75	-53.03	71483.0	62.54	65.41

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2024-11-17T20:31:26.270
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        : 3415285975768572544
2Mass ID (if available) : 05101526+2214336
ICRS Star Coord at Epoch: 05h 10m 15.26785s +22:14:33.72058s
RUWE (>1.4 is poor) : 1.42
K magnitude           : 9.297
G magnitude           : 12.368
RP magnitude          : 11.472
BP magnitude          : 13.196
DUPflag              : 0
Distance (au)         : 4.143
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -14.58
Sun-Target sep (deg)  : 157.13
Sun-Moon sep (deg)   : 7.80
B (ring opening deg) : 2.88
PA of pole (deg)     : -4.50
Pole direction: RA (deg): 268.05786
Dec (deg): 64.49673
C/A sky separation (") : 20.183
C/A sky separation (km) : 60646.2
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	2024-11-17T19:48:47.252	9.13	-26.84	71483.7	58.64	61.79
Jupiter	E	2024-11-17T21:13:53.817	22.76	-36.02	71483.9	57.26	60.50