

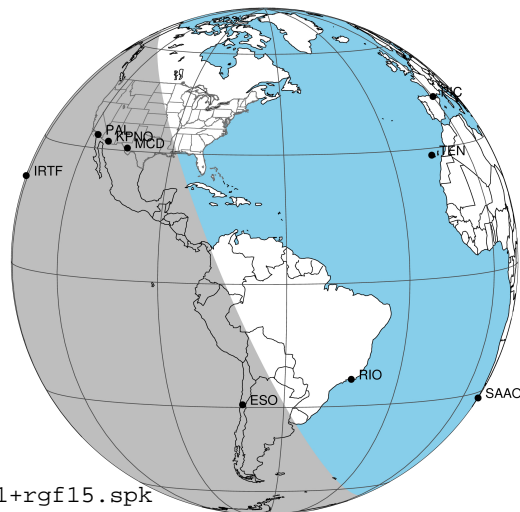
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2046-06-27T10:59:02.740  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 2552249101212248576  
 2Mass ID (if available) : 00593640+0458593

Jupiter 2046-06-27T10:59:02 K7.09 G10.23 Pgt

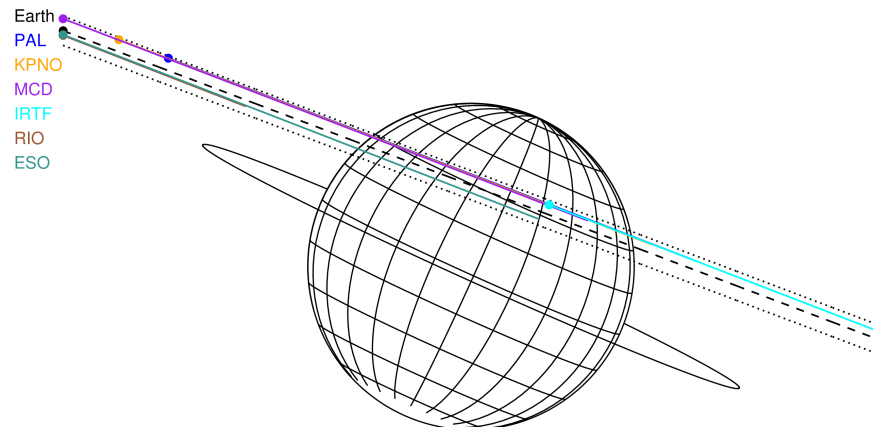
ICRS Star Coord at Epoch: 00h 59m 36.42331s +04:58:58.87301s

RUWE (>1.4 is poor) : 0.92  
 K magnitude : 7.095  
 G magnitude : 10.231  
 RP magnitude : 9.328  
 BP magnitude : 11.078  
 DUPflag : 0  
 Distance (au) : 5.038  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 18.77  
 Sun-Target sep (deg) : 79.70  
 Sun-Moon sep (deg) : 6.30  
 B (ring opening deg) : 2.63  
 PA of pole (deg) : -24.36  
 Pole direction: RA (deg): 268.05711  
 Dec (deg): 64.49722  
 C/A sky separation (") : 9.109  
 C/A sky separation (km) : 33281.1  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk

Jupiter 2046-06-27T10:59:02 K7.09 G10.23  
 Pgt

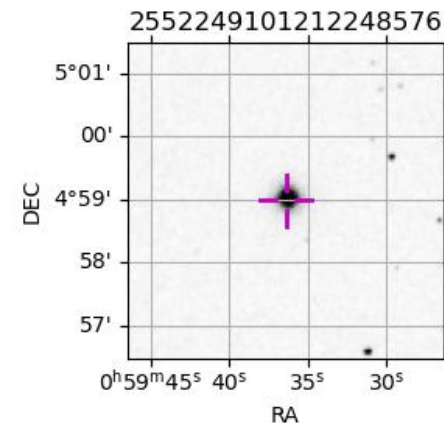


2046-06-27T10:59:02.7400 ex: 00 59 36.4233 s: +04 58 58.873 C/A 9.114" PA 159.26 deg v\_sky +18.77 km/s D 05.04 AU  
 Credit: Styled after SORA/Lucky Star



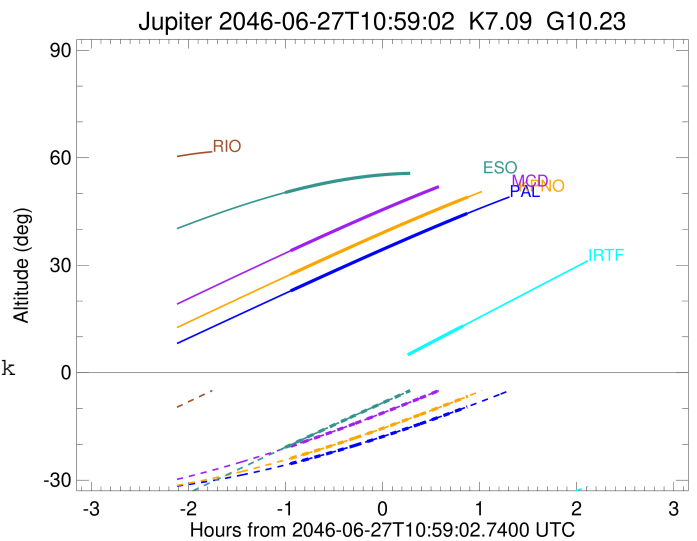
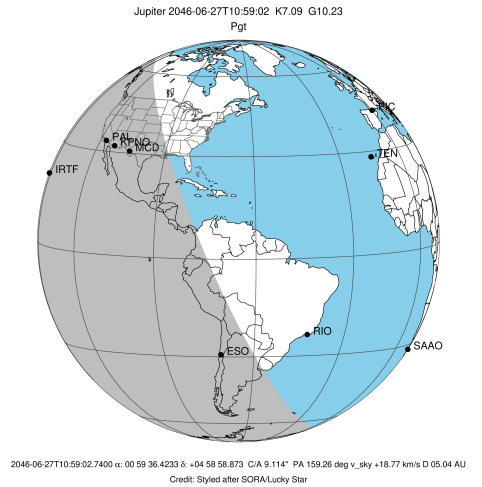
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1	+ +	JUN 27 10:02 - JUN 27 11:51	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	JUN 27 10:02 - JUN 27 11:51	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+	JUN 27 10:02 - JUN 27 10:02	Pin
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+	JUN 27 11:49 - JUN 27 11:49	Pne
KAV	Kavalur Observatory	12.6	78.8			Pnn
RIO	Rio de Janeiro	-22.9	316.8			Pnn
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	JUN 27 09:58 - JUN 27 09:58	Pin
AAT	Siding Spring (AAT)	-31.3	149.1			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2046-06-27T10:56:43.620
Event type          : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code       : PAL
Location            : Palomar Mt (200")
Latitude (deg)      : 33.35622
E. Longitude (deg)  : 243.13601
Altitude (km)       : 1.706
Gaia source ID      : 2552249101212248576
2Mass ID (if available) : 00593640+0458593
ICRS Star Coord at Epoch: 00h 59m 36.42331s +04:58:58.87301s
RUWE (>1.4 is poor) : 0.92
K magnitude         : 7.095
G magnitude         : 10.231
RP magnitude        : 9.328
BP magnitude        : 11.078
DUPflag            : 0
Distance (au)       : 5.038
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 18.77
Sun-Target sep (deg) : 79.70
Sun-Moon sep (deg)  : 5.79
B (ring opening deg) : 2.63
PA of pole (deg)    : -24.36
Pole direction: RA (deg): 268.05711
Dec (deg): 64.49722
C/A sky separation (" ) : 10.331
C/A sky separation (km) : 37746.6
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
    
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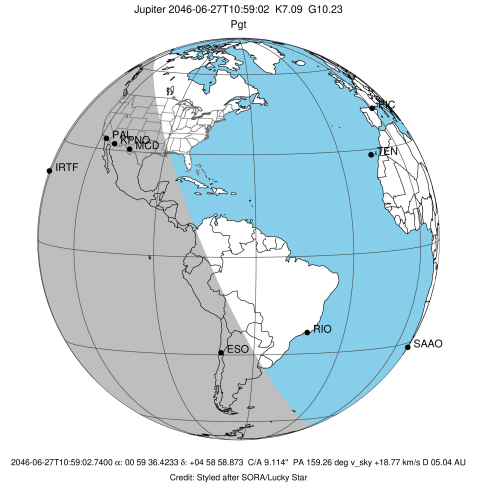


x: target alt < 5.0 deg or sun > -5.0 deg

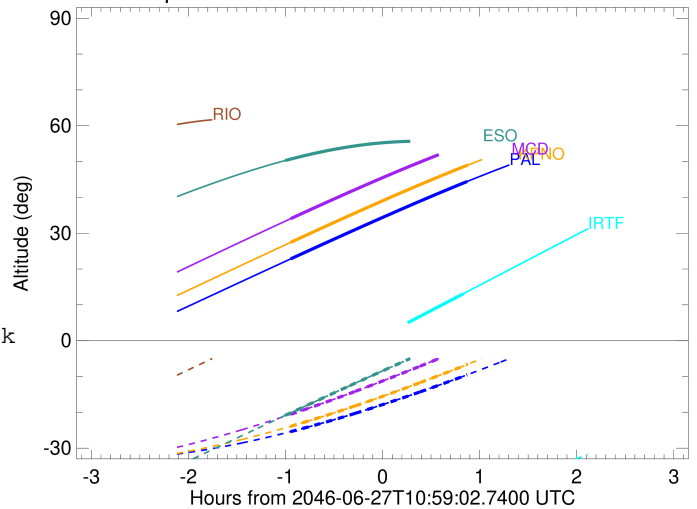
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2046-06-27T10:02:18.455	22.83	-25.38	71489.8	28.52	31.80
Jupiter	E	2046-06-27T11:51:24.102	44.43	-9.53	71488.9	35.08	38.68

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2046-06-27T10:56:54.260
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : KPNO
Location              : Kitt Peak Natl Obs
Latitude (deg)        : 31.96333
E. Longitude (deg)    : 248.40000
Altitude (km)         : 2.120
Gaia source ID        : 2552249101212248576
2Mass ID (if available) : 00593640+0458593
ICRS Star Coord at Epoch: 00h 59m 36.42331s +04:58:58.87301s
RUWE (>1.4 is poor) : 0.92
K magnitude           : 7.095
G magnitude           : 10.231
RP magnitude          : 9.328
BP magnitude          : 11.078
DUPflag              : 0
Distance (au)         : 5.038
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 18.77
Sun-Target sep (deg)  : 79.70
Sun-Moon sep (deg)   : 5.82
B (ring opening deg) : 2.63
PA of pole (deg)     : -24.36
Pole direction: RA (deg): 268.05711
Dec (deg): 64.49722
C/A sky separation (") : 10.263
C/A sky separation (km) : 37497.7
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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Jupiter 2046-06-27T10:59:02 K7.09 G10.23

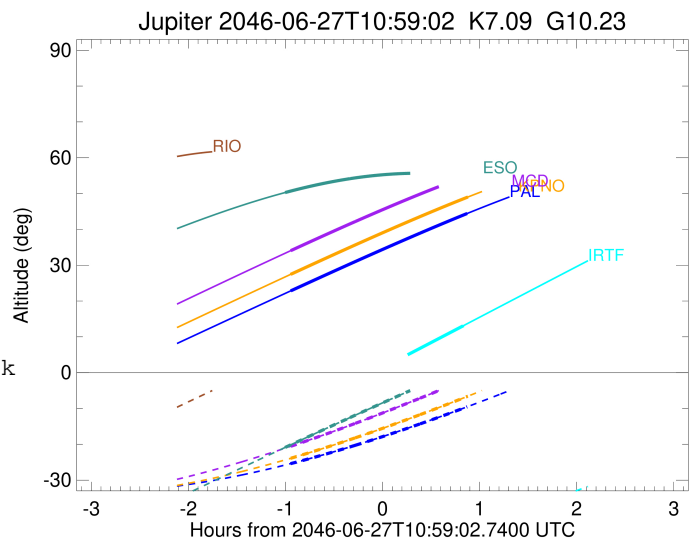
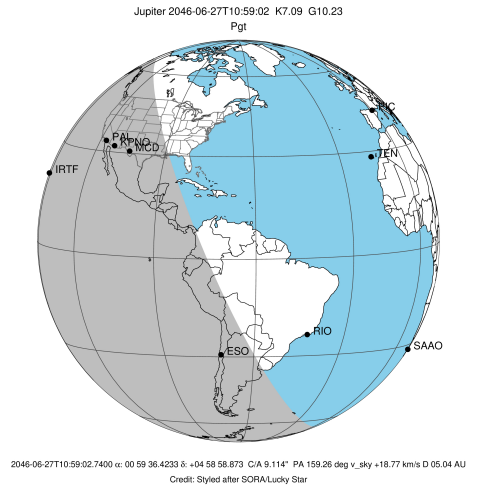


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2046-06-27T10:02:15.332	27.43	-23.90	71489.9	28.32	31.58
Jupiter	E	2046-06-27T11:51:47.937	49.02	-6.57	71488.9	34.82	38.41

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2046-06-27T10:57:16.070
Event type          : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code       : MCD
Location            : McDonald Obs. 2.7m
Latitude (deg)      : 30.67158
E. Longitude (deg)  : 255.97844
Altitude (km)       : 2.075
Gaia source ID      : 2552249101212248576
2Mass ID (if available) : 00593640+0458593
ICRS Star Coord at Epoch: 00h 59m 36.42331s +04:58:58.87301s
RUWE (>1.4 is poor) : 0.92
K magnitude          : 7.095
G magnitude          : 10.231
RP magnitude         : 9.328
BP magnitude         : 11.078
DUPflag             : 0
Distance (au)       : 5.038
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 18.77
Sun-Target sep (deg) : 79.70
Sun-Moon sep (deg)  : 5.87
B (ring opening deg) : 2.63
PA of pole (deg)    : -24.36
Pole direction: RA (deg): 268.05711
Dec (deg): 64.49722
C/A sky separation (") : 10.172
C/A sky separation (km) : 37166.9
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
    
```

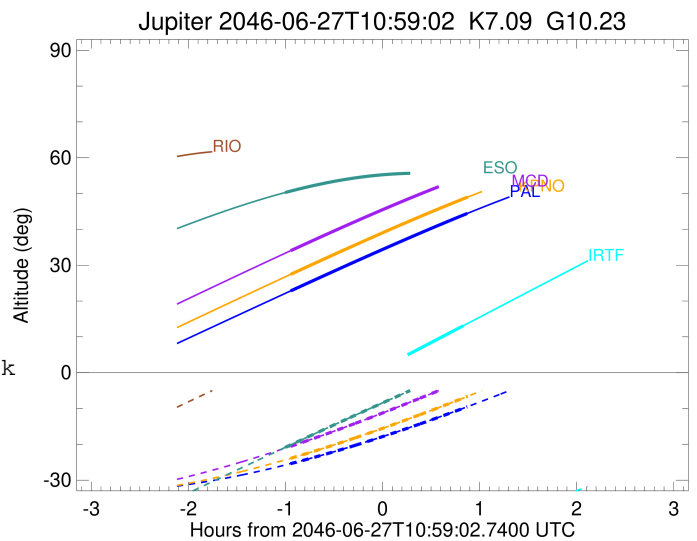
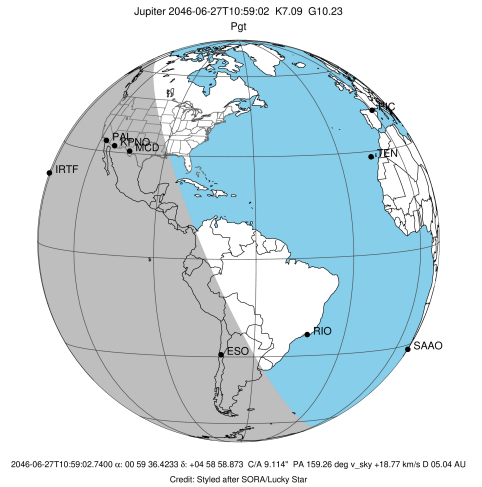


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2046-06-27T10:02:18.954	34.05	-20.55	71489.9	28.05	31.30
Jupiter	E	2046-06-27T11:52:26.770	55.07	-1.52x	71489.0	34.48	38.06

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2046-06-27T10:54:47.500
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      : 2552249101212248576
2Mass ID (if available) : 00593640+0458593
ICRS Star Coord at Epoch: 00h 59m 36.42331s +04:58:58.87301s
RUWE (>1.4 is poor) : 0.92
K magnitude         : 7.095
G magnitude         : 10.231
RP magnitude        : 9.328
BP magnitude        : 11.078
DUPflag            : 0
Distance (au)       : 5.038
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 18.77
Sun-Target sep (deg) : 79.70
Sun-Moon sep (deg)  : 5.84
B (ring opening deg) : 2.63
PA of pole (deg)    : -24.36
Pole direction: RA (deg): 268.05711
Dec (deg): 64.49722
C/A sky separation (") : 10.241
C/A sky separation (km) : 37418.6
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
    
```

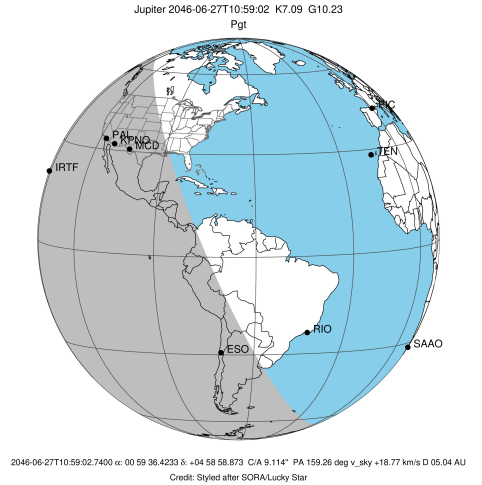


x: target alt < 5.0 deg or sun > -5.0 deg

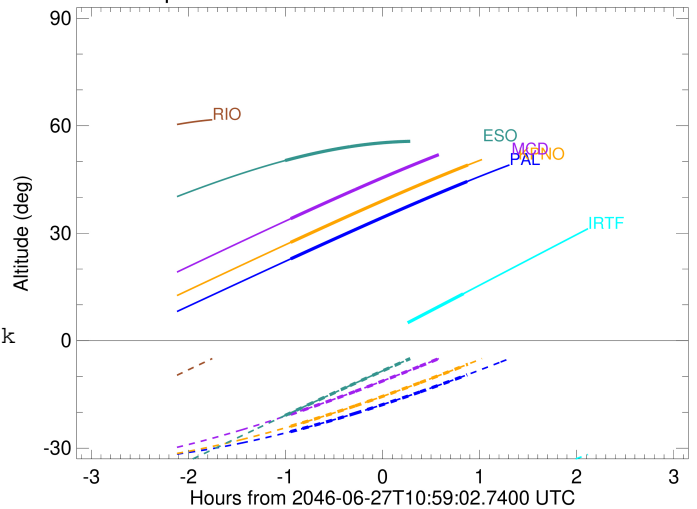
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2046-06-27T10:00:53.839	-12.27x	-46.60	71489.9	27.95	31.19
Jupiter	E	2046-06-27T11:49:00.794	13.10	-42.37	71488.9	34.99	38.58

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2046-06-27T10:57:38.540
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      : 2552249101212248576
2Mass ID (if available) : 00593640+0458593
ICRS Star Coord at Epoch: 00h 59m 36.42331s +04:58:58.87301s
RUWE (>1.4 is poor) : 0.92
K magnitude          : 7.095
G magnitude          : 10.231
RP magnitude         : 9.328
BP magnitude         : 11.078
DUPflag             : 0
Distance (au)       : 5.038
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 18.77
Sun-Target sep (deg) : 79.70
Sun-Moon sep (deg)  : 6.87
B (ring opening deg) : 2.63
PA of pole (deg)    : -24.36
Pole direction: RA (deg): 268.05711
Dec (deg): 64.49722
C/A sky separation (" ) : 8.246
C/A sky separation (km) : 30128.6
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
    
```



Jupiter 2046-06-27T10:59:02 K7.09 G10.23



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	2046-06-27T09:58:57.271	50.28	-20.86	71490.7	21.74	24.48
Jupiter	E	2046-06-27T11:56:25.846	54.67	2.88x	71489.9	28.07	31.33