

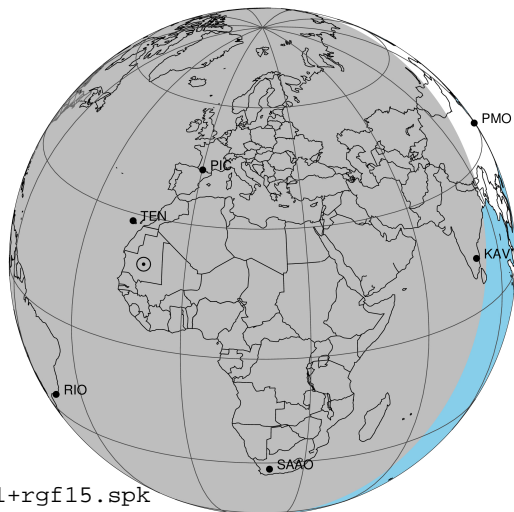
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2036-11-18T00:28:34.930
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3404074328716458880
 2Mass ID (if available) : 05325252+2241451

Jupiter 2036-11-18T00:28:34 K9.62 G12.90 Pgt

ICRS Star Coord at Epoch: 05h 32m 52.52612s +22:41:45.16612s

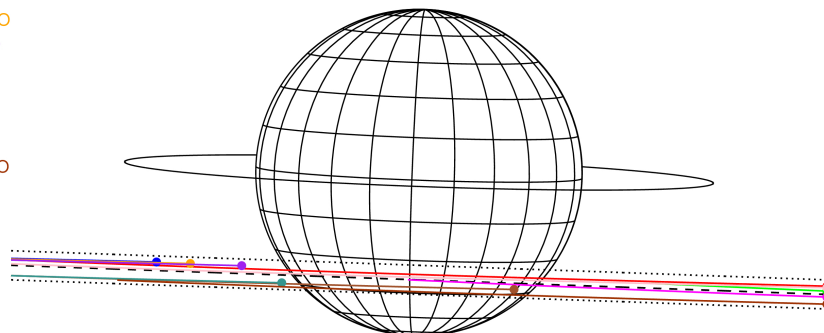
RUWE (>1.4 is poor) : 0.96
 K magnitude : 9.623
 G magnitude : 12.901
 RP magnitude : 11.977
 BP magnitude : 13.788
 DUPflag : 0
 Distance (au) : 4.190
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -13.54
 Sun-Target sep (deg) : 151.99
 Sun-Moon sep (deg) : 151.83
 B (ring opening deg) : 2.73
 PA of pole (deg) : -2.08
 Pole direction: RA (deg): 268.05632
 Dec (deg): 64.49686
 C/A sky separation (") : 15.470
 C/A sky separation (km) : 47011.6
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2036-11-18T00:28:34 K9.62 G12.90
 Pgt



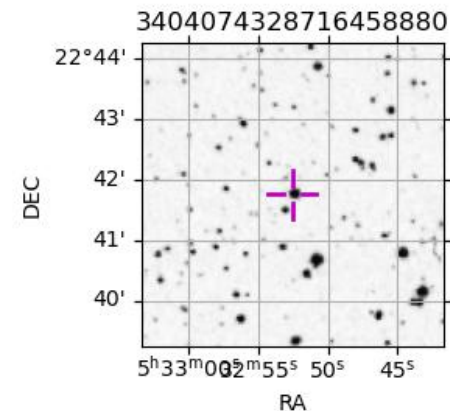
2036-11-18T00:28:34.9300 a: 05 32 52.5261 s: +22 41 45.166 C/A ***** PA 357.95 deg v_sky -13.54 km/s D 04.19 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PIC
 PAL
 PMO
 KPNO
 MCD
 TEN
 KAV
 RIO
 ESO
 SAAO



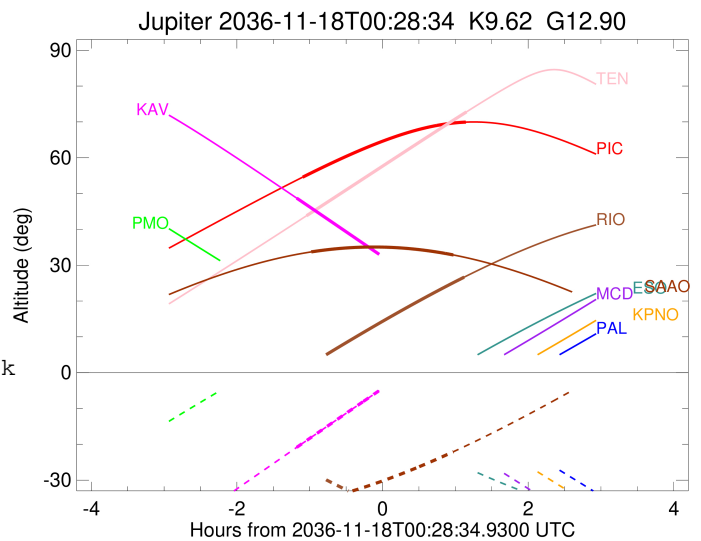
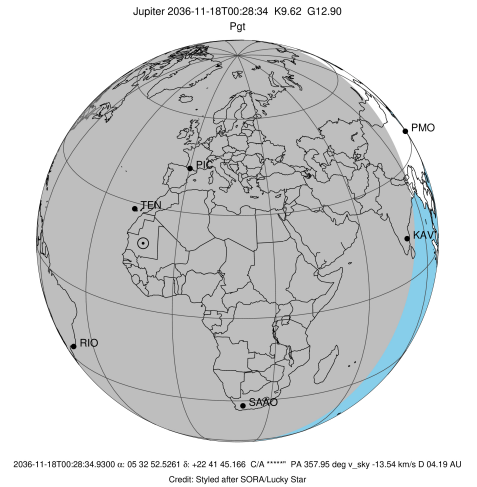
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1	+ +	NOV 17 23:22 - NOV 18 01:37	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	+ +	NOV 17 23:25 - NOV 18 01:37	Pie
IRTF	Mauna Kea/IRTF	19.8	204.5			Pnn
KAV	Kavalur Observatory	12.6	78.8	+ +	NOV 17 23:17 - NOV 17 23:17	Pin
RIO	Rio de Janeiro	-22.9	316.8	+ +	NOV 18 01:35 - NOV 18 01:35	Pne
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 23:30 - NOV 18 01:27	Pie
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2036-11-18T00:30:06.520
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       : 3404074328716458880
2Mass ID (if available) : 05325252+2241451
ICRS Star Coord at Epoch: 05h 32m 52.52612s +22:41:45.16612s
RUWE (>1.4 is poor) : 0.96
K magnitude           : 9.623
G magnitude           : 12.901
RP magnitude         : 11.977
BP magnitude         : 13.788
DUPflag              : 0
Distance (au)        : 4.190
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -13.54
Sun-Target sep (deg) : 151.99
Sun-Moon sep (deg)   : 152.10
B (ring opening deg) : 2.73
PA of pole (deg)     : -2.08
Pole direction: RA (deg): 268.05632
Dec (deg): 64.49686
C/A sky separation ("): 14.707
C/A sky separation (km): 44691.0
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
    
```

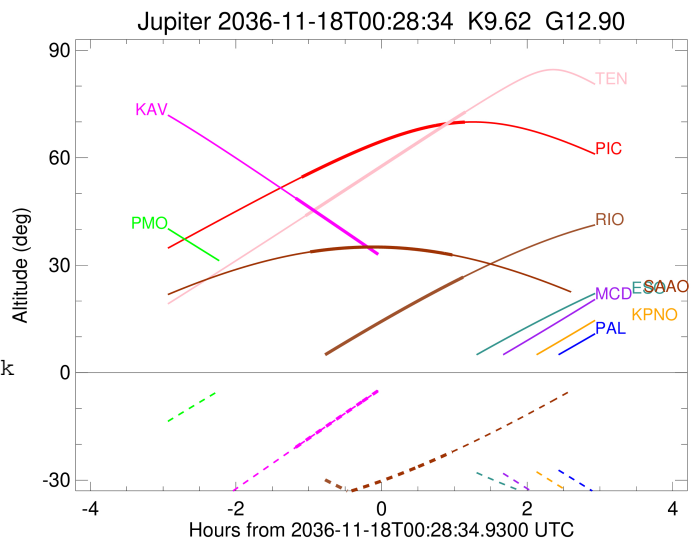
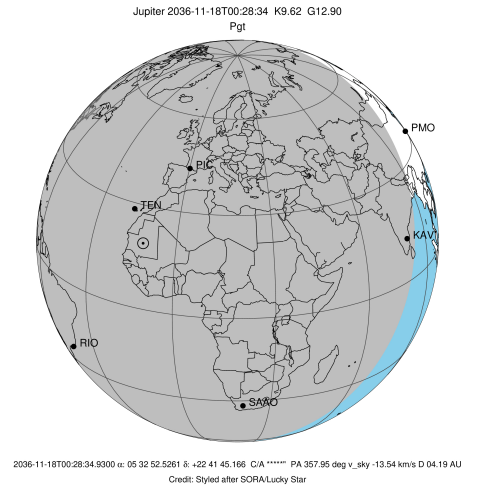


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2036-11-17T23:22:49.409	54.57	-66.11	71488.1	-38.32	-42.00
Jupiter	E	2036-11-18T01:37:11.118	69.93	-56.68	71488.0	-38.82	-42.51

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2036-11-18T00:32:03.710
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        : 3404074328716458880
2Mass ID (if available) : 05325252+2241451
ICRS Star Coord at Epoch: 05h 32m 52.52612s +22:41:45.16612s
RUWE (>1.4 is poor) : 0.96
K magnitude           : 9.623
G magnitude           : 12.901
RP magnitude          : 11.977
BP magnitude          : 13.788
DUPflag              : 0
Distance (au)         : 4.190
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -13.54
Sun-Target sep (deg)  : 151.99
Sun-Moon sep (deg)    : 151.81
B (ring opening deg) : 2.73
PA of pole (deg)      : -2.08
Pole direction: RA (deg): 268.05632
Dec (deg): 64.49687
C/A sky separation (") : 15.113
C/A sky separation (km) : 45925.9
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
    
```

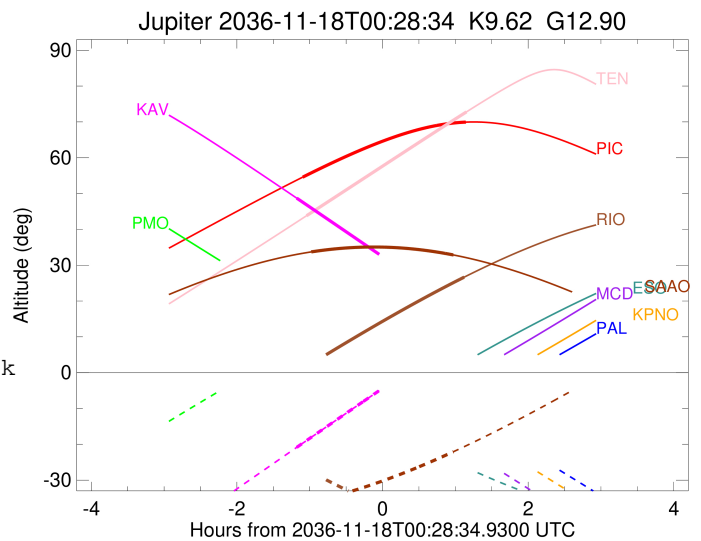
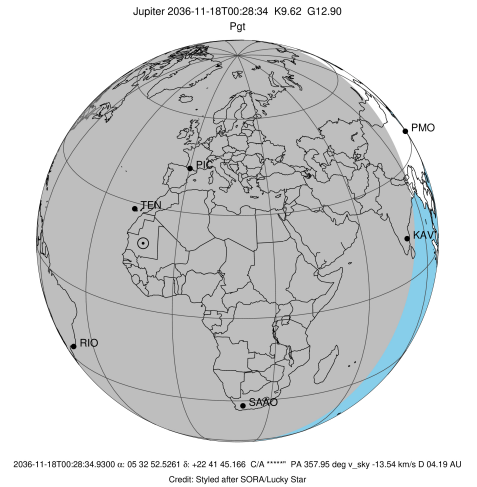


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2036-11-17T23:25:58.460	43.80	-68.65	71487.9	-39.40	-43.10
Jupiter	E	2036-11-18T01:37:47.052	72.79	-76.17	71487.8	-40.29	-44.00

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2036-11-18T00:22:39.300
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      : 3404074328716458880
2Mass ID (if available) : 05325252+2241451
ICRS Star Coord at Epoch: 05h 32m 52.52612s +22:41:45.16612s
RUWE (>1.4 is poor) : 0.96
K magnitude         : 9.623
G magnitude         : 12.901
RP magnitude        : 11.977
BP magnitude        : 13.788
DUPflag            : 0
Distance (au)      : 4.190
f0 (km)            : 0.00
g0 (km)            : 0.00
skyplane vel. (km/s) : -13.54
Sun-Target sep (deg) : 151.99
Sun-Moon sep (deg)  : 152.77
B (ring opening deg) : 2.73
PA of pole (deg)    : -2.08
Pole direction: RA (deg): 268.05632
Dec (deg): 64.49686
C/A sky separation (") : 15.523
C/A sky separation (km) : 47171.5
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
    
```

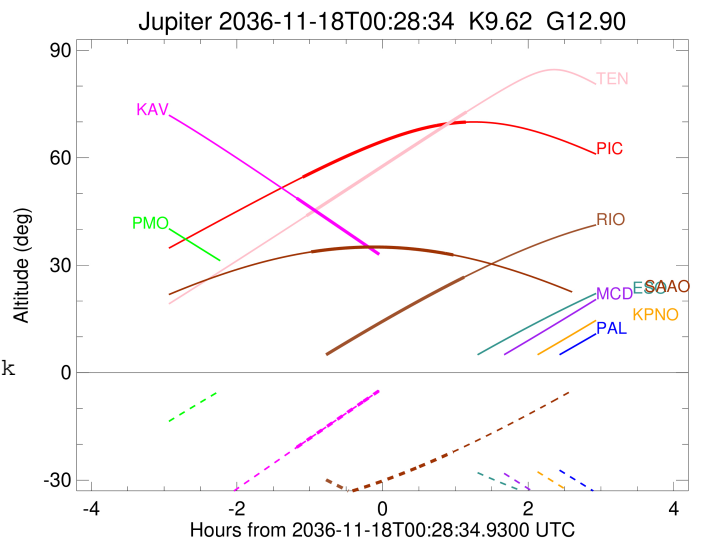
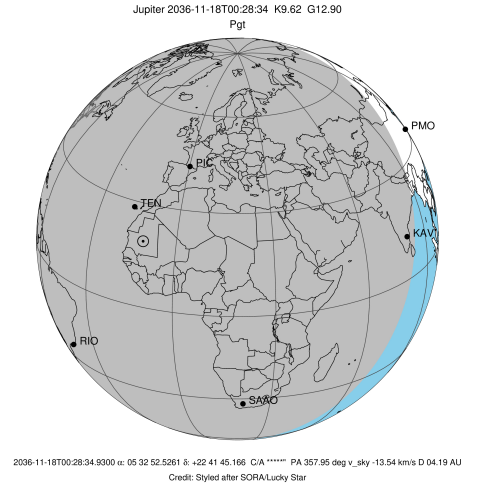


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2036-11-17T23:17:50.110	48.73	-20.86	71487.5	-41.71	-45.43
Jupiter	E	2036-11-18T01:27:55.116	18.70	9.18x	71487.7	-40.62	-44.34

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2036-11-18T00:34:20.780
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        : 3404074328716458880
2Mass ID (if available) : 05325252+2241451
ICRS Star Coord at Epoch: 05h 32m 52.52612s +22:41:45.16612s
RUWE (>1.4 is poor) : 0.96
K magnitude           : 9.623
G magnitude           : 12.901
RP magnitude          : 11.977
BP magnitude          : 13.788
DUPflag              : 0
Distance (au)         : 4.190
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -13.54
Sun-Target sep (deg)  : 151.99
Sun-Moon sep (deg)    : 151.18
B (ring opening deg) : 2.73
PA of pole (deg)     : -2.08
Pole direction: RA (deg): 268.05632
Dec (deg): 64.49687
C/A sky separation (") : 16.531
C/A sky separation (km) : 50233.3
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
    
```

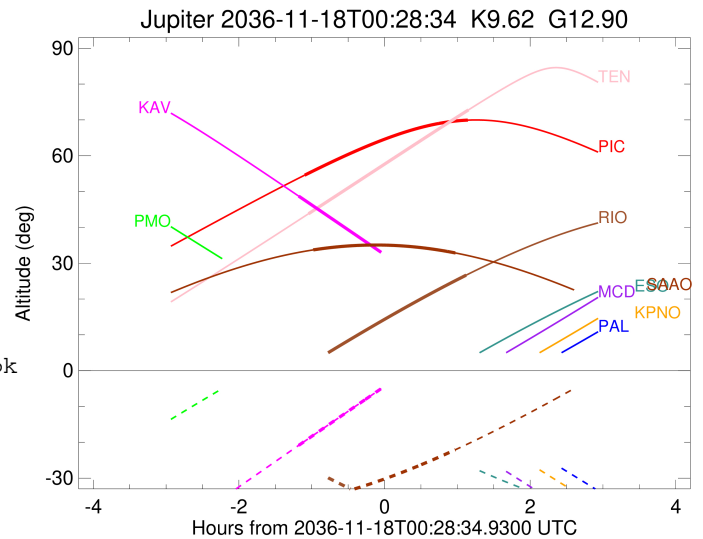
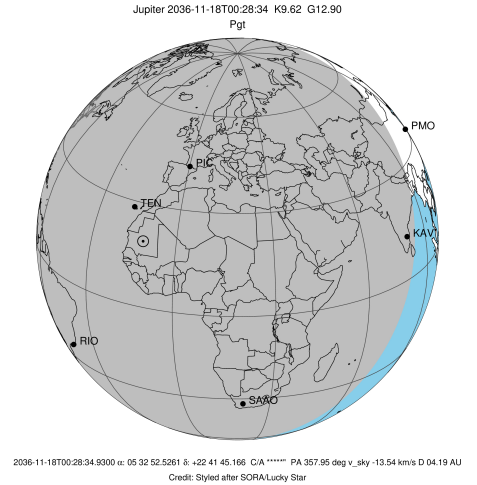


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2036-11-17T23:32:22.427	2.99x	-28.18	71487.1	-43.88	-47.59
Jupiter	E	2036-11-18T01:35:49.985	26.65	-45.27	71486.9	-45.19	-48.89

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2036-11-18T00:28:32.410
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        : 3404074328716458880
2Mass ID (if available) : 05325252+2241451
ICRS Star Coord at Epoch: 05h 32m 52.52612s +22:41:45.16612s
RUWE (>1.4 is poor) : 0.96
K magnitude           : 9.623
G magnitude           : 12.901
RP magnitude          : 11.977
BP magnitude          : 13.788
DUPflag              : 0
Distance (au)         : 4.190
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -13.54
Sun-Target sep (deg) : 151.99
Sun-Moon sep (deg)   : 151.96
B (ring opening deg) : 2.73
PA of pole (deg)     : -2.08
Pole direction: RA (deg): 268.05632
Dec (deg): 64.49686
C/A sky separation ("): 17.187
C/A sky separation (km): 52229.6
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	2036-11-17T23:30:01.628	33.72	-35.98	71486.6	-46.72	-50.40
Jupiter	E	2036-11-18T01:27:01.201	32.85	-22.06	71486.6	-46.86	-50.53