

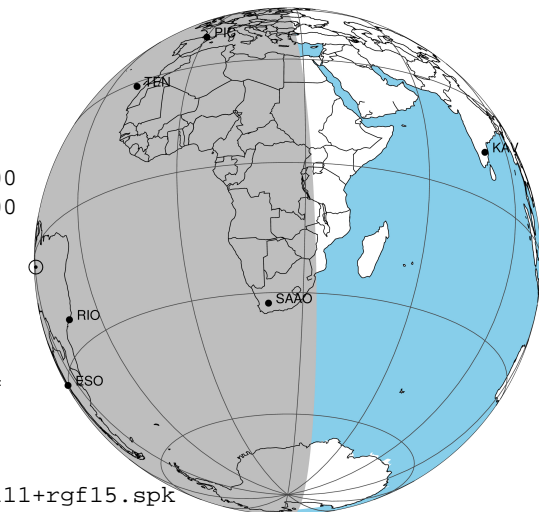
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-03-30T03:59:01.810  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4066633232449175552  
 2Mass ID (if available) : 18100031-2258402

Jupiter 2043-03-30T03:59:01 K9.83 G14.83 Pgt

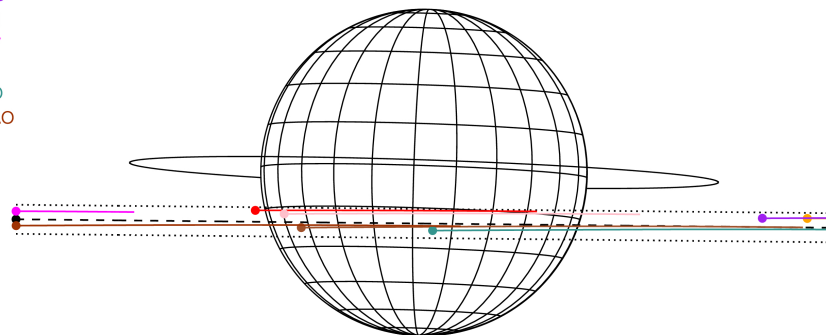
ICRS Star Coord at Epoch: 18h 10m 00.31180s -22:58:39.65383s

RUWE (>1.4 is poor) : 1.26  
 K magnitude : 9.834  
 G magnitude : 14.825  
 RP magnitude : 13.503  
 BP magnitude : 15.272  
 DUPflag : 0  
 Distance (au) : 5.088  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 9.85  
 Sun-Target sep (deg) : 96.45  
 Sun-Moon sep (deg) : 34.00  
 B (ring opening deg) : -2.46  
 PA of pole (deg) : -1.91  
 Pole direction: RA (deg): 268.05664  
 Dec (deg): 64.49732  
 C/A sky separation (") : 6.056  
 C/A sky separation (km) : 22348.9  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk

Jupiter 2043-03-30T03:59:01 K9.83 G14.83  
 Pgt



Earth  
 PIC  
 KPNO  
 MCD  
 TEN  
 KAV  
 RIO  
 ESO  
 SAAO

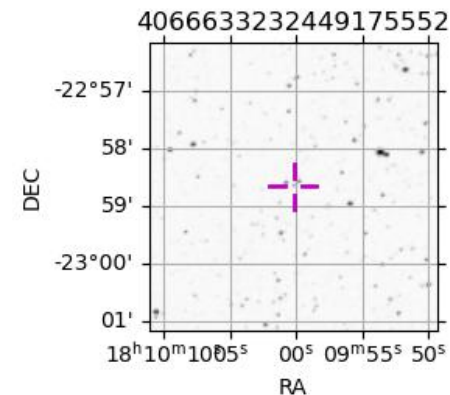


2043-03-30T03:59:01.8100 or: 18 10 00.3118 s: -22 58 39.654 C/A 6.067" PA 359.41 deg v\_sky + 9.85 km/s D 05.09 AU

Credit: Styled after SORA/Lucky Star

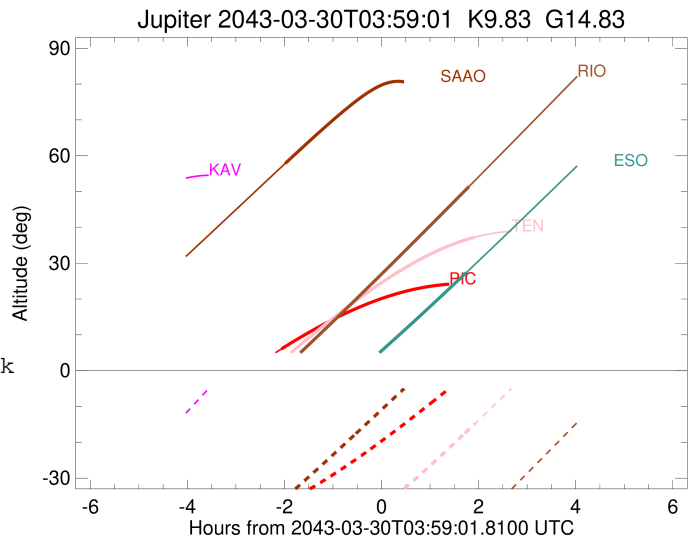
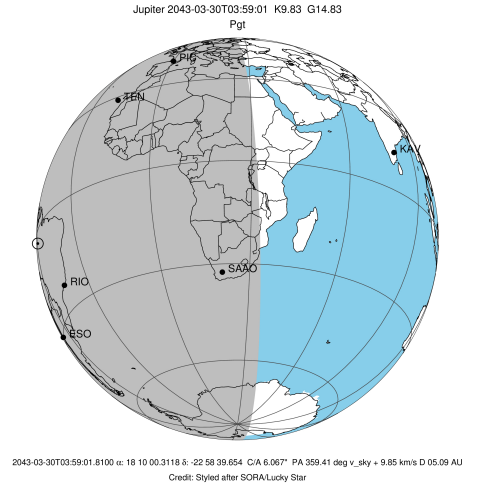
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1	+	MAR 30 01:55 - MAR 30 01:55	Pin
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 30 05:54 - MAR 30 05:54	Pne
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 30 05:47 - MAR 30 05:47	Pne
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	MAR 30 05:43 - MAR 30 05:43	Pne
AAT	Siding Spring (AAT)	-31.3	149.1			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+	MAR 30 01:59 - MAR 30 01:59	Pin
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-03-30T03:55:47.510
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       : 4066633232449175552
2Mass ID (if available) : 18100031-2258402
ICRS Star Coord at Epoch: 18h 10m 00.31180s -22:58:39.65383s
RUWE (>1.4 is poor) : 1.26
K magnitude          : 9.834
G magnitude          : 14.825
RP magnitude         : 13.503
BP magnitude         : 15.272
DUPflag             : 0
Distance (au)        : 5.088
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 9.85
Sun-Target sep (deg) : 96.45
Sun-Moon sep (deg)   : 34.06
B (ring opening deg) : -2.46
PA of pole (deg)     : -1.91
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation ("): 4.526
C/A sky separation (km): 16704.5
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
    
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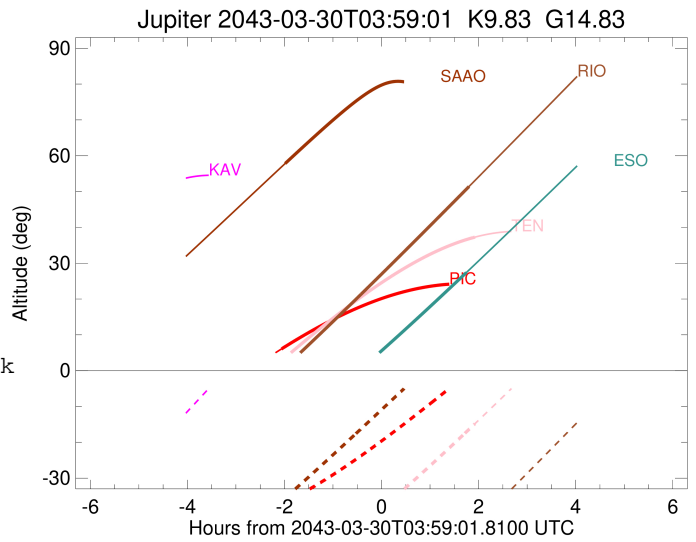
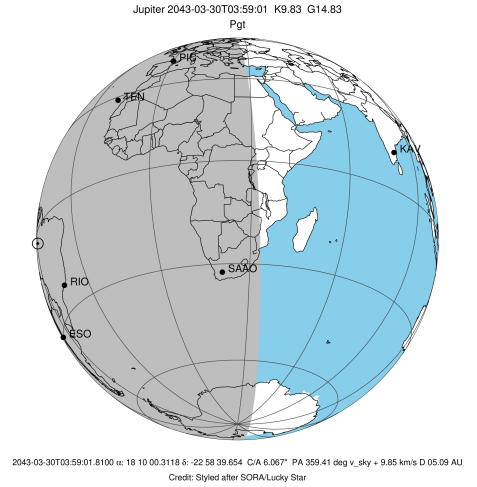


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-03-30T01:55:29.607	6.08	-37.18	71491.4	-15.32	-17.38
Jupiter	E	2043-03-30T05:57:36.005	24.19	1.38x	71491.6	-12.06	-13.72

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-03-30T03:52:52.650
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        : 4066633232449175552
2Mass ID (if available) : 18100031-2258402
ICRS Star Coord at Epoch: 18h 10m 00.31180s -22:58:39.65383s
RUWE (>1.4 is poor)  : 1.26
K magnitude           : 9.834
G magnitude           : 14.825
RP magnitude          : 13.503
BP magnitude          : 15.272
DUPflag               : 0
Distance (au)         : 5.088
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 9.85
Sun-Target sep (deg)  : 96.45
Sun-Moon sep (deg)   : 33.86
B (ring opening deg) : -2.46
PA of pole (deg)     : -1.91
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 4.863
C/A sky separation (km) : 17945.3
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
    
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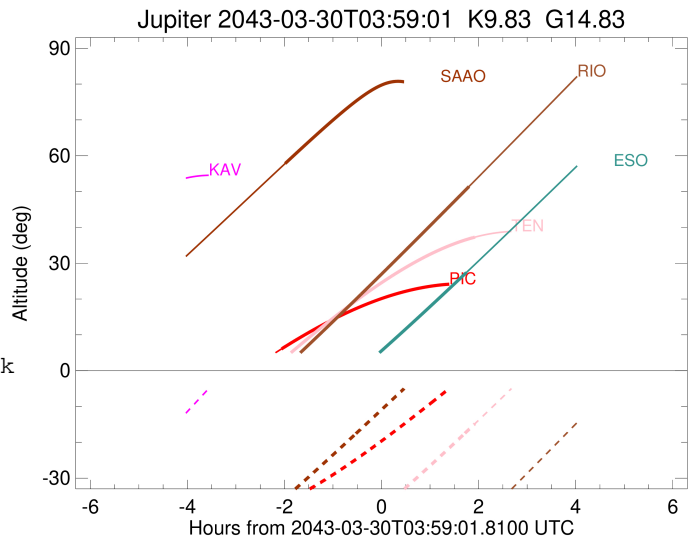
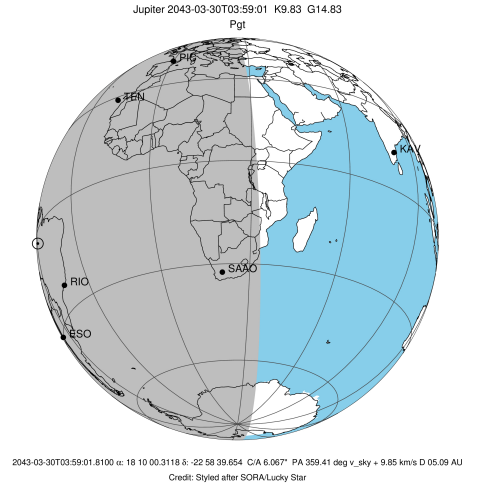


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-03-30T01:53:38.743	2.40x	-56.55	71491.3	-16.63	-18.84
Jupiter	E	2043-03-30T05:54:26.329	37.27	-14.83	71491.6	-12.78	-14.53

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-03-30T03:50:13.230
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       : 4066633232449175552
2Mass ID (if available) : 18100031-2258402
ICRS Star Coord at Epoch: 18h 10m 00.31180s -22:58:39.65383s
RUWE (>1.4 is poor) : 1.26
K magnitude           : 9.834
G magnitude           : 14.825
RP magnitude         : 13.503
BP magnitude         : 15.272
DUPflag              : 0
Distance (au)        : 5.088
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 9.85
Sun-Target sep (deg) : 96.45
Sun-Moon sep (deg)   : 33.56
B (ring opening deg) : -2.46
PA of pole (deg)     : -1.91
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 6.451
C/A sky separation (km) : 23806.0
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
    
```

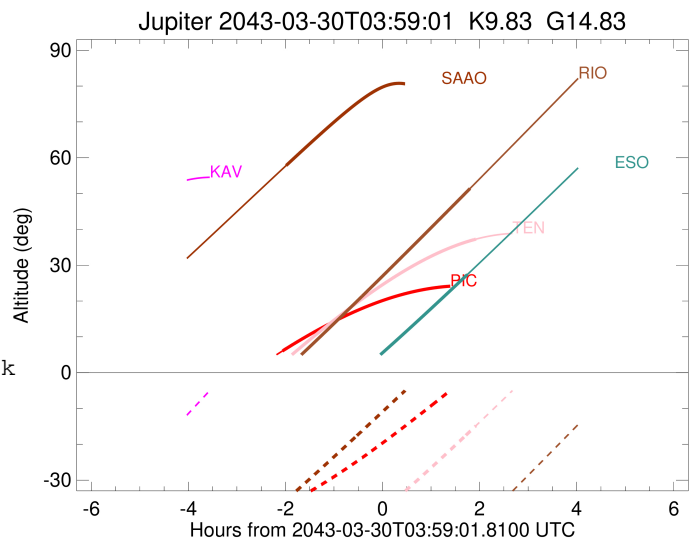
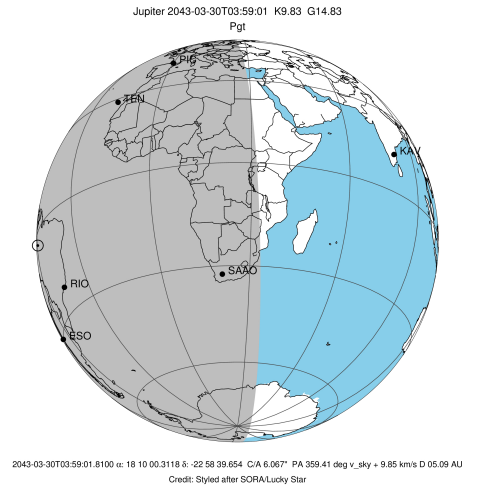


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-03-30T01:56:07.031	0.23x	-65.83	71490.9	-21.71	-24.45
Jupiter	E	2043-03-30T05:47:07.941	51.38	-44.78	71491.3	-17.31	-19.60

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-03-30T03:50:19.560
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        : 4066633232449175552
2Mass ID (if available) : 18100031-2258402
ICRS Star Coord at Epoch: 18h 10m 00.31180s -22:58:39.65383s
RUWE (>1.4 is poor) : 1.26
K magnitude           : 9.834
G magnitude           : 14.825
RP magnitude          : 13.503
BP magnitude          : 15.272
DUPflag              : 0
Distance (au)         : 5.088
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 9.85
Sun-Target sep (deg) : 96.45
Sun-Moon sep (deg)   : 33.35
B (ring opening deg) : -2.46
PA of pole (deg)     : -1.91
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation (") : 6.898
C/A sky separation (km) : 25458.3
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
    
```

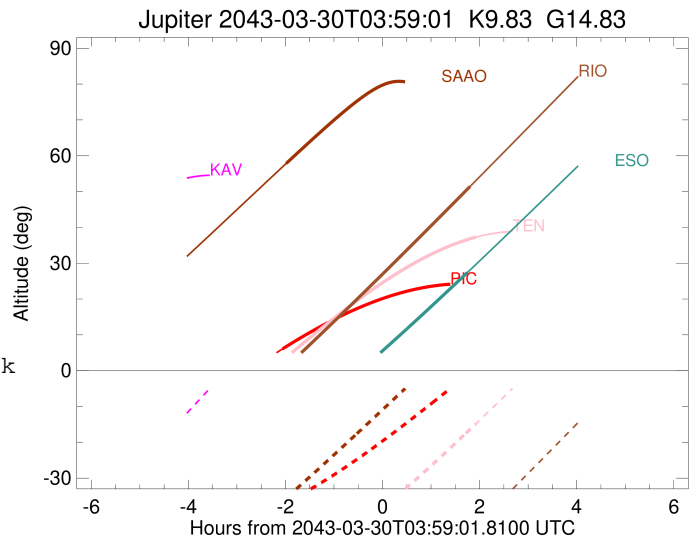
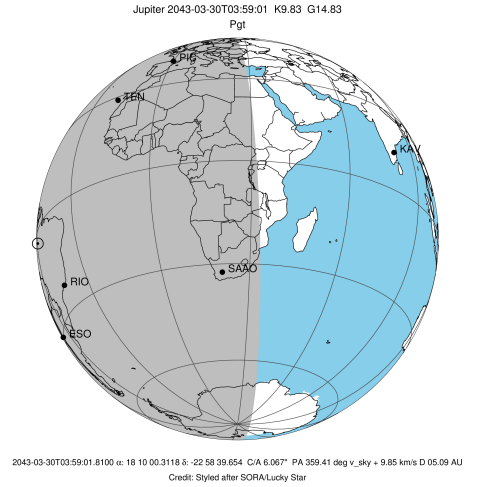


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-03-30T01:59:16.953	-16.90x	-42.75	71490.7	-23.00	-25.86
Jupiter	E	2043-03-30T05:43:57.417	27.39	-61.31	71491.2	-18.61	-21.04

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-03-30T03:58:11.500
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      : 4066633232449175552
2Mass ID (if available) : 18100031-2258402
ICRS Star Coord at Epoch: 18h 10m 00.31180s -22:58:39.65383s
RUWE (>1.4 is poor) : 1.26
K magnitude          : 9.834
G magnitude          : 14.825
RP magnitude         : 13.503
BP magnitude         : 15.272
DUPflag             : 0
Distance (au)       : 5.088
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 9.85
Sun-Target sep (deg) : 96.45
Sun-Moon sep (deg)  : 34.43
B (ring opening deg) : -2.46
PA of pole (deg)    : -1.91
Pole direction: RA (deg): 268.05664
Dec (deg): 64.49732
C/A sky separation ("): 6.334
C/A sky separation (km): 23373.5
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	2043-03-30T01:59:56.829	57.82	-35.50	71491.0	-20.67	-23.31
Jupiter	E	2043-03-30T05:57:10.130	66.48	13.88x	71491.2	-17.93	-20.29