

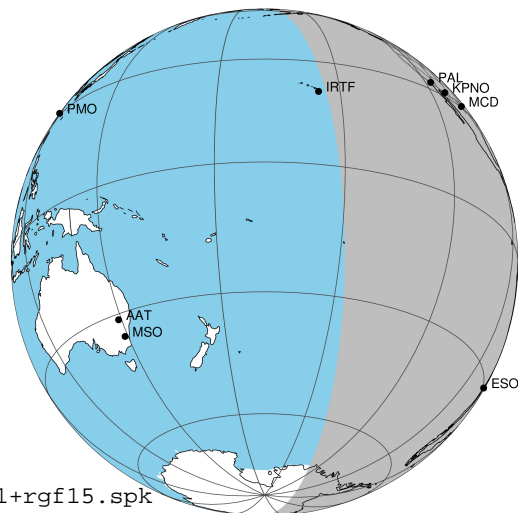
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-10-09T03:51:47.110  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4068802976961753728  
 2Mass ID (if available) : 17454145-2319271

Jupiter 2043-10-09T03:51:47 K9.46 G14.15 Pgt

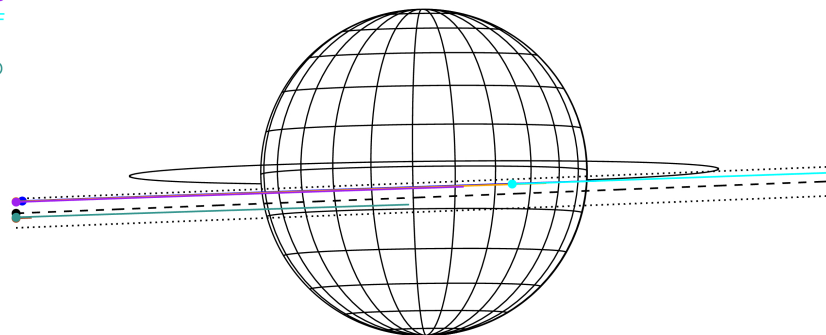
ICRS Star Coord at Epoch: 17h 45m 41.44032s -23:19:27.33606s

RUWE (>1.4 is poor) : 0.93  
 K magnitude : 9.462  
 G magnitude : 14.148  
 RP magnitude : 12.917  
 BP magnitude : 15.757  
 DUPflag : 0  
 Distance (au) : 5.457  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 22.57  
 Sun-Target sep (deg) : 71.56  
 Sun-Moon sep (deg) : 7.33  
 B (ring opening deg) : -2.17  
 PA of pole (deg) : 0.70  
 Pole direction: RA (deg): 268.05675  
 Dec (deg): 64.49731  
 C/A sky separation (") : 2.739  
 C/A sky separation (km) : 10838.3  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk

Jupiter 2043-10-09T03:51:47 K9.46 G14.15  
 Pgt



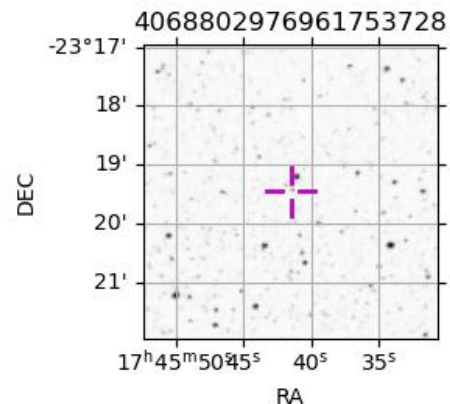
Earth  
 PAL  
 KPNO  
 MCD  
 IRTF  
 RIO  
 ESO



2043-10-09T03:51:47.1100 a: 17 45 41.4403 s: -23 19 27.336 C/A 2.747 PA 2.25 deg v\_sky +22.57 km/s D 05.46 AU  
 Credit: Styled after SORA/Lucky Star

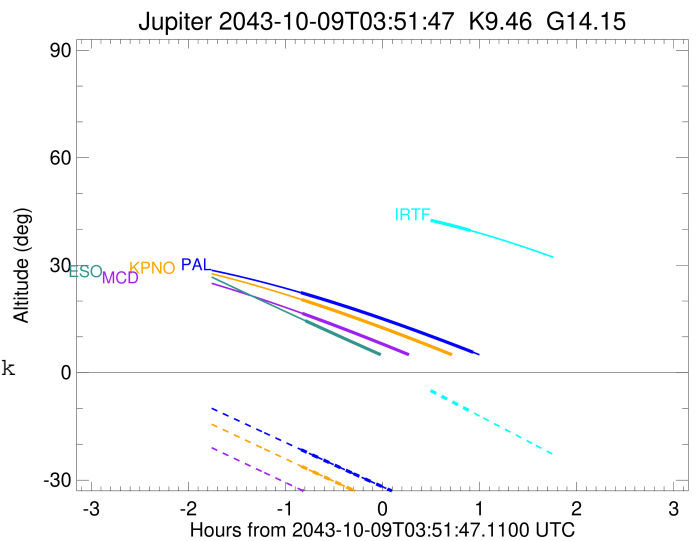
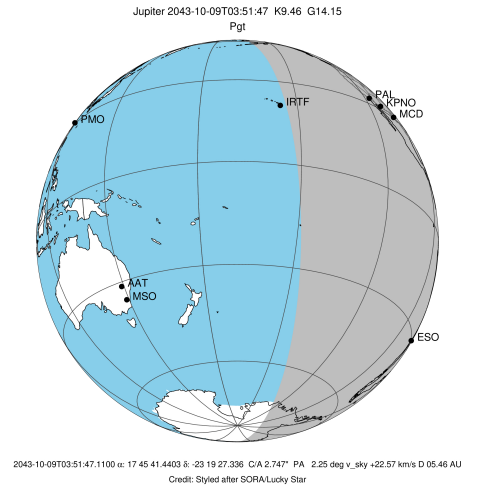
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEncode
PIC	Pic du Midi	42.9	0.1			Pnn
PAL	Palomar Mt (200")	33.4	243.1	+ +	OCT 09 03:01 - OCT 09 04:47	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	OCT 09 03:01 - OCT 09 03:01	Pin
MCD	McDonald Obs. 2.7m	30.7	256.0	+	OCT 09 03:02 - OCT 09 03:02	Pin
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+	OCT 09 04:46 - OCT 09 04:46	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	+	OCT 09 03:04 - OCT 09 03:04	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



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-09T03:54:46.050
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        : 4068802976961753728
2Mass ID (if available) : 17454145-2319271
ICRS Star Coord at Epoch: 17h 45m 41.44032s -23:19:27.33606s
RUWE (>1.4 is poor) : 0.93
K magnitude           : 9.462
G magnitude           : 14.148
RP magnitude          : 12.917
BP magnitude          : 15.757
DUPflag              : 0
Distance (au)         : 5.457
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 22.57
Sun-Target sep (deg)  : 71.56
Sun-Moon sep (deg)    : 8.23
B (ring opening deg) : -2.17
PA of pole (deg)      : 0.70
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (") : 1.568
C/A sky separation (km) : 6203.7
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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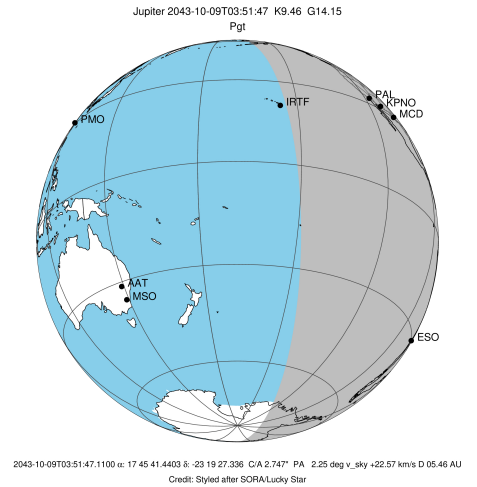


x: target alt < 5.0 deg or sun > -5.0 deg

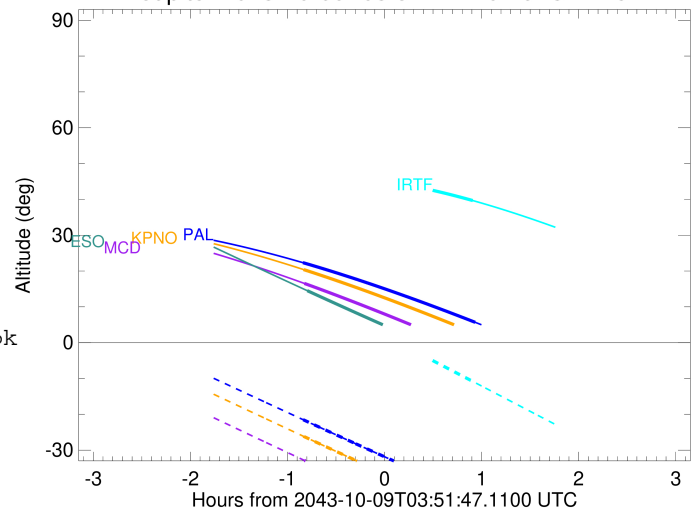
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-09T03:01:30.507	22.31	-21.50	71491.9	-6.26	-7.15
Jupiter	E	2043-10-09T04:47:48.994	5.68	-42.86	71492.0	-3.75	-4.29

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-09T03:55:01.960
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       : 4068802976961753728
2Mass ID (if available) : 17454145-2319271
ICRS Star Coord at Epoch: 17h 45m 41.44032s -23:19:27.33606s
RUWE (>1.4 is poor) : 0.93
K magnitude          : 9.462
G magnitude          : 14.148
RP magnitude         : 12.917
BP magnitude         : 15.757
DUPflag             : 0
Distance (au)        : 5.457
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 22.57
Sun-Target sep (deg) : 71.56
Sun-Moon sep (deg)   : 8.23
B (ring opening deg) : -2.17
PA of pole (deg)     : 0.70
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation ("): 1.631
C/A sky separation (km): 6454.0
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
    
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Jupiter 2043-10-09T03:51:47 K9.46 G14.15

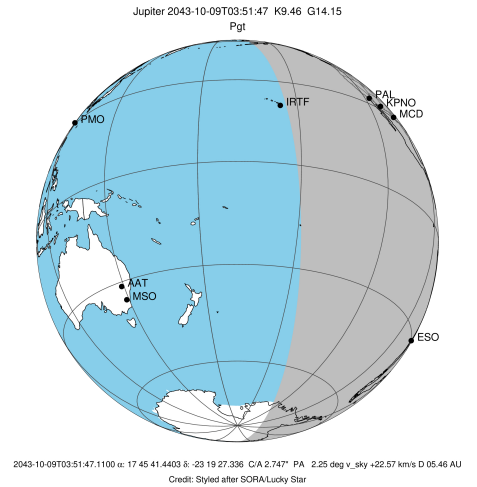


x: target alt < 5.0 deg or sun > -5.0 deg

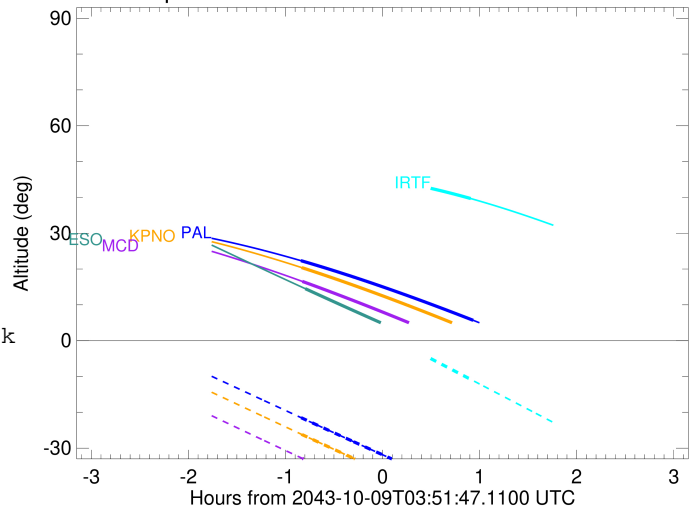
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-09T03:01:50.697	20.40	-26.16	71491.9	-6.43	-7.34
Jupiter	E	2043-10-09T04:47:59.816	2.57x	-47.48	71492.0	-3.98	-4.55

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-09T03:55:20.480
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        : 4068802976961753728
2Mass ID (if available) : 17454145-2319271
ICRS Star Coord at Epoch: 17h 45m 41.44032s -23:19:27.33606s
RUWE (>1.4 is poor) : 0.93
K magnitude           : 9.462
G magnitude           : 14.148
RP magnitude          : 12.917
BP magnitude          : 15.757
DUPflag              : 0
Distance (au)         : 5.457
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 22.57
Sun-Target sep (deg) : 71.56
Sun-Moon sep (deg)    : 8.23
B (ring opening deg) : -2.17
PA of pole (deg)      : 0.70
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (") : 1.716
C/A sky separation (km) : 6791.8
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 2043-10-09T03:51:47 K9.46 G14.15

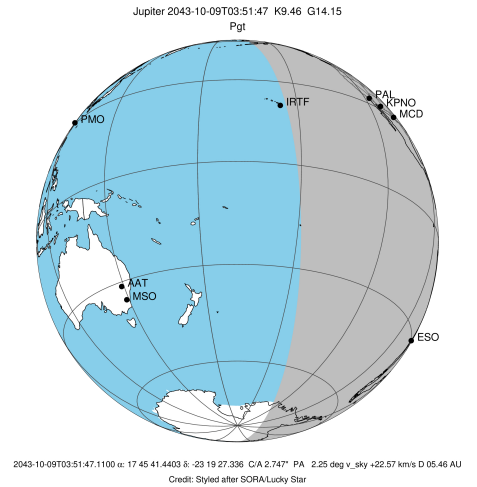


x: target alt < 5.0 deg or sun > -5.0 deg

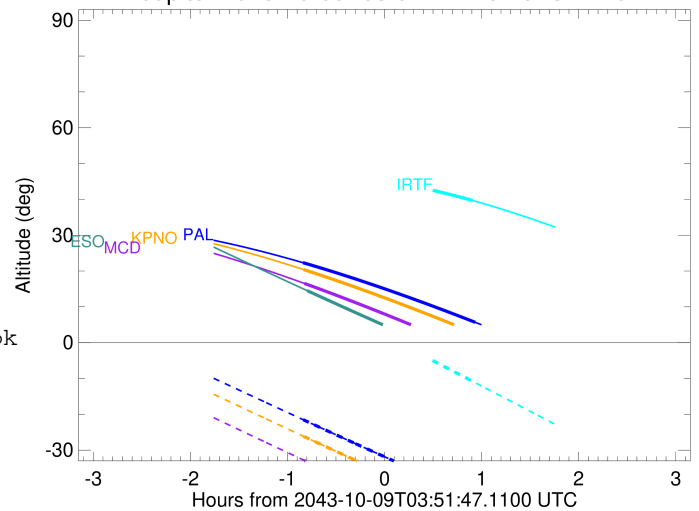
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-09T03:02:16.322	16.53	-32.86	71491.9	-6.66	-7.61
Jupiter	E	2043-10-09T04:48:10.316	-2.61x	-53.67	71492.0	-4.28	-4.89

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-09T03:52:41.410
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       : 4068802976961753728
2Mass ID (if available) : 17454145-2319271
ICRS Star Coord at Epoch: 17h 45m 41.44032s -23:19:27.33606s
RUWE (>1.4 is poor) : 0.93
K magnitude          : 9.462
G magnitude          : 14.148
RP magnitude         : 12.917
BP magnitude         : 15.757
DUPflag             : 0
Distance (au)        : 5.457
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 22.57
Sun-Target sep (deg) : 71.56
Sun-Moon sep (deg)  : 7.99
B (ring opening deg) : -2.17
PA of pole (deg)    : 0.70
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation (") : 1.643
C/A sky separation (km) : 6502.2
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
    
```



Jupiter 2043-10-09T03:51:47 K9.46 G14.15

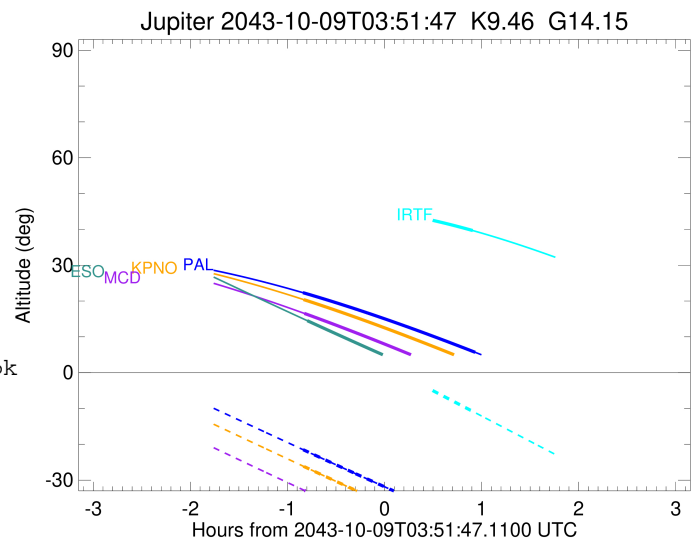
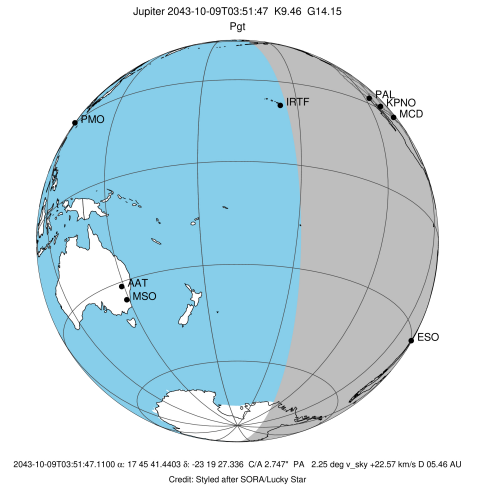


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-09T02:59:03.915	46.96	14.22x	71491.9	-6.75	-7.70
Jupiter	E	2043-10-09T04:46:13.105	39.68	-10.79	71492.0	-3.79	-4.33

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-09T03:55:51.380
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      : 4068802976961753728
2Mass ID (if available) : 17454145-2319271
ICRS Star Coord at Epoch: 17h 45m 41.44032s -23:19:27.33606s
RUWE (>1.4 is poor) : 0.93
K magnitude          : 9.462
G magnitude          : 14.148
RP magnitude         : 12.917
BP magnitude         : 15.757
DUPflag             : 0
Distance (au)       : 5.457
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 22.57
Sun-Target sep (deg) : 71.56
Sun-Moon sep (deg)  : 7.63
B (ring opening deg) : -2.17
PA of pole (deg)    : 0.70
Pole direction: RA (deg): 268.05675
Dec (deg): 64.49731
C/A sky separation ("): 3.495
C/A sky separation (km): 13832.0
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	2043-10-09T03:04:04.132	14.51	-49.08	71491.7	-12.28	-13.98
Jupiter	E	2043-10-09T04:47:23.949	-6.01x	-54.45	71491.8	-10.01	-11.40