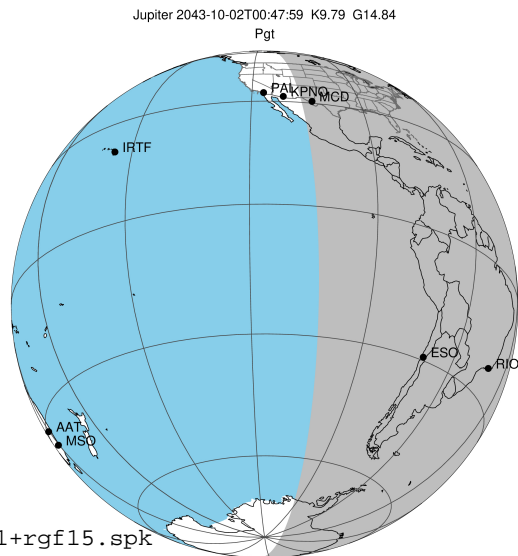


target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-10-02T00:47:59.150  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4116492477079124096  
 2Mass ID (if available) : 17414184-2317151

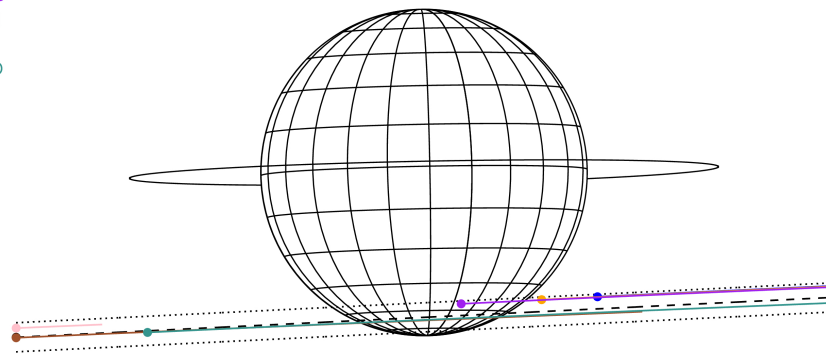
Jupiter 2043-10-02T00:47:59 K9.79 G14.84 Pgt

ICRS Star Coord at Epoch: 17h 41m 41.81730s -23:17:15.64057s

RUWE (>1.4 is poor) : 0.88  
 K magnitude : 9.791  
 G magnitude : 14.843  
 RP magnitude : 13.568  
 BP magnitude : 16.685  
 DUPflag : 0  
 Distance (au) : 5.352  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 19.47  
 Sun-Target sep (deg) : 77.67  
 Sun-Moon sep (deg) : 90.36  
 B (ring opening deg) : -2.19  
 PA of pole (deg) : 1.13  
 Pole direction: RA (deg): 268.05674  
 Dec (deg): 64.49731  
 C/A sky separation (") : 16.328  
 C/A sky separation (km) : 63374.7  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk



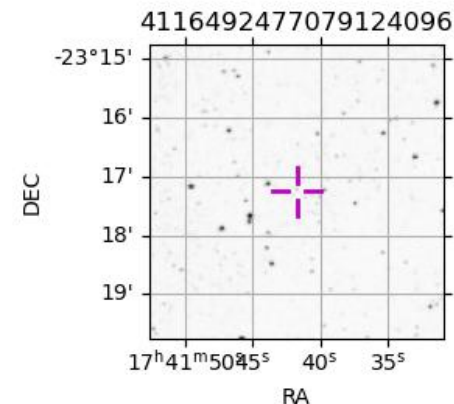
Earth  
 PAL  
 KPNO  
 MCD  
 TEN  
 RIO  
 ESO



2043-10-02T00:47:59.1500 α: 17 41 41.8173 β: -23 17 15.641 C/A \*\*\*\*\* PA 2.80 deg v\_sky +19.47 km/s D 05.35 AU  
 Credit: Styled after SORA/Lucky Star

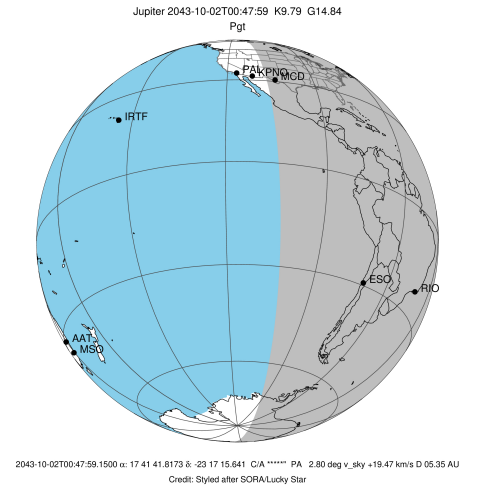
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1			Pnn
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	+	OCT 02 01:24 - OCT 02 01:24	Pne
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
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	+ +	OCT 02 00:26 - OCT 02 01:18	Pie
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+ +	OCT 02 00:24 - OCT 02 01:17	Pie
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

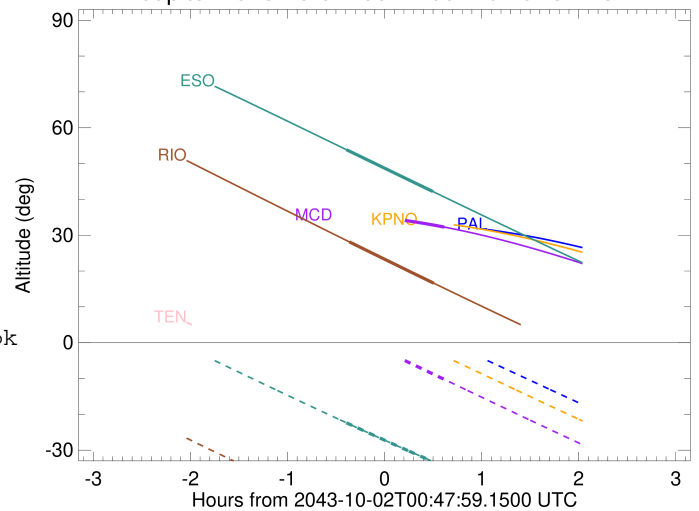


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-02T00:48:47.040
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       : 4116492477079124096
2Mass ID (if available) : 17414184-2317151
ICRS Star Coord at Epoch: 17h 41m 41.81730s -23:17:15.64057s
RUWE (>1.4 is poor) : 0.88
K magnitude           : 9.791
G magnitude           : 14.843
RP magnitude          : 13.568
BP magnitude          : 16.685
DUPflag              : 0
Distance (au)        : 5.352
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 19.47
Sun-Target sep (deg) : 77.67
Sun-Moon sep (deg)   : 90.89
B (ring opening deg) : -2.19
PA of pole (deg)     : 1.13
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation ("): 15.004
C/A sky separation (km): 58234.9
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
    
```



Jupiter 2043-10-02T00:47:59 K9.79 G14.84

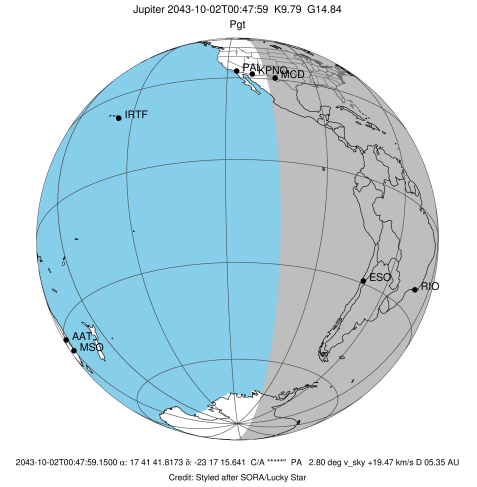


x: target alt < 5.0 deg or sun > -5.0 deg

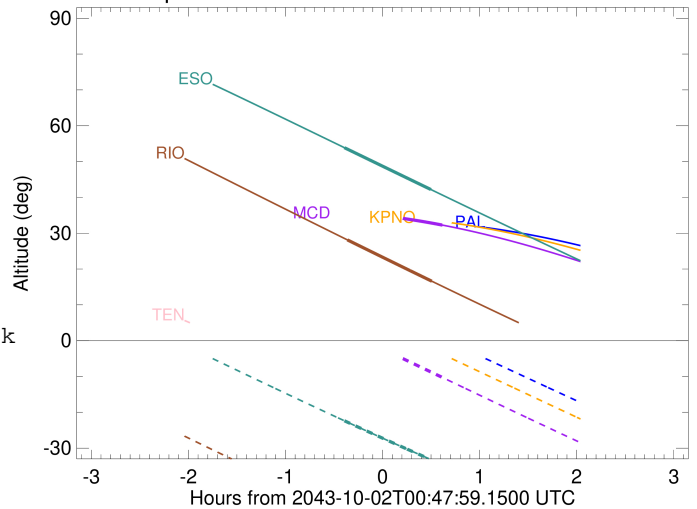
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-02T00:12:34.814	36.08	5.31x	71487.5	-56.13	-59.44
Jupiter	E	2043-10-02T01:24:56.444	32.26	-10.26	71487.8	-52.92	-56.39

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-02T00:52:26.270
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        : 4116492477079124096
2Mass ID (if available) : 17414184-2317151
ICRS Star Coord at Epoch: 17h 41m 41.81730s -23:17:15.64057s
RUWE (>1.4 is poor) : 0.88
K magnitude           : 9.791
G magnitude           : 14.843
RP magnitude          : 13.568
BP magnitude          : 16.685
DUPflag              : 0
Distance (au)         : 5.352
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 19.47
Sun-Target sep (deg)  : 77.67
Sun-Moon sep (deg)    : 90.72
B (ring opening deg) : -2.19
PA of pole (deg)      : 1.13
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 16.687
C/A sky separation (km) : 64767.0
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
    
```



Jupiter 2043-10-02T00:47:59 K9.79 G14.84

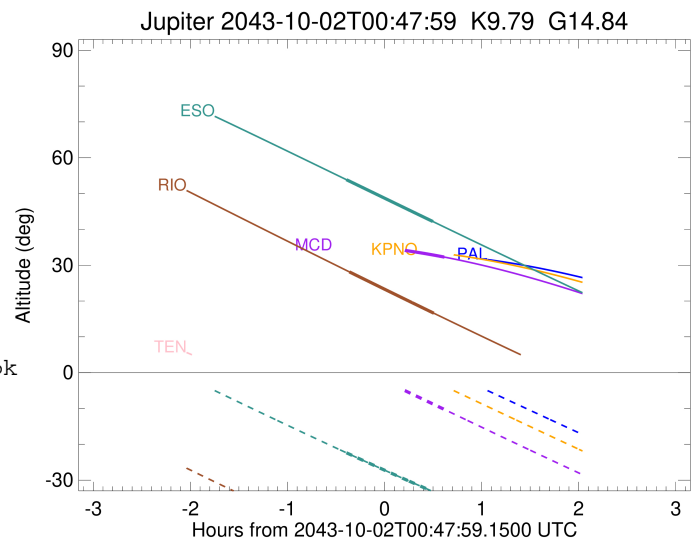
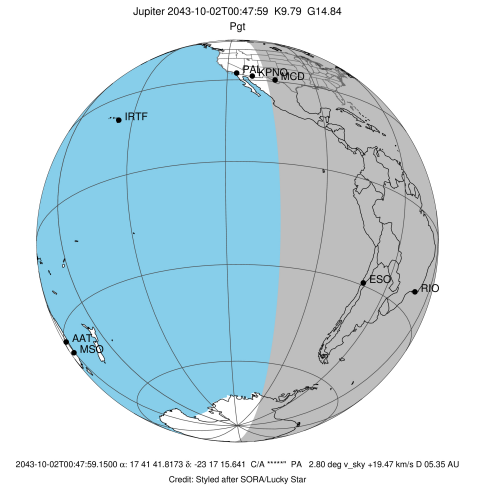


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-02T00:26:21.186	28.11	-47.72	71486.5	-66.07	-68.65
Jupiter	E	2043-10-02T01:18:26.990	16.60	-56.73	71486.7	-63.69	-66.47

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-02T00:51:11.960
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       : 4116492477079124096
2Mass ID (if available) : 17414184-2317151
ICRS Star Coord at Epoch: 17h 41m 41.81730s -23:17:15.64057s
RUWE (>1.4 is poor) : 0.88
K magnitude           : 9.791
G magnitude           : 14.843
RP magnitude         : 13.568
BP magnitude         : 16.685
DUPflag              : 0
Distance (au)        : 5.352
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 19.47
Sun-Target sep (deg) : 77.67
Sun-Moon sep (deg)   : 91.05
B (ring opening deg) : -2.19
PA of pole (deg)     : 1.13
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (" ) : 16.626
C/A sky separation (km) : 64529.6
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	2043-10-02T00:24:28.536	53.86	-22.37	71486.5	-65.79	-68.40
Jupiter	E	2043-10-02T01:17:51.912	42.19	-33.17	71486.8	-63.10	-65.93