

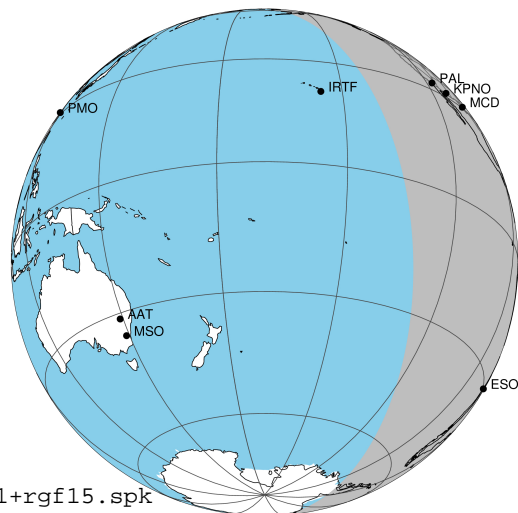
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-10-30T02:45:49.850
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4069141630743339136
 2Mass ID (if available) : 18000619-2324226

Jupiter 2043-10-30T02:45:49 K8.36 G12.82 Pgt

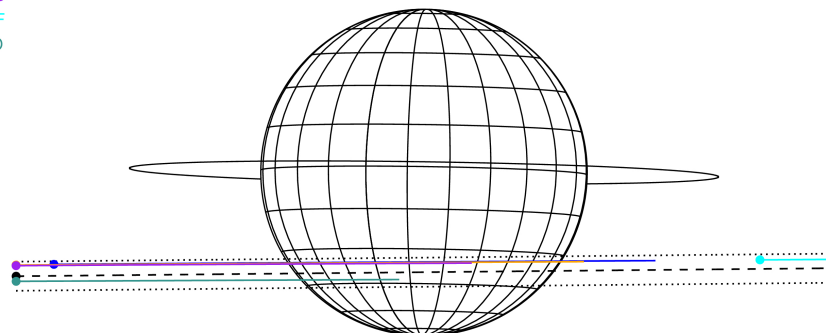
ICRS Star Coord at Epoch: 18h 00m 06.20072s -23°24'22.70634s

RUWE (>1.4 is poor) : 7.58
 K magnitude : 8.355
 G magnitude : 12.819
 RP magnitude : 11.601
 BP magnitude : 13.895
 DUPflag : 0
 Distance (au) : 5.741
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 30.72
 Sun-Target sep (deg) : 54.07
 Sun-Moon sep (deg) : 84.32
 B (ring opening deg) : -2.08
 PA of pole (deg) : -0.85
 Pole direction: RA (deg): 268.05676
 Dec (deg): 64.49731
 C/A sky separation (") : 10.490
 C/A sky separation (km) : 43675.1
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-10-30T02:45:49 K8.36 G12.82
 Pgt



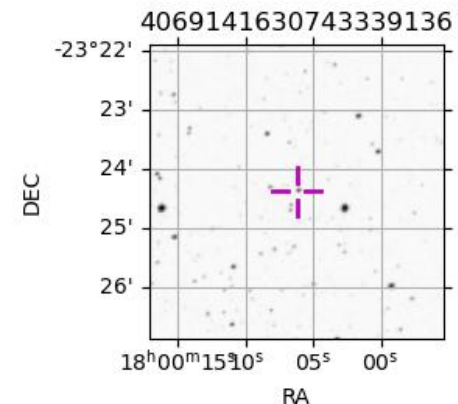
Earth
 PAL
 KPNO
 MCD
 IRTF
 ESO



2043-10-30T02:45:49.8500 α: 18 00 06.2007 δ: -23 24 22.706 C/A ***** PA 0.56 deg v_sky +30.72 km/s D 05.74 AU
 Credit: Styled after SORA/Lucky Star

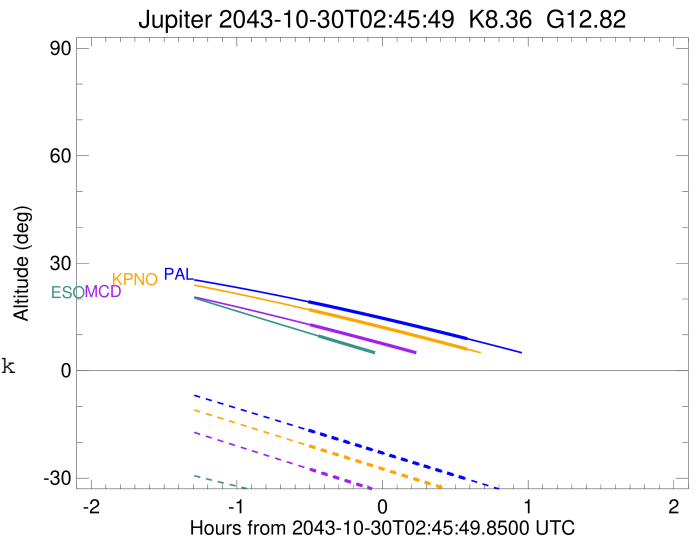
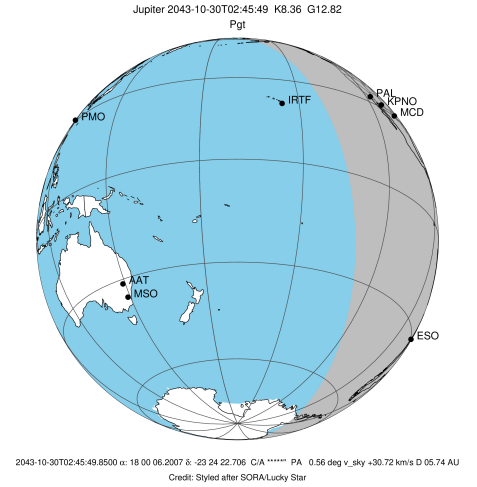
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	OCT 30 02:15 - OCT 30 03:20	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	OCT 30 02:15 - OCT 30 03:20	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+	OCT 30 02:16 - OCT 30 02:16	Pin
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			Pnn
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	OCT 30 02:19 - OCT 30 02:19	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             : 2043-10-30T02:48:02.300
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        : 4069141630743339136
2Mass ID (if available) : 18000619-2324226
ICRS Star Coord at Epoch: 18h 00m 06.20072s -23:24:22.70634s
RUWE (>1.4 is poor)  : 7.58
K magnitude           : 8.355
G magnitude           : 12.819
RP magnitude          : 11.601
BP magnitude          : 13.895
DUPflag              : 0
Distance (au)         : 5.741
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 30.72
Sun-Target sep (deg)  : 54.07
Sun-Moon sep (deg)    : 84.61
B (ring opening deg) : -2.08
PA of pole (deg)      : -0.85
Pole direction: RA (deg): 268.05676
Dec (deg): 64.49731
C/A sky separation (") : 9.408
C/A sky separation (km) : 39171.4
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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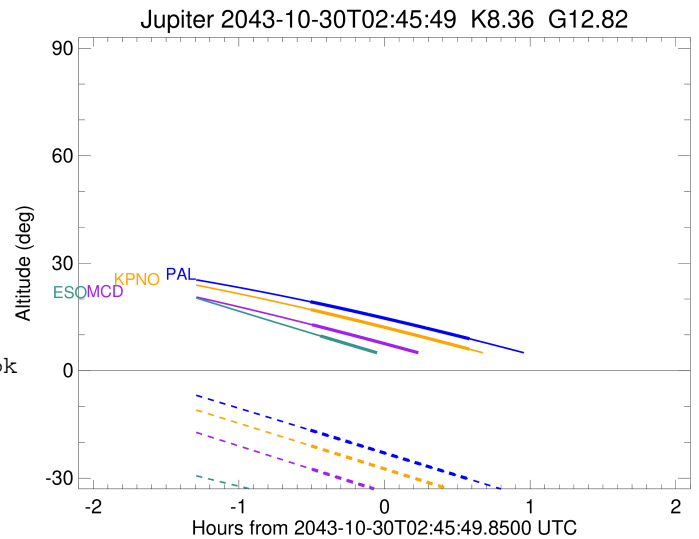
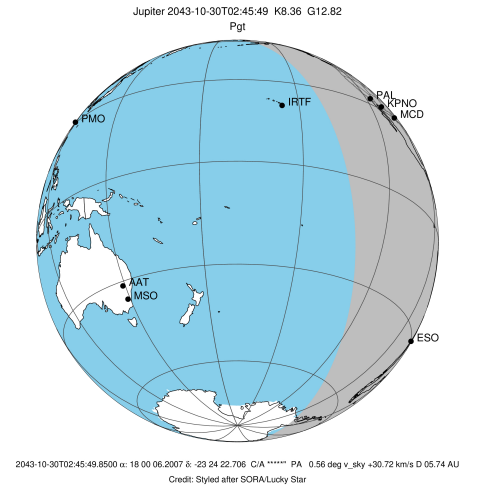


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-30T02:15:19.376	19.24	-16.61	71490.1	-34.39	-37.97
Jupiter	E	2043-10-30T03:20:41.809	8.93	-30.28	71490.3	-32.03	-35.51

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-30T02:48:13.310
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        : 4069141630743339136
2Mass ID (if available) : 18000619-2324226
ICRS Star Coord at Epoch: 18h 00m 06.20072s -23:24:22.70634s
RUWE (>1.4 is poor) : 7.58
K magnitude           : 8.355
G magnitude           : 12.819
RP magnitude          : 11.601
BP magnitude          : 13.895
DUPflag              : 0
Distance (au)         : 5.741
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 30.72
Sun-Target sep (deg)  : 54.07
Sun-Moon sep (deg)    : 84.58
B (ring opening deg) : -2.08
PA of pole (deg)     : -0.85
Pole direction: RA (deg): 268.05676
Dec (deg): 64.49731
C/A sky separation (") : 9.471
C/A sky separation (km) : 39432.9
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
    
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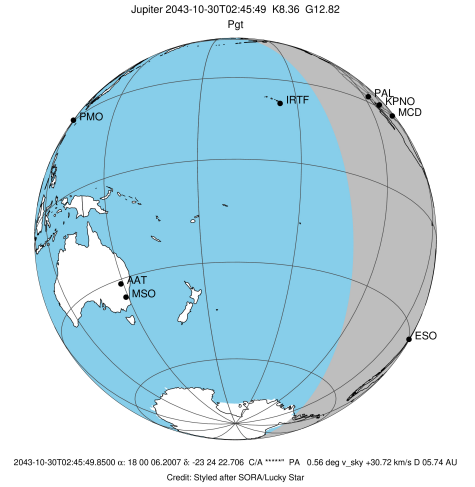


x: target alt < 5.0 deg or sun > -5.0 deg

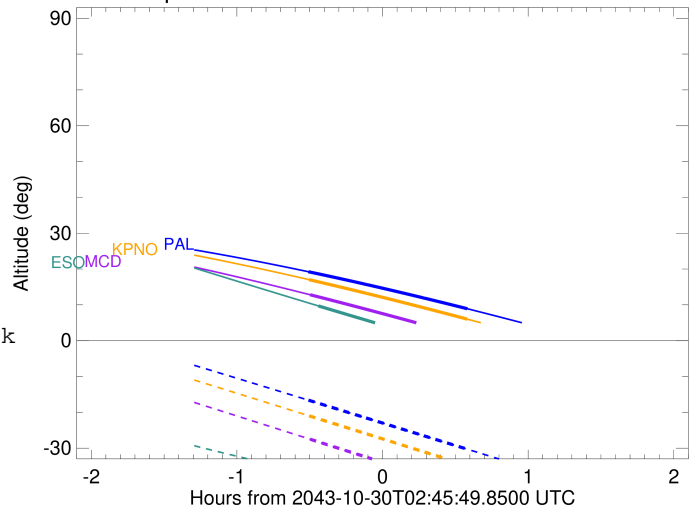
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-30T02:15:37.598	17.02	-20.99	71490.1	-34.63	-38.21
Jupiter	E	2043-10-30T03:20:45.416	6.01	-34.82	71490.3	-32.30	-35.79

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-30T02:48:26.080
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        : 4069141630743339136
2Mass ID (if available) : 18000619-2324226
ICRS Star Coord at Epoch: 18h 00m 06.20072s -23:24:22.70634s
RUWE (>1.4 is poor)  : 7.58
K magnitude           : 8.355
G magnitude           : 12.819
RP magnitude          : 11.601
BP magnitude          : 13.895
DUPflag              : 0
Distance (au)         : 5.741
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 30.72
Sun-Target sep (deg)  : 54.07
Sun-Moon sep (deg)    : 84.51
B (ring opening deg) : -2.08
PA of pole (deg)      : -0.85
Pole direction: RA (deg): 268.05676
Dec (deg): 64.49731
C/A sky separation (") : 9.555
C/A sky separation (km) : 39783.9
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 2043-10-30T02:45:49 K8.36 G12.82

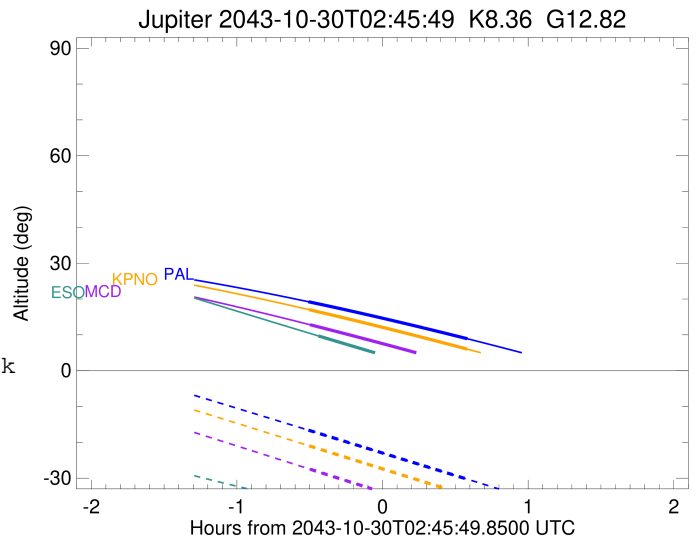
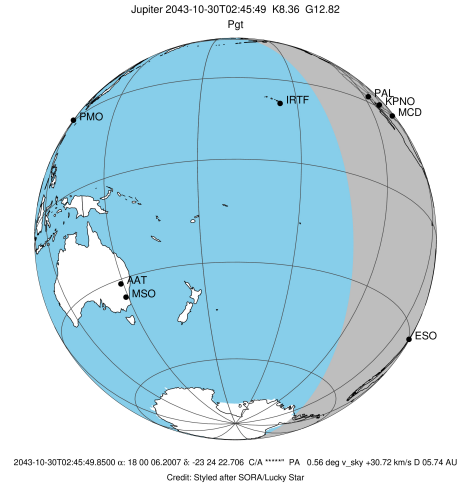


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-30T02:16:00.659	12.82	-27.51	71490.1	-34.94	-38.53
Jupiter	E	2043-10-30T03:20:47.660	1.05x	-41.42	71490.3	-32.66	-36.16

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-30T02:48:41.520
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       : 4069141630743339136
2Mass ID (if available) : 18000619-2324226
ICRS Star Coord at Epoch: 18h 00m 06.20072s -23:24:22.70634s
RUWE (>1.4 is poor) : 7.58
K magnitude           : 8.355
G magnitude           : 12.819
RP magnitude          : 11.601
BP magnitude          : 13.895
DUPflag              : 0
Distance (au)         : 5.741
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 30.72
Sun-Target sep (deg) : 54.07
Sun-Moon sep (deg)   : 84.47
B (ring opening deg) : -2.08
PA of pole (deg)     : -0.85
Pole direction: RA (deg): 268.05676
Dec (deg): 64.49731
C/A sky separation (") : 11.251
C/A sky separation (km) : 46842.3
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	2043-10-30T02:19:25.636	9.70	-37.34	71489.3	-42.02	-45.73
Jupiter	E	2043-10-30T03:17:54.059	-1.92x	-44.10	71489.6	-39.79	-43.49