

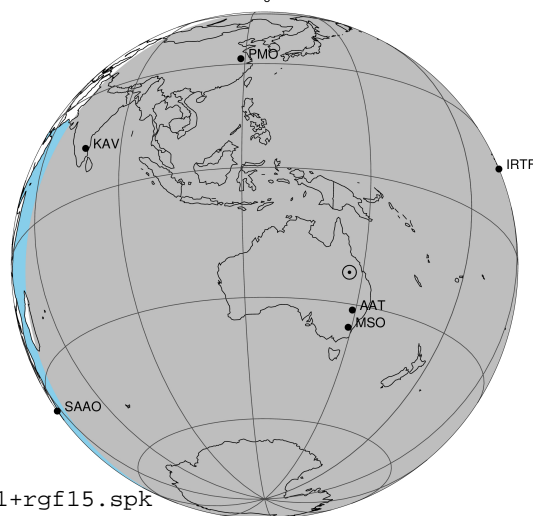
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2031-07-03T14:18:14.210  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4114646878008686080  
 2Mass ID (if available) : 17224635-2243599

Jupiter 2031-07-03T14:18:14 K8.34 G12.85 Pgt

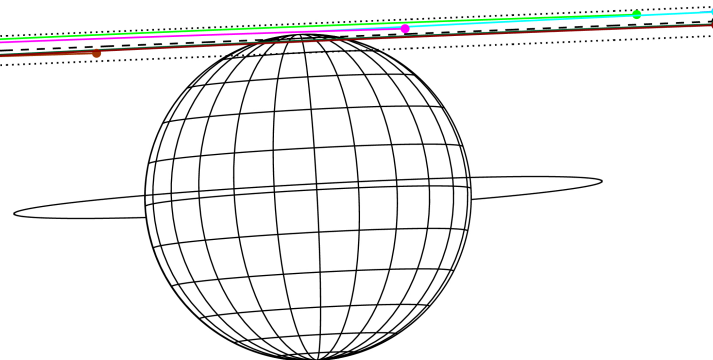
ICRS Star Coord at Epoch: 17h 22m 46.33479s -22:44:00.09223s

RUWE (>1.4 is poor) : 0.88  
 K magnitude : 8.342  
 G magnitude : 12.848  
 RP magnitude : 11.684  
 BP magnitude : 14.293  
 DUPflag : 0  
 Distance (au) : 4.306  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : -14.78  
 Sun-Target sep (deg) : 160.37  
 Sun-Moon sep (deg) : 3.19  
 B (ring opening deg) : -2.58  
 PA of pole (deg) : 3.17  
 Pole direction: RA (deg): 268.05690  
 Dec (deg): 64.49651  
 C/A sky separation (") : 22.348  
 C/A sky separation (km) : 69787.4  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk

Jupiter 2031-07-03T14:18:14 K8.34 G12.85  
 Pgt



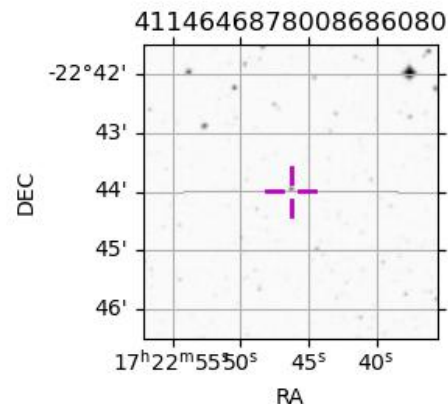
Earth  
 PAL  
 PMO  
 IRTF  
 KAV  
 AAT  
 SAAO  
 MSO



2031-07-03T14:18:14.2100 a: 17 22 46.3348 ð -22 44 00.092 C/A \*\*\*\*\* PA 182.34 deg v\_sky -14.78 km/s D 04.31 AU  
 Credit: Styled after SORA/Lucky Star

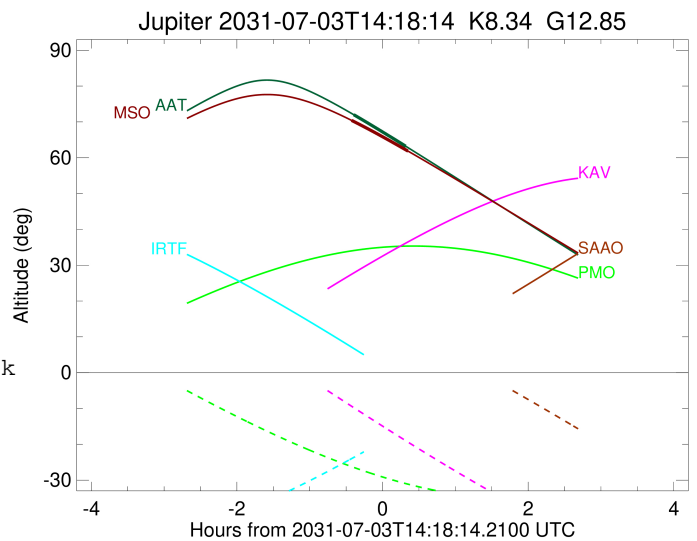
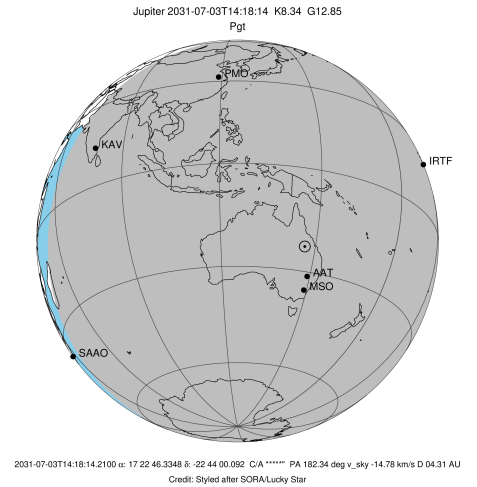
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
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			Pnn
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			Pnn
AAT	Siding Spring (AAT)	-31.3	149.1	+ +	JUL 03 13:54 - JUL 03 14:37	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	JUL 03 13:52 - JUL 03 14:39	Pie



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-07-03T14:15:59.950
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : AAT
Location              : Siding Spring (AAT)
Latitude (deg)        : -31.27703
E. Longitude (deg)    : 149.06608
Altitude (km)         : 1.164
Gaia source ID        : 4114646878008686080
2Mass ID (if available) : 17224635-2243599
ICRS Star Coord at Epoch: 17h 22m 46.33479s -22:44:00.09223s
RUWE (>1.4 is poor)  : 0.88
K magnitude           : 8.342
G magnitude           : 12.848
RP magnitude          : 11.684
BP magnitude          : 14.293
DUPflag              : 0
Distance (au)         : 4.306
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -14.78
Sun-Target sep (deg)  : 160.37
Sun-Moon sep (deg)    : 3.07
B (ring opening deg) : -2.58
PA of pole (deg)      : 3.17
Pole direction: RA (deg): 268.05690
Dec (deg): 64.49651
C/A sky separation (") : 22.023
C/A sky separation (km) : 68772.0
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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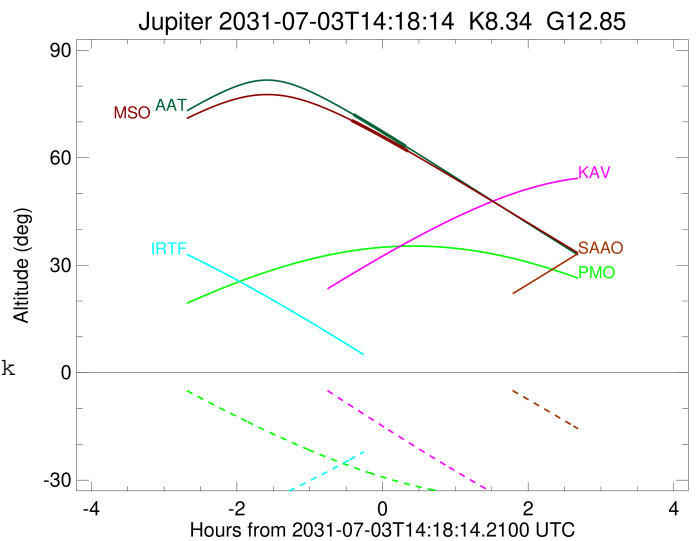
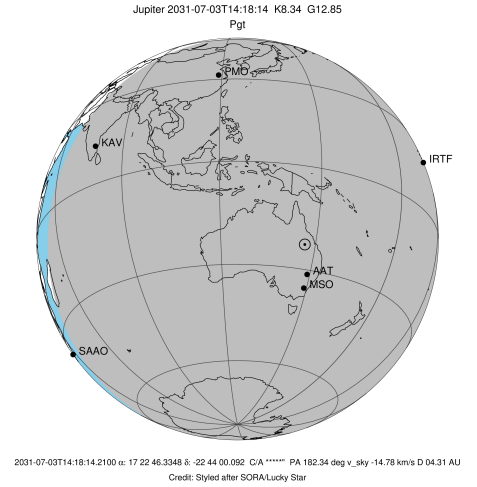


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-07-03T13:54:31.489	72.00	-81.30	71483.7	73.30	75.19
Jupiter	E	2031-07-03T14:37:29.772	63.18	-79.53	71483.6	74.58	76.34

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-07-03T14:16:04.900
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : MSO
Location              : Mt. Stromlo Observatory
Latitude (deg)       : -35.32000
E. Longitude (deg)   : 149.00833
Altitude (km)        : 0.770
Gaia source ID       : 4114646878008686080
2Mass ID (if available) : 17224635-2243599
ICRS Star Coord at Epoch: 17h 22m 46.33479s -22:44:00.09223s
RUWE (>1.4 is poor) : 0.88
K magnitude           : 8.342
G magnitude           : 12.848
RP magnitude         : 11.684
BP magnitude         : 14.293
DUPflag              : 0
Distance (au)        : 4.306
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -14.78
Sun-Target sep (deg) : 160.37
Sun-Moon sep (deg)  : 3.13
B (ring opening deg) : -2.58
PA of pole (deg)    : 3.17
Pole direction: RA (deg): 268.05690
Dec (deg): 64.49651
C/A sky separation (") : 21.884
C/A sky separation (km) : 68336.1
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	2031-07-03T13:52:57.477	70.38	-77.35	71483.8	72.07	74.09
Jupiter	E	2031-07-03T14:39:13.842	61.85	-76.06	71483.7	73.37	75.25