

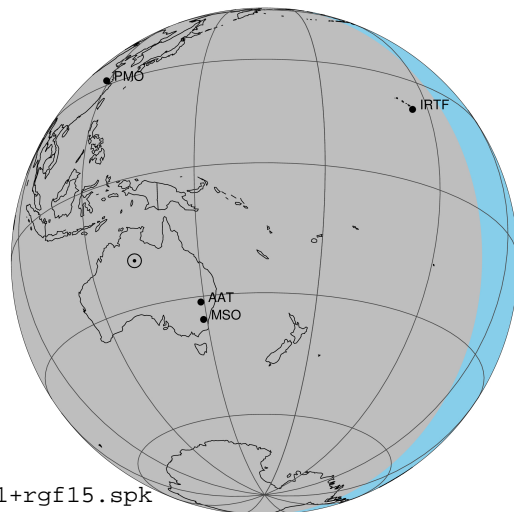
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-05-17T15:03:34.230
 Event type : Pt
 : Jupiter occs: topocentric, not geocentric
 : Not a ringed target
 Gaia source ID : 4068842529258966656
 2Mass ID (if available) : 17465441-2253494

Jupiter 2031-05-17T15:03:34 K8.33 G14.37 Pt

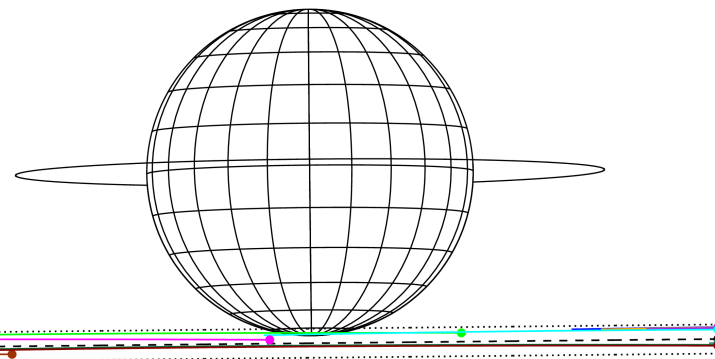
ICRS Star Coord at Epoch: 17h 46m 54.41296s -22:53:49.71581s

RUWE (>1.4 is poor) : 0.85
 K magnitude : 8.332
 G magnitude : 14.372
 RP magnitude : 12.851
 BP magnitude : 17.382
 DUPflag : 0
 Distance (au) : 4.397
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -12.26
 Sun-Target sep (deg) : 149.11
 Sun-Moon sep (deg) : 106.65
 B (ring opening deg) : -2.60
 PA of pole (deg) : 0.57
 Pole direction: RA (deg): 268.05694
 Dec (deg): 64.49651
 C/A sky separation (") : 23.454
 C/A sky separation (km) : 74794.1
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2031-05-17T15:03:34 K8.33 G14.37 Pt



Earth
 PAL
 PMO
 KPNO
 MCD
 IRTF
 KAV
 ESO
 AAT
 SAAO
 MSO

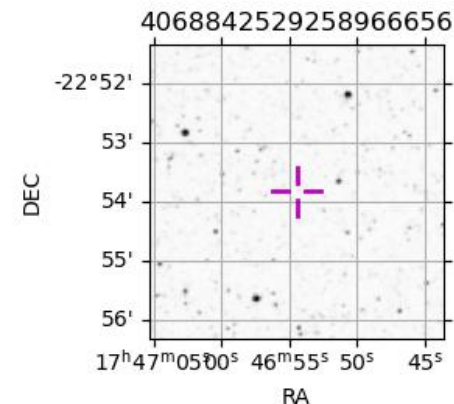


2031-05-17T15:03:34.2300 α: 17 46 54.4130 δ: -22 53 49.716 C/A ***** PA 0.60 deg v_sky -12.26 km/s D 04.40 AU

Credit: Styled after SORA/Lucky Star

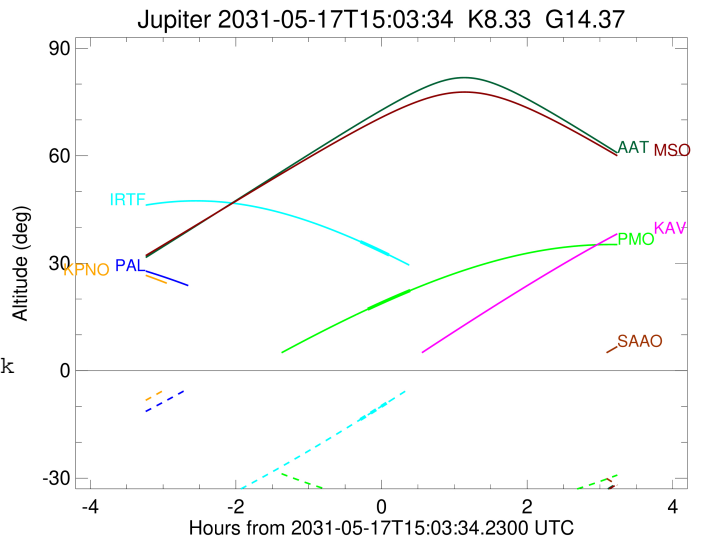
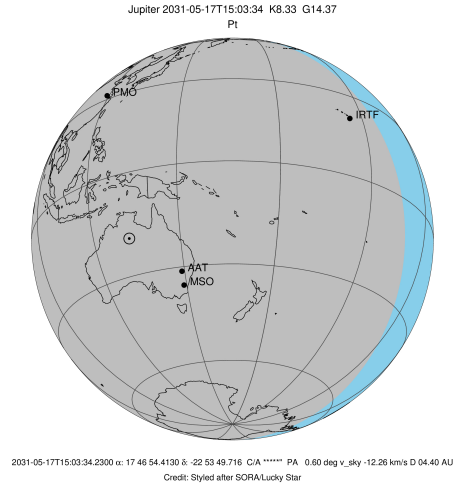
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	MAY 17 14:52 - MAY 17 15:27	Pie
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	+ +	MAY 17 14:46 - MAY 17 15:09	Pie
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			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            : 2031-05-17T15:09:44.470
Event type          : Pt
                    : Jupiter occs: topocentric, not geocentric
                    : Not a ringed target
Observer code       : PMO
Location            : Purple Mtn Obs. Nanking
Latitude (deg)      : 32.06667
E. Longitude (deg)  : 118.82089
Altitude (km)       : 0.364
Gaia source ID      : 4068842529258966656
2Mass ID (if available) : 17465441-2253494
ICRS Star Coord at Epoch: 17h 46m 54.41296s -22:53:49.71581s
RUWE (>1.4 is poor) : 0.85
K magnitude          : 8.332
G magnitude          : 14.372
RP magnitude         : 12.851
BP magnitude         : 17.382
DUPflag             : 0
Distance (au)       : 4.397
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -12.26
Sun-Target sep (deg) : 149.11
Sun-Moon sep (deg)   : 106.78
B (ring opening deg) : -2.60
PA of pole (deg)     : 0.57
Pole direction: RA (deg): 268.05694
Dec (deg): 64.49651
C/A sky separation (") : 22.031
C/A sky separation (km) : 70255.4
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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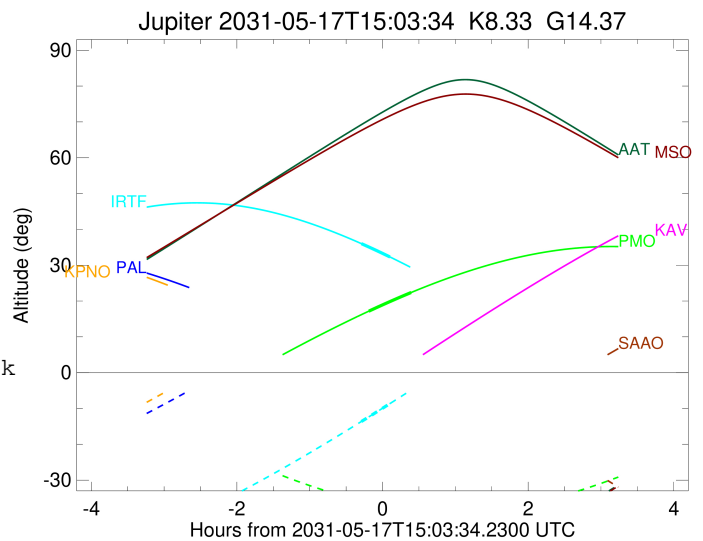
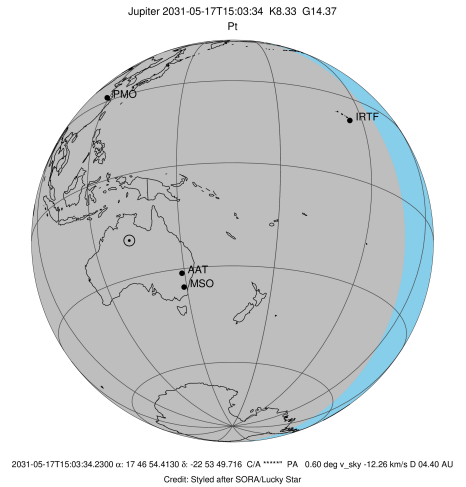


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-05-17T14:52:13.132	17.15	-36.14	71483.0	-79.55	-80.76
Jupiter	E	2031-05-17T15:27:13.665	22.38	-38.09	71483.1	-78.60	-79.92

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-05-17T14:57:56.300
Event type          : Pt
                    : Jupiter occs: topocentric, not geocentric
                    : 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      : 4068842529258966656
2Mass ID (if available) : 17465441-2253494
ICRS Star Coord at Epoch: 17h 46m 54.41296s -22:53:49.71581s
RUWE (>1.4 is poor) : 0.85
K magnitude          : 8.332
G magnitude          : 14.372
RP magnitude         : 12.851
BP magnitude         : 17.382
DUPflag             : 0
Distance (au)       : 4.397
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -12.26
Sun-Target sep (deg) : 149.11
Sun-Moon sep (deg)  : 107.32
B (ring opening deg) : -2.60
PA of pole (deg)    : 0.57
Pole direction: RA (deg): 268.05694
Dec (deg): 64.49651
C/A sky separation ("): 22.240
C/A sky separation (km): 70920.9
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
    
```



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	2031-05-17T14:46:08.920	36.02	-13.64	71482.9	-81.92	-82.87
Jupiter	E	2031-05-17T15:09:44.333	32.29	-8.62	71482.8	-82.82	-83.66