

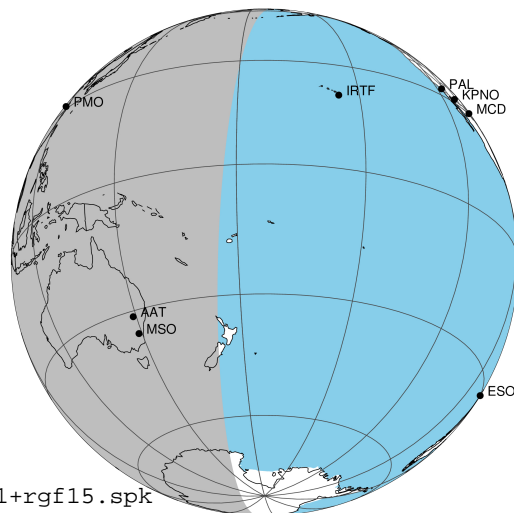
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-03-06T18:22:27.060
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116882077718819712
 2Mass ID (if available) : 17432593-2250526

Jupiter 2031-03-06T18:22:27 K9.10 G14.90 Pgt

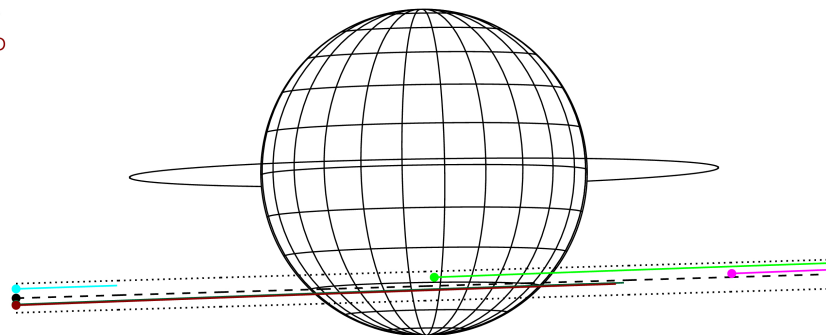
ICRS Star Coord at Epoch: 17h 43m 25.93070s -22:50:52.95071s

RUWE (>1.4 is poor) : 1.02
 K magnitude : 9.104
 G magnitude : 14.900
 RP magnitude : 13.483
 BP magnitude : 17.489
 DUPflag : 0
 Distance (au) : 5.407
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 18.63
 Sun-Target sep (deg) : 79.36
 Sun-Moon sep (deg) : 129.06
 B (ring opening deg) : -2.64
 PA of pole (deg) : 0.95
 Pole direction: RA (deg): 268.05701
 Dec (deg): 64.49651
 C/A sky separation (") : 12.693
 C/A sky separation (km) : 49771.3
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2031-03-06T18:22:27 K9.10 G14.90
 Pgt



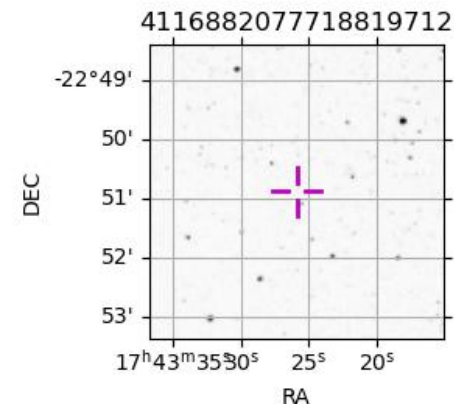
Earth
 PMO
 IRTF
 KAV
 AAT
 MSO



2031-03-06T18:22:27.0600 α: 17 43 25.9307 δ: -22 50 52.951 C/A ***** PA 1.69 deg v_sky +18.63 km/s D 05.41 AU
 Credit: Styled after SORA/Lucky Star

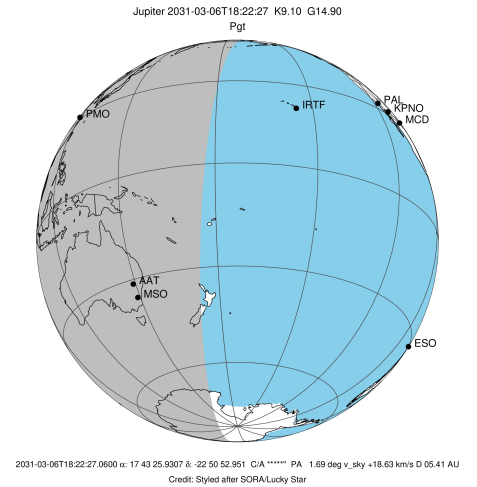
Observable events with sun below -5 deg and altitude above 5 deg

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	+	MAR 06 19:07 - MAR 06 19:07	Pne
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	+ +	MAR 06 17:34 - MAR 06 19:05	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	MAR 06 17:35 - MAR 06 19:04	Pie

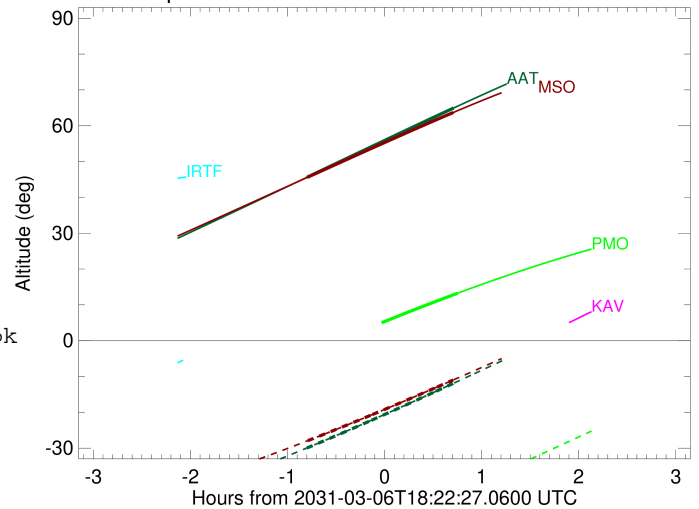


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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-03-06T18:18:10.750
Event type          : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code       : PMO
Location            : Purple Mtn Obs. Nanking
Latitude (deg)      : 32.06667
E. Longitude (deg)  : 118.82089
Altitude (km)       : 0.364
Gaia source ID      : 4116882077718819712
2Mass ID (if available) : 17432593-2250526
ICRS Star Coord at Epoch: 17h 43m 25.93070s -22:50:52.95071s
RUWE (>1.4 is poor) : 1.02
K magnitude         : 9.104
G magnitude         : 14.900
RP magnitude        : 13.483
BP magnitude        : 17.489
DUPflag            : 0
Distance (au)       : 5.407
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 18.63
Sun-Target sep (deg) : 79.36
Sun-Moon sep (deg)  : 129.55
B (ring opening deg) : -2.64
PA of pole (deg)    : 0.95
Pole direction: RA (deg): 268.05701
Dec (deg): 64.49651
C/A sky separation (") : 11.741
C/A sky separation (km) : 46038.8
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
    
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Jupiter 2031-03-06T18:22:27 K9.10 G14.90

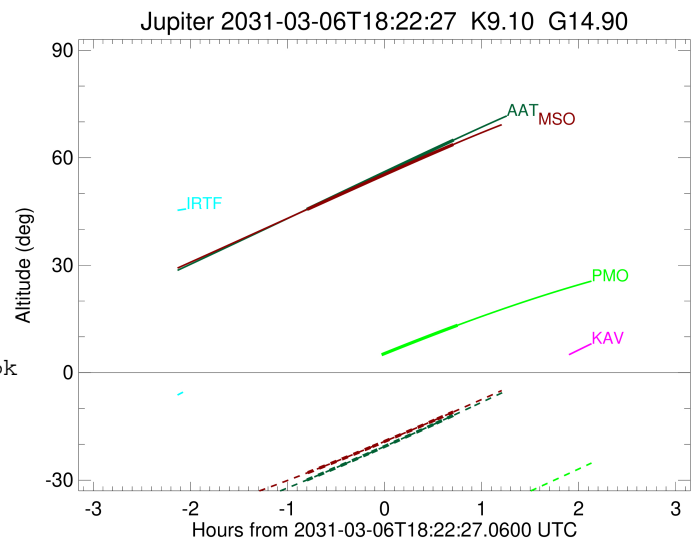
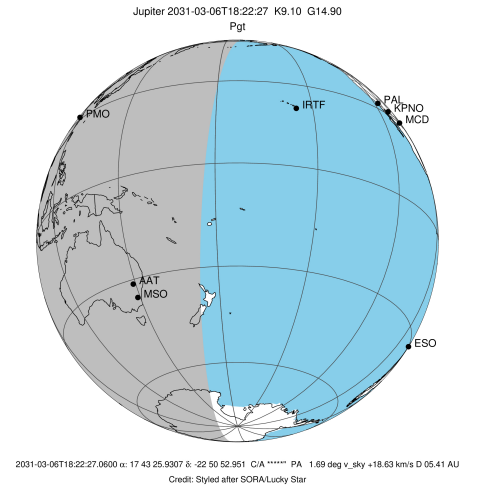


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-03-06T17:29:01.335	-4.75x	-58.59	71487.8	-41.24	-44.96
Jupiter	E	2031-03-06T19:07:35.347	13.24	-42.04	71488.2	-38.87	-42.56

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-03-06T18:19:44.020
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       : 4116882077718819712
2Mass ID (if available) : 17432593-2250526
ICRS Star Coord at Epoch: 17h 43m 25.93070s -22:50:52.95071s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 9.104
G magnitude           : 14.900
RP magnitude         : 13.483
BP magnitude         : 17.489
DUPflag              : 0
Distance (au)        : 5.407
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 18.63
Sun-Target sep (deg) : 79.36
Sun-Moon sep (deg)   : 129.96
B (ring opening deg) : -2.64
PA of pole (deg)     : 0.95
Pole direction: RA (deg): 268.05701
Dec (deg): 64.49651
C/A sky separation (") : 13.063
C/A sky separation (km) : 51224.0
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
    
```

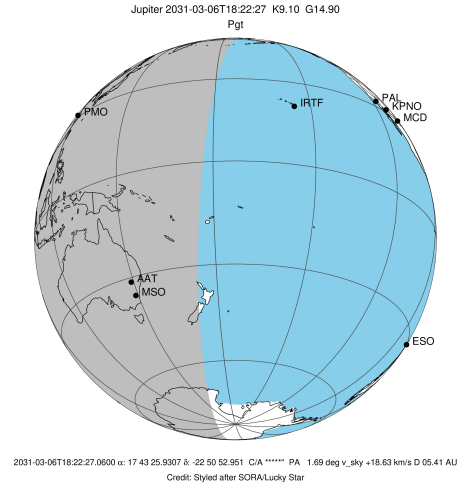


x: target alt < 5.0 deg or sun > -5.0 deg

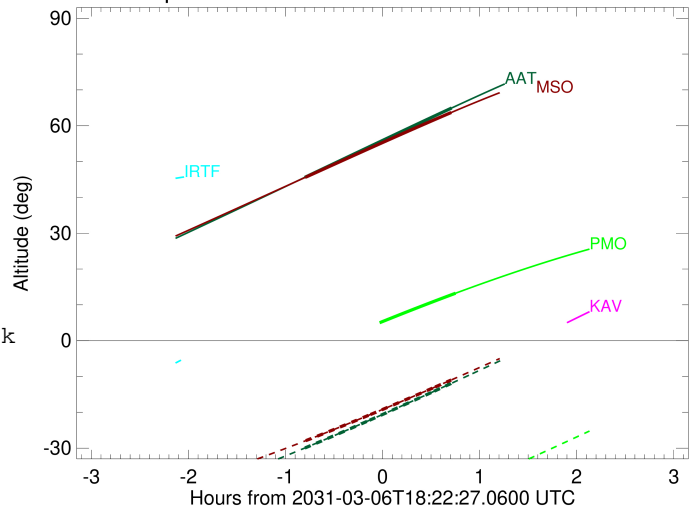
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-03-06T17:34:28.642	45.59	-29.96	71486.9	-46.80	-50.47
Jupiter	E	2031-03-06T19:05:08.896	64.93	-11.88	71487.3	-44.69	-48.39

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-03-06T18:19:52.090
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       : 4116882077718819712
2Mass ID (if available) : 17432593-2250526
ICRS Star Coord at Epoch: 17h 43m 25.93070s -22:50:52.95071s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 9.104
G magnitude           : 14.900
RP magnitude          : 13.483
BP magnitude          : 17.489
DUPflag              : 0
Distance (au)        : 5.407
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 18.63
Sun-Target sep (deg) : 79.36
Sun-Moon sep (deg)   : 129.95
B (ring opening deg) : -2.64
PA of pole (deg)     : 0.95
Pole direction: RA (deg): 268.05701
Dec (deg): 64.49651
C/A sky separation (") : 13.169
C/A sky separation (km) : 51641.0
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 2031-03-06T18:22:27 K9.10 G14.90



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	2031-03-06T17:35:02.011	45.64	-27.91	71486.8	-47.26	-50.93
Jupiter	E	2031-03-06T19:04:51.158	63.67	-10.99	71487.2	-45.18	-48.88