

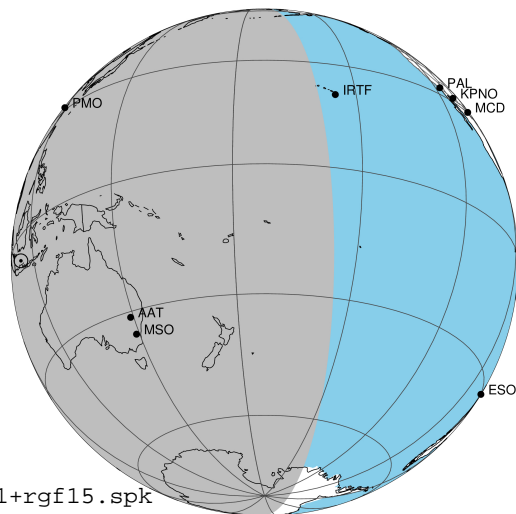
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2031-04-04T16:34:24.830
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4070200460505979008
 2Mass ID (if available) : 17525312-2253125

Jupiter 2031-04-04T16:34:24 K7.47 G12.76 Pgt

ICRS Star Coord at Epoch: 17h 52m 53.13420s -22:53:12.59224s

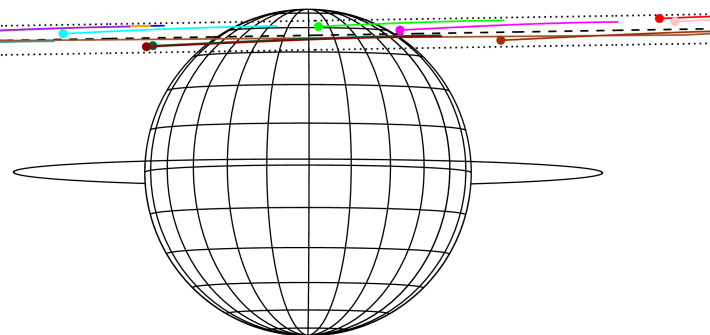
RUWE (>1.4 is poor) : 0.95
 K magnitude : 7.470
 G magnitude : 12.762
 RP magnitude : 11.459
 BP magnitude : 14.749
 DUPflag : 0
 Distance (au) : 4.942
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 5.00
 Sun-Target sep (deg) : 105.92
 Sun-Moon sep (deg) : 111.56
 B (ring opening deg) : -2.62
 PA of pole (deg) : -0.07
 Pole direction: RA (deg): 268.05698
 Dec (deg): 64.49651
 C/A sky separation (") : 16.753
 C/A sky separation (km) : 60050.6
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2031-04-04T16:34:24 K7.47 G12.76
 Pgt



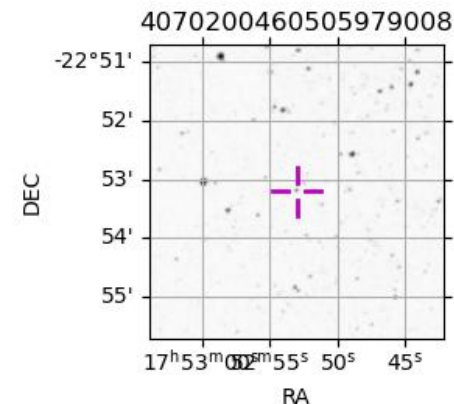
2031-04-04T16:34:24.83000 α: 17 52 53.13420 δ: -22 53 12.59224 C/A ***** PA 180.94 deg v_sky + 5.00 km/s D 04.94 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PIC
 PAL
 PMO
 KPNO
 MCD
 TEN
 IRTF
 KAV
 RIO
 ESO
 AAT
 SAAO
 MSO



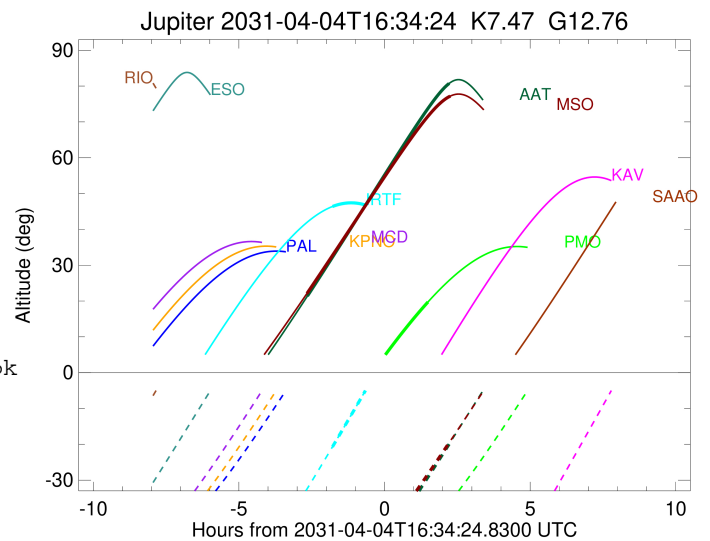
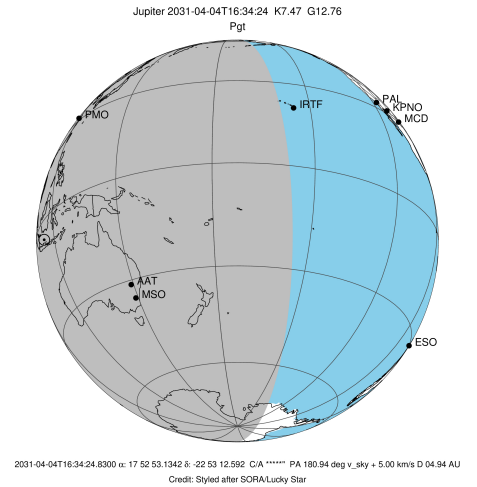
Observable events with sun below -5 deg and altitude above 5 deg

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	+	APR 04 18:03 - APR 04 18:03	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	+	APR 04 14:47 - APR 04 14:47	Pin
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	+ +	APR 04 13:55 - APR 04 18:47	Pie
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0	+ +	APR 04 13:54 - APR 04 18:49	Pie



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2031-04-04T16:10:25.260
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      : 4070200460505979008
2Mass ID (if available) : 17525312-2253125
ICRS Star Coord at Epoch: 17h 52m 53.13420s -22:53:12.59224s
RUWE (>1.4 is poor) : 0.95
K magnitude          : 7.470
G magnitude          : 12.762
RP magnitude         : 11.459
BP magnitude         : 14.749
DUPflag             : 0
Distance (au)       : 4.942
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 5.00
Sun-Target sep (deg) : 105.92
Sun-Moon sep (deg)  : 111.89
B (ring opening deg) : -2.62
PA of pole (deg)    : -0.07
Pole direction: RA (deg): 268.05698
Dec (deg): 64.49651
C/A sky separation (") : 17.764
C/A sky separation (km) : 63676.6
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
    
```

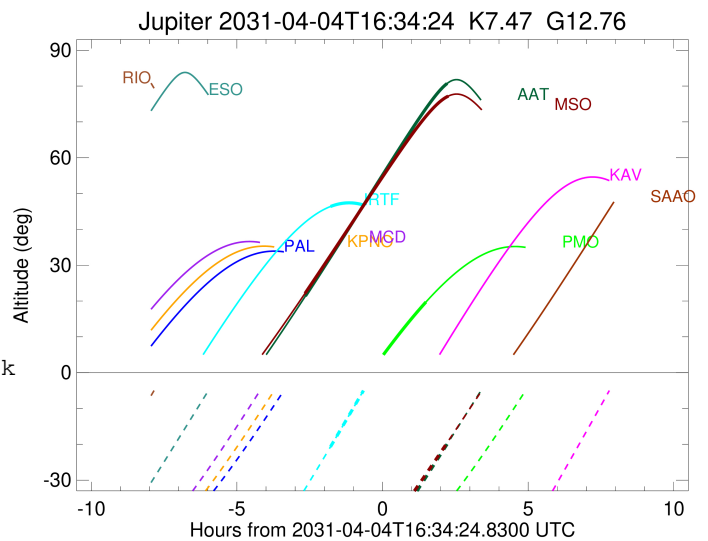
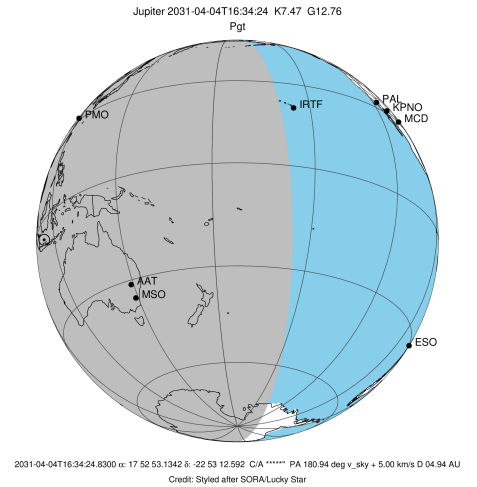


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-04-04T14:22:26.266	-21.23x	-44.76	71485.0	60.12	63.17
Jupiter	E	2031-04-04T18:03:51.909	19.71	-43.22	71484.3	65.45	68.09

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-04-04T16:43:19.120
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: 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        : 4070200460505979008
2Mass ID (if available) : 17525312-2253125
ICRS Star Coord at Epoch: 17h 52m 53.13420s -22:53:12.59224s
RUWE (>1.4 is poor) : 0.95
K magnitude           : 7.470
G magnitude           : 12.762
RP magnitude          : 11.459
BP magnitude          : 14.749
DUPflag              : 0
Distance (au)         : 4.942
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 5.00
Sun-Target sep (deg)  : 105.92
Sun-Moon sep (deg)   : 112.05
B (ring opening deg) : -2.62
PA of pole (deg)     : -0.07
Pole direction: RA (deg): 268.05698
Dec (deg): 64.49651
C/A sky separation (") : 17.929
C/A sky separation (km) : 64264.6
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
    
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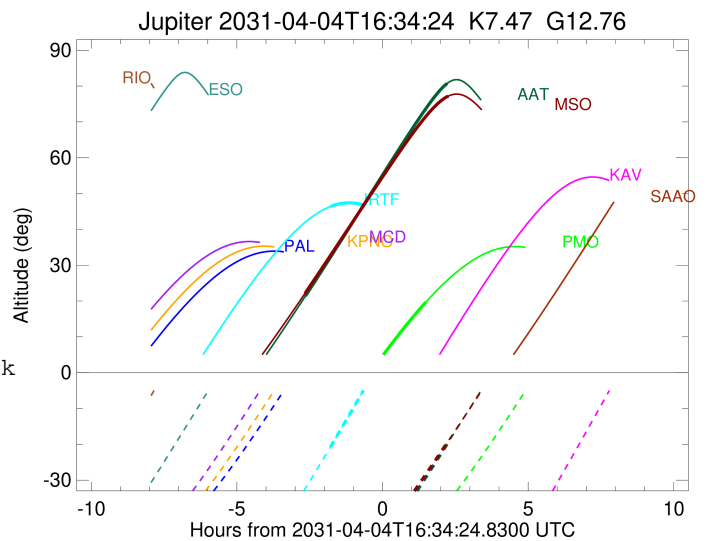
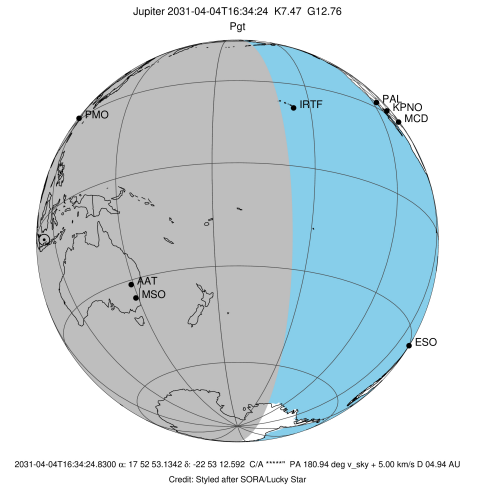


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-04-04T14:47:13.354	46.38	-20.69	71484.6	63.01	65.85
Jupiter	E	2031-04-04T18:38:18.674	26.48	33.32x	71484.5	63.80	66.58

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-04-04T16:17:43.530
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       : 4070200460505979008
2Mass ID (if available) : 17525312-2253125
ICRS Star Coord at Epoch: 17h 52m 53.13420s -22:53:12.59224s
RUWE (>1.4 is poor) : 0.95
K magnitude           : 7.470
G magnitude           : 12.762
RP magnitude          : 11.459
BP magnitude          : 14.749
DUPflag              : 0
Distance (au)        : 4.942
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 5.00
Sun-Target sep (deg) : 105.92
Sun-Moon sep (deg)  : 112.47
B (ring opening deg) : -2.62
PA of pole (deg)    : -0.07
Pole direction: RA (deg): 268.05698
Dec (deg): 64.49651
C/A sky separation ("): 16.335
C/A sky separation (km): 58552.1
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
    
```

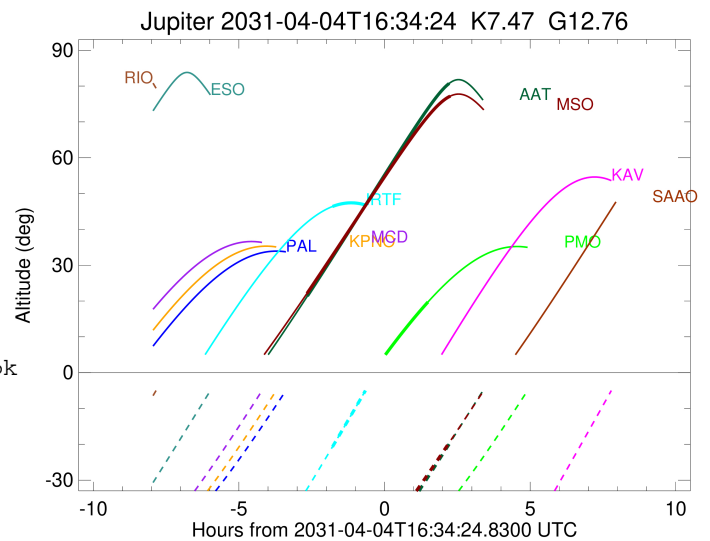
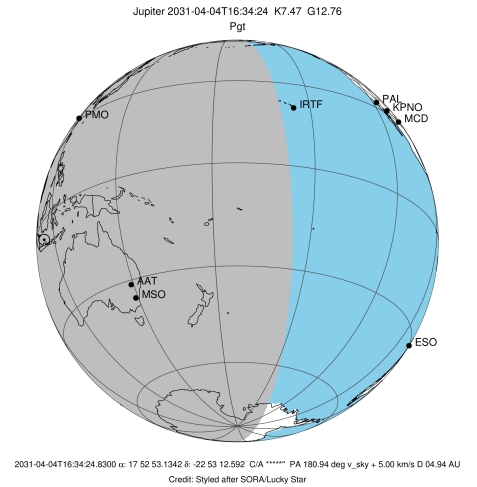


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2031-04-04T13:55:22.028	21.33	-64.51	71486.2	52.31	55.81
Jupiter	E	2031-04-04T18:47:32.335	80.72	-19.93	71485.5	56.72	59.99

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2031-04-04T16:18:35.270
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       : 4070200460505979008
2Mass ID (if available) : 17525312-2253125
ICRS Star Coord at Epoch: 17h 52m 53.13420s -22:53:12.59224s
RUWE (>1.4 is poor) : 0.95
K magnitude           : 7.470
G magnitude           : 12.762
RP magnitude          : 11.459
BP magnitude          : 14.749
DUPflag              : 0
Distance (au)        : 4.942
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 5.00
Sun-Target sep (deg) : 105.92
Sun-Moon sep (deg)   : 112.45
B (ring opening deg) : -2.62
PA of pole (deg)     : -0.07
Pole direction: RA (deg): 268.05698
Dec (deg): 64.49651
C/A sky separation (") : 16.220
C/A sky separation (km) : 58140.7
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	2031-04-04T13:54:31.724	22.08	-60.48	71486.2	51.82	55.33
Jupiter	E	2031-04-04T18:49:56.411	77.19	-19.07	71485.6	56.10	59.41