

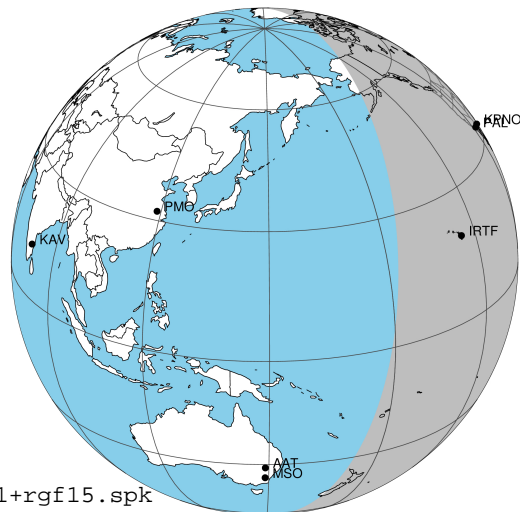
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2049-04-18T06:03:24.620
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3403595113444866944
 2Mass ID (if available) : 05431312+2316514

Jupiter 2049-04-18T06:03:24 K9.68 G10.86 Pgt

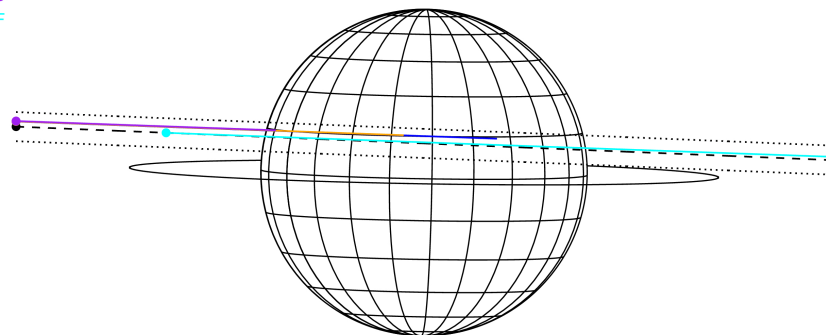
ICRS Star Coord at Epoch: 05h 43m 13.09321s +23:16:51.60839s

RUWE (>1.4 is poor) : 0.91
 K magnitude : 9.681
 G magnitude : 10.861
 RP magnitude : 10.438
 BP magnitude : 11.120
 DUPflag : 0
 Distance (au) : 5.607
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 28.33
 Sun-Target sep (deg) : 58.18
 Sun-Moon sep (deg) : 124.38
 B (ring opening deg) : 2.20
 PA of pole (deg) : -0.97
 Pole direction: RA (deg): 268.05743
 Dec (deg): 64.49719
 C/A sky separation (") : 3.132
 C/A sky separation (km) : 12734.6
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2049-04-18T06:03:24 K9.68 G10.86
 Pgt



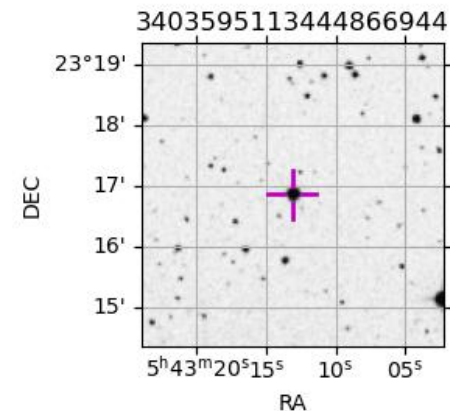
Earth
 PAL
 KPNO
 MCD
 IRTF



2049-04-18T06:03:24.6200 cc: 05 43 13.0932 s: +23 16 51.608 C/A 3.140" PA 177.65 deg v_sky +28.33 km/s D 05.61 AU
 Credit: Styled after SORA/Lucky Star

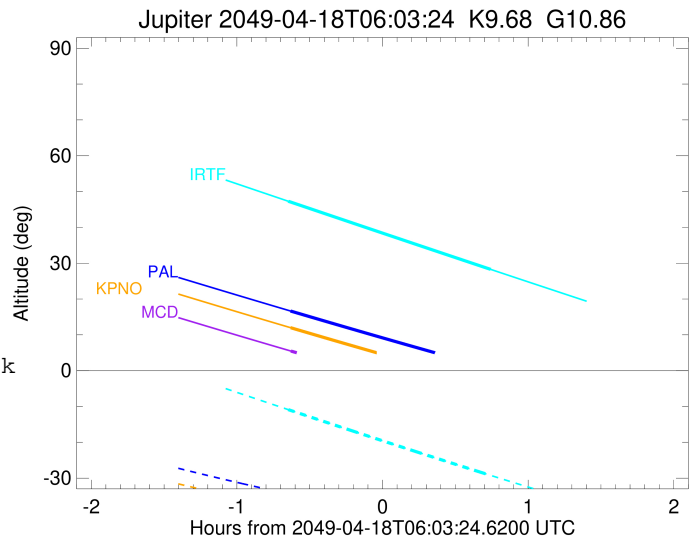
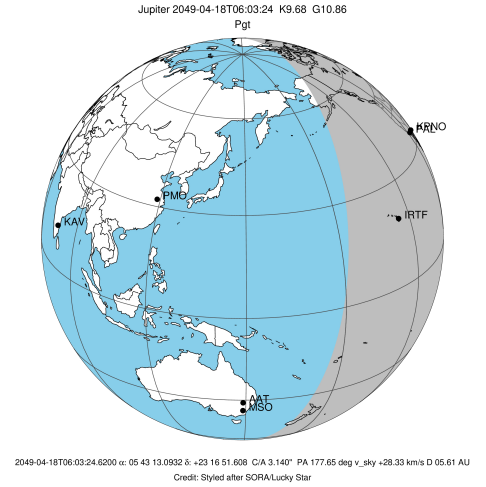
Observable events with sun below -5 deg and altitude above 5 deg

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	+	APR 18 05:25 - APR 18 05:25	Pin
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	APR 18 05:25 - APR 18 05:25	Pin
MCD	McDonald Obs. 2.7m	30.7	256.0	+	APR 18 05:25 - APR 18 05:25	Pin
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+ +	APR 18 05:24 - APR 18 06:47	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



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2049-04-18T06:06:33.300
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       : 3403595113444866944
2Mass ID (if available) : 05431312+2316514
ICRS Star Coord at Epoch: 05h 43m 13.09321s +23:16:51.60839s
RUWE (>1.4 is poor) : 0.91
K magnitude           : 9.681
G magnitude           : 10.861
RP magnitude          : 10.438
BP magnitude          : 11.120
DUPflag              : 0
Distance (au)        : 5.607
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 28.33
Sun-Target sep (deg) : 58.18
Sun-Moon sep (deg)   : 124.96
B (ring opening deg) : 2.20
PA of pole (deg)     : -0.97
Pole direction: RA (deg): 268.05743
Dec (deg): 64.49719
C/A sky separation ("): 3.918
C/A sky separation (km): 15931.8
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
    
```

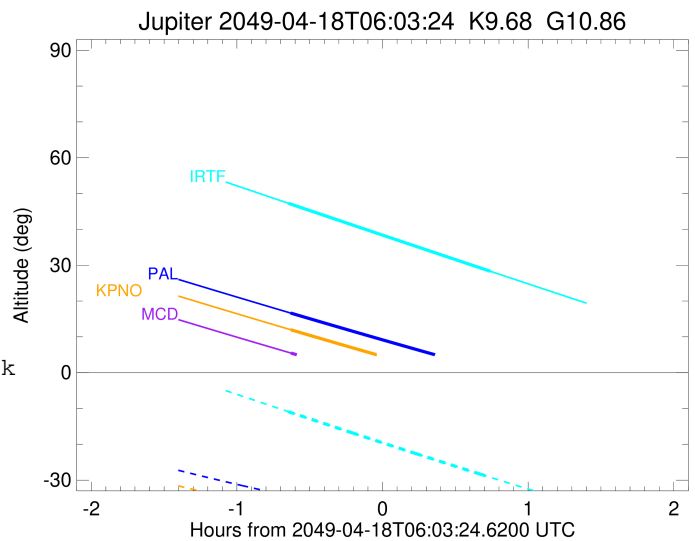
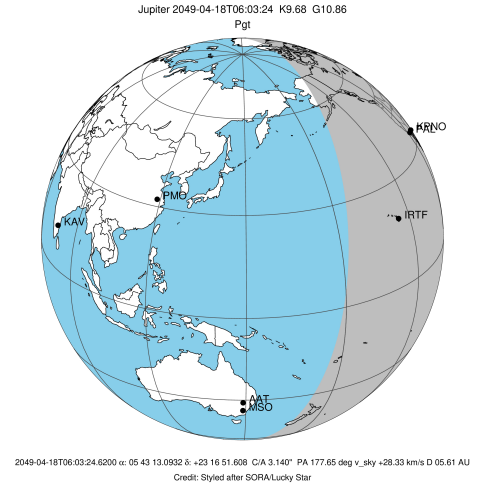


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-04-18T05:25:31.991	16.65	-34.51	71491.6	13.94	15.83
Jupiter	E	2049-04-18T06:47:27.592	0.78x	-43.62	71491.7	11.80	13.43

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2049-04-18T06:06:33.950
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       : 3403595113444866944
2Mass ID (if available) : 05431312+2316514
ICRS Star Coord at Epoch: 05h 43m 13.09321s +23:16:51.60839s
RUWE (>1.4 is poor) : 0.91
K magnitude           : 9.681
G magnitude           : 10.861
RP magnitude         : 10.438
BP magnitude         : 11.120
DUPflag              : 0
Distance (au)        : 5.607
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 28.33
Sun-Target sep (deg) : 58.18
Sun-Moon sep (deg)   : 124.90
B (ring opening deg) : 2.20
PA of pole (deg)     : -0.97
Pole direction: RA (deg): 268.05743
Dec (deg): 64.49719
C/A sky separation ("): 3.937
C/A sky separation (km): 16009.9
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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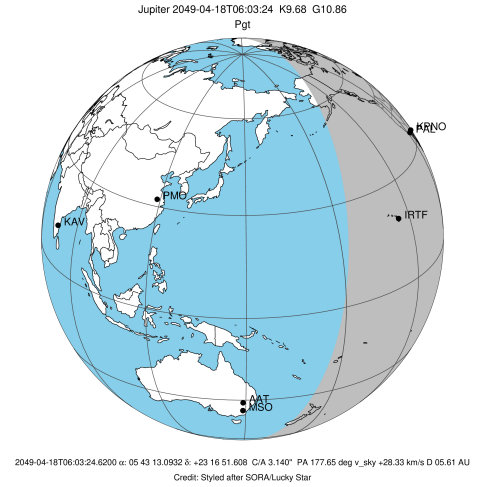


x: target alt < 5.0 deg or sun > -5.0 deg

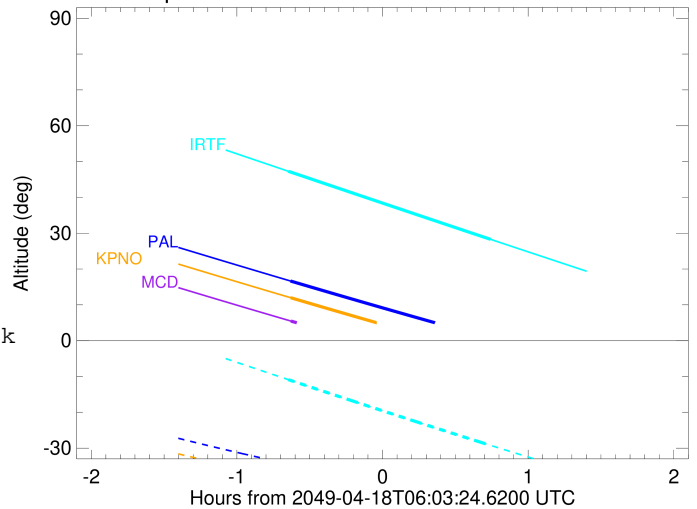
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-04-18T05:25:36.387	11.98	-38.48	71491.6	14.00	15.90
Jupiter	E	2049-04-18T06:47:24.495	-3.77x	-46.24	71491.7	11.86	13.50

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2049-04-18T06:06:30.510
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       : 3403595113444866944
2Mass ID (if available) : 05431312+2316514
ICRS Star Coord at Epoch: 05h 43m 13.09321s +23:16:51.60839s
RUWE (>1.4 is poor) : 0.91
K magnitude           : 9.681
G magnitude           : 10.861
RP magnitude         : 10.438
BP magnitude         : 11.120
DUPflag              : 0
Distance (au)        : 5.607
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 28.33
Sun-Target sep (deg) : 58.18
Sun-Moon sep (deg)   : 124.80
B (ring opening deg) : 2.20
PA of pole (deg)     : -0.97
Pole direction: RA (deg): 268.05743
Dec (deg): 64.49719
C/A sky separation (") : 3.980
C/A sky separation (km) : 16184.3
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
    
```



Jupiter 2049-04-18T06:03:24 K9.68 G10.86

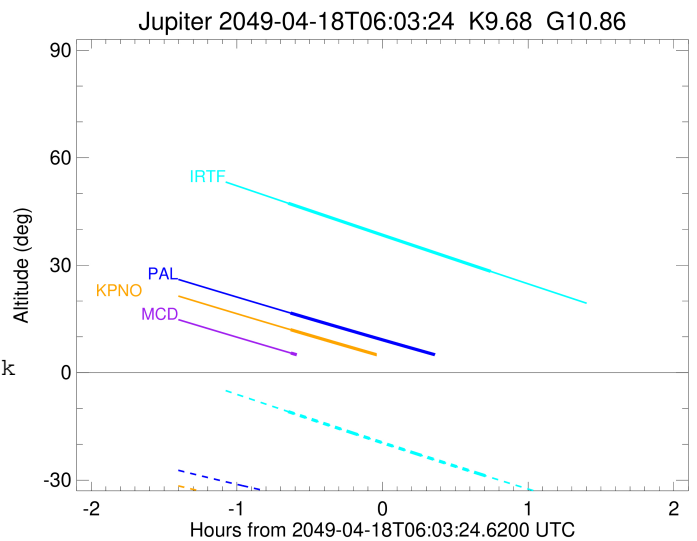
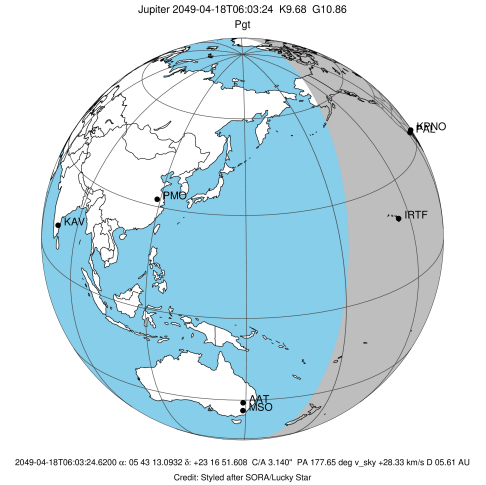


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-04-18T05:25:38.895	5.48	-43.26	71491.6	14.14	16.06
Jupiter	E	2049-04-18T06:47:15.271	-9.90x	-48.45	71491.7	12.00	13.66

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2049-04-18T06:06:19.670
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       : 3403595113444866944
2Mass ID (if available) : 05431312+2316514
ICRS Star Coord at Epoch: 05h 43m 13.09321s +23:16:51.60839s
RUWE (>1.4 is poor) : 0.91
K magnitude          : 9.681
G magnitude           : 10.861
RP magnitude         : 10.438
BP magnitude         : 11.120
DUPflag              : 0
Distance (au)        : 5.607
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 28.33
Sun-Target sep (deg) : 58.18
Sun-Moon sep (deg)   : 125.31
B (ring opening deg) : 2.20
PA of pole (deg)     : -0.97
Pole direction: RA (deg): 268.05743
Dec (deg): 64.49719
C/A sky separation (") : 3.250
C/A sky separation (km) : 13215.8
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
    
```



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	2049-04-18T05:24:34.369	47.29	-10.87	71491.7	11.77	13.40
Jupiter	E	2049-04-18T06:47:58.046	28.27	-29.23	71491.8	9.56	10.90