

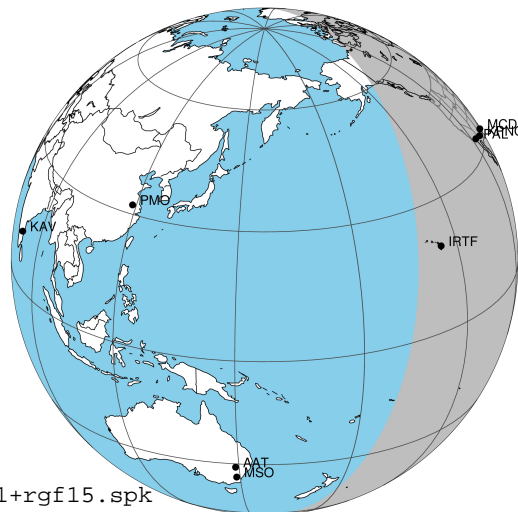
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2049-04-25T05:09:38.140
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3427567902904988160
 2Mass ID (if available) : 05482741+2319373

Jupiter 2049-04-25T05:09:38 K8.40 G13.08 Pgt

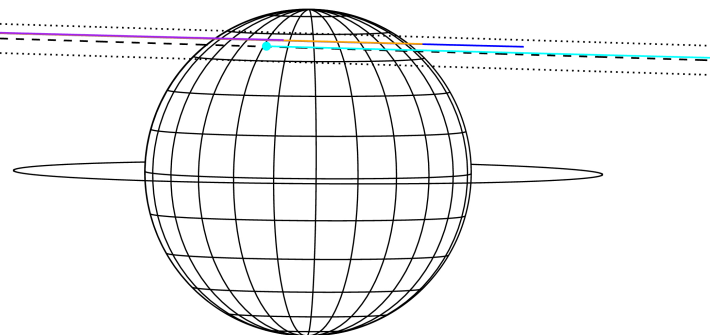
ICRS Star Coord at Epoch: 05h 48m 27.42451s +23:19:37.22936s

RUWE (>1.4 is poor) : 1.03
 K magnitude : 8.396
 G magnitude : 13.082
 RP magnitude : 11.884
 BP magnitude : 14.658
 DUPflag : 0
 Distance (au) : 5.700
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 30.72
 Sun-Target sep (deg) : 52.60
 Sun-Moon sep (deg) : 138.04
 B (ring opening deg) : 2.17
 PA of pole (deg) : -0.41
 Pole direction: RA (deg): 268.05743
 Dec (deg): 64.49719
 C/A sky separation (") : 13.192
 C/A sky separation (km) : 54531.1
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2049-04-25T05:09:38 K8.40 G13.08
 Pgt



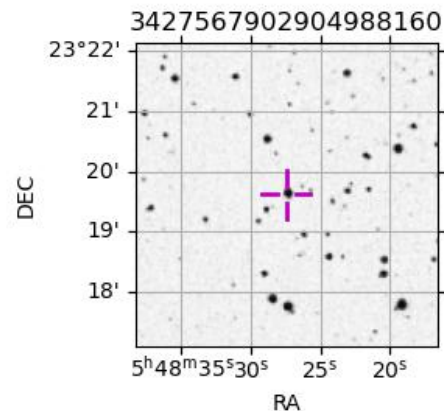
Earth
 PAL
 KPNO
 MCD
 IRTF



2049-04-25T05:09:38.1400 α: 05 48 27.4245 δ: +23 19 37.229 C/A ***** PA 178.24 deg v_sky +30.72 km/s D 05.70 AU
 Credit: Styled after SORA/Lucky Star

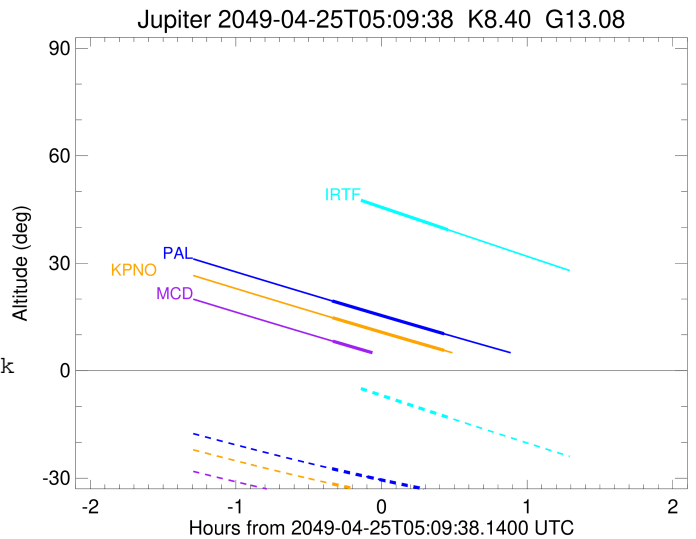
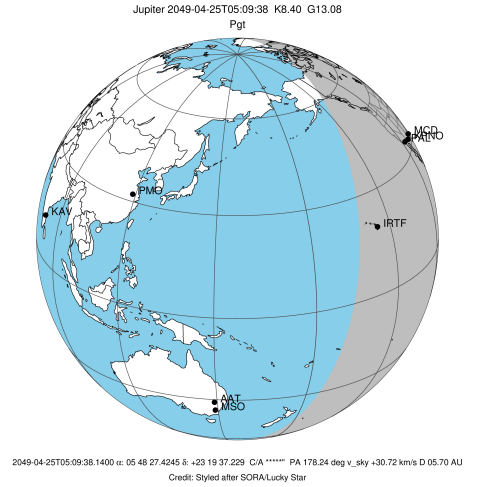
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	APR 25 04:49 - APR 25 05:35	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	APR 25 04:49 - APR 25 05:35	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+	APR 25 04:49 - APR 25 04:49	Pin
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+	APR 25 05:37 - APR 25 05:37	Pne
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             : 2049-04-25T05:12:24.700
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        : 3427567902904988160
2Mass ID (if available) : 05482741+2319373
ICRS Star Coord at Epoch: 05h 48m 27.42451s +23:19:37.22936s
RUWE (>1.4 is poor) : 1.03
K magnitude           : 8.396
G magnitude           : 13.082
RP magnitude          : 11.884
BP magnitude          : 14.658
DUPflag              : 0
Distance (au)         : 5.700
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 30.72
Sun-Target sep (deg) : 52.60
Sun-Moon sep (deg)   : 137.64
B (ring opening deg) : 2.17
PA of pole (deg)     : -0.41
Pole direction: RA (deg): 268.05743
Dec (deg): 64.49719
C/A sky separation ("): 13.907
C/A sky separation (km): 57489.5
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
    
```

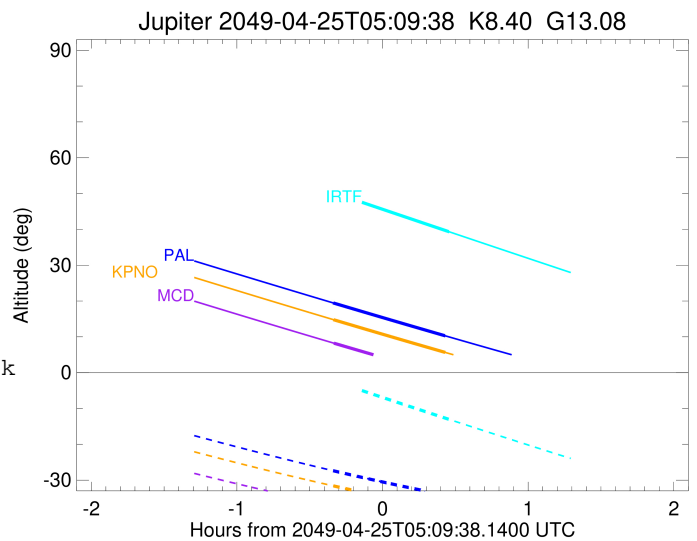
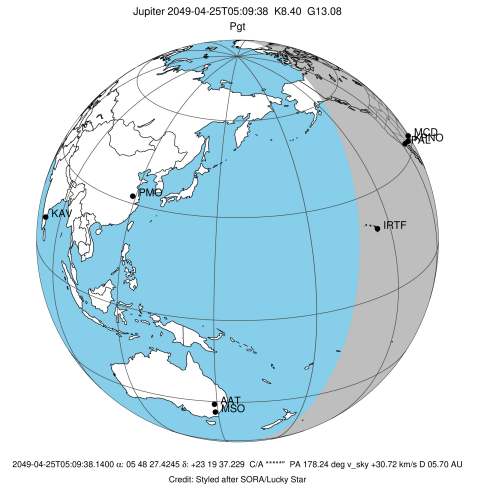


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-04-25T04:49:19.703	19.46	-27.38	71487.7	54.55	57.94
Jupiter	E	2049-04-25T05:35:27.698	10.29	-34.12	71487.9	52.41	55.90

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2049-04-25T05:12:27.360
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      : 3427567902904988160
2Mass ID (if available) : 05482741+2319373
ICRS Star Coord at Epoch: 05h 48m 27.42451s +23:19:37.22936s
RUWE (>1.4 is poor) : 1.03
K magnitude          : 8.396
G magnitude          : 13.082
RP magnitude         : 11.884
BP magnitude         : 14.658
DUPflag             : 0
Distance (au)       : 5.700
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 30.72
Sun-Target sep (deg) : 52.60
Sun-Moon sep (deg)  : 137.58
B (ring opening deg) : 2.17
PA of pole (deg)    : -0.41
Pole direction: RA (deg): 268.05743
Dec (deg): 64.49719
C/A sky separation (") : 13.925
C/A sky separation (km) : 57563.9
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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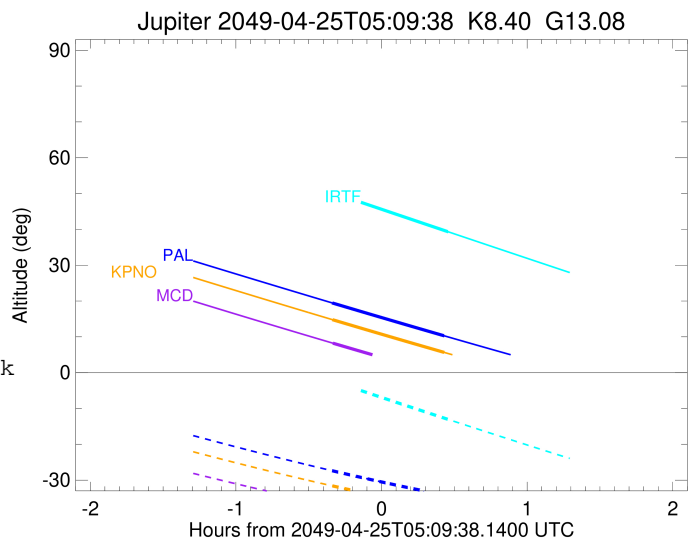
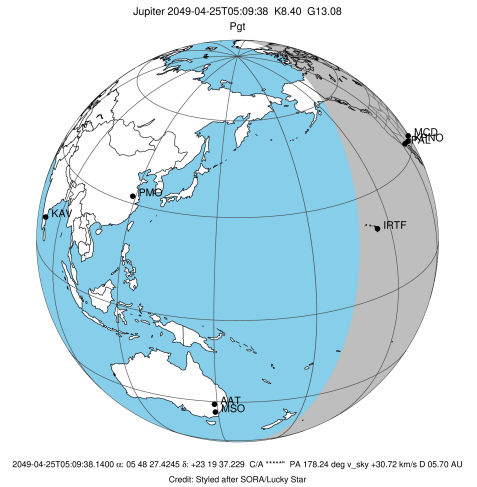


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-04-25T04:49:27.214	14.79	-31.61	71487.7	54.64	58.03
Jupiter	E	2049-04-25T05:35:25.493	5.67	-37.88	71487.9	52.52	56.01

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2049-04-25T05:12:27.320
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      : 3427567902904988160
2Mass ID (if available) : 05482741+2319373
ICRS Star Coord at Epoch: 05h 48m 27.42451s +23:19:37.22936s
RUWE (>1.4 is poor) : 1.03
K magnitude          : 8.396
G magnitude          : 13.082
RP magnitude         : 11.884
BP magnitude         : 14.658
DUPflag             : 0
Distance (au)       : 5.700
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 30.72
Sun-Target sep (deg) : 52.60
Sun-Moon sep (deg)  : 137.51
B (ring opening deg) : 2.17
PA of pole (deg)    : -0.41
Pole direction: RA (deg): 268.05743
Dec (deg): 64.49719
C/A sky separation (") : 13.968
C/A sky separation (km) : 57738.7
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
    
```

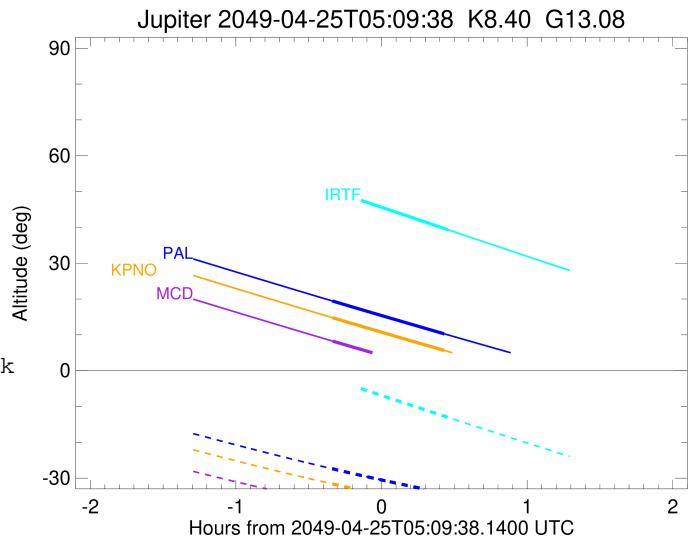
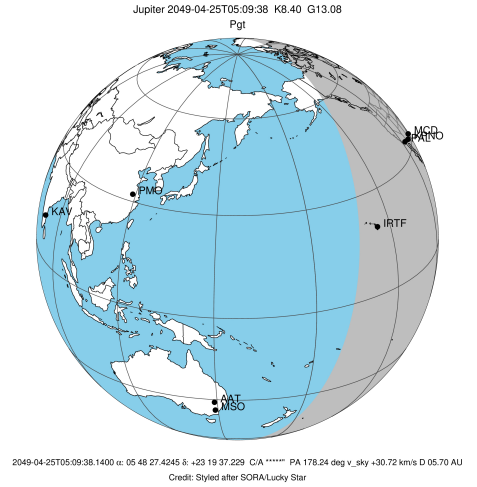


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-04-25T04:49:37.226	8.23	-36.95	71487.7	54.87	58.25
Jupiter	E	2049-04-25T05:35:15.419	-0.70x	-42.25	71487.9	52.75	56.23

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2049-04-25T05:11:57.330
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        : 3427567902904988160
2Mass ID (if available) : 05482741+2319373
ICRS Star Coord at Epoch: 05h 48m 27.42451s +23:19:37.22936s
RUWE (>1.4 is poor) : 1.03
K magnitude           : 8.396
G magnitude           : 13.082
RP magnitude          : 11.884
BP magnitude          : 14.658
DUPflag              : 0
Distance (au)         : 5.700
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 30.72
Sun-Target sep (deg)  : 52.60
Sun-Moon sep (deg)    : 138.01
B (ring opening deg) : 2.17
PA of pole (deg)      : -0.41
Pole direction: RA (deg): 268.05743
Dec (deg): 64.49719
C/A sky separation (") : 13.259
C/A sky separation (km) : 54810.6
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	2049-04-25T04:46:48.479	50.85	-1.74x	71488.1	51.15	54.69
Jupiter	E	2049-04-25T05:37:04.108	39.33	-13.04	71488.3	48.90	52.52