

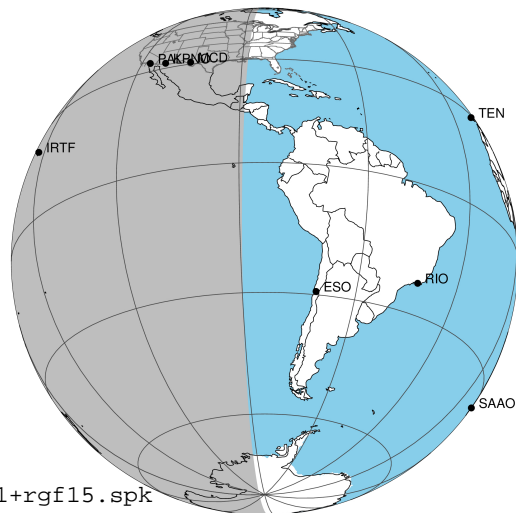
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-03-17T12:04:54.670
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4069585799084025344
 2Mass ID (if available) : 18053052-2259106

Jupiter 2043-03-17T12:04:54 K9.82 G13.65 Pgt

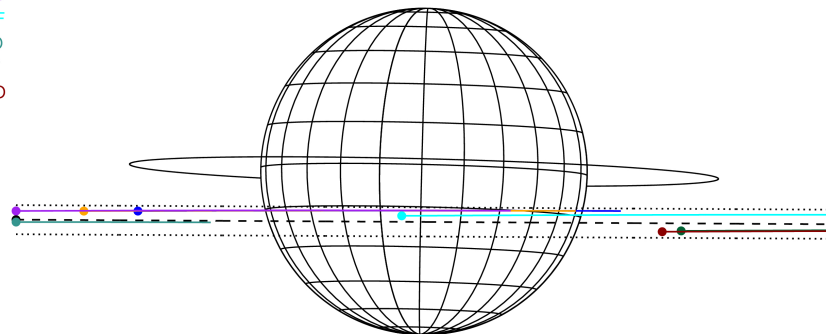
ICRS Star Coord at Epoch: 18h 05m 30.51885s -22:59:10.61935s

RUWE (>1.4 is poor) : 1.06
 K magnitude : 9.816
 G magnitude : 13.655
 RP magnitude : 12.632
 BP magnitude : 14.733
 DUPflag : 0
 Distance (au) : 5.293
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 15.80
 Sun-Target sep (deg) : 84.93
 Sun-Moon sep (deg) : 166.77
 B (ring opening deg) : -2.48
 PA of pole (deg) : -1.43
 Pole direction: RA (deg): 268.05663
 Dec (deg): 64.49732
 C/A sky separation (") : 5.757
 C/A sky separation (km) : 22101.6
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-03-17T12:04:54 K9.82 G13.65
 Pgt



Earth
 PAL
 KPNO
 MCD
 IRTF
 ESO
 AAT
 MSO

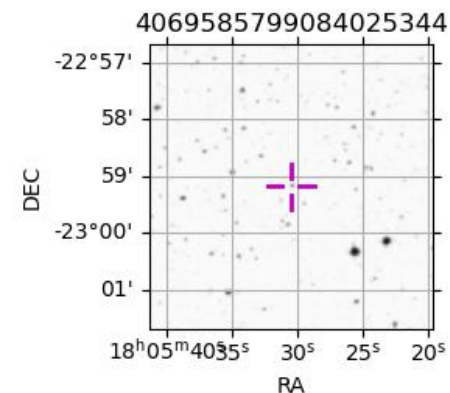


2043-03-17T12:04:54.6700 ra: 18 05 30.51885 s: -22 59 10.61932 C/A 5.7568 PA 359.68 deg v_sky +15.80 km/s D 05.29 AU

Credit: Styled after SORA/Lucky Star

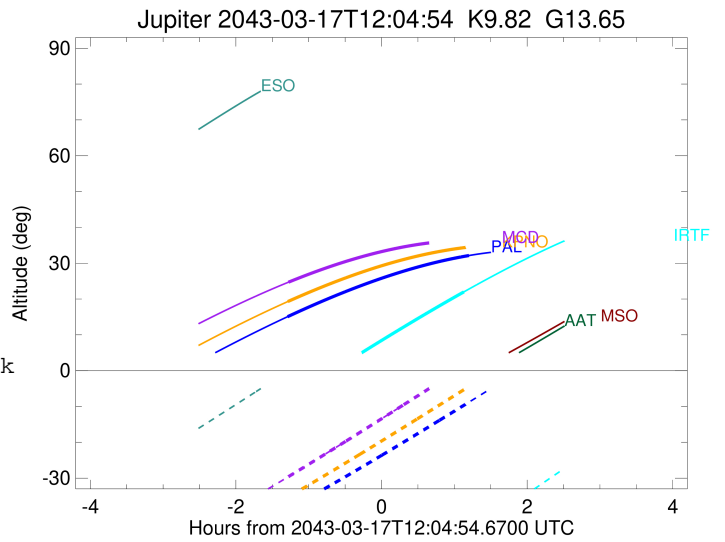
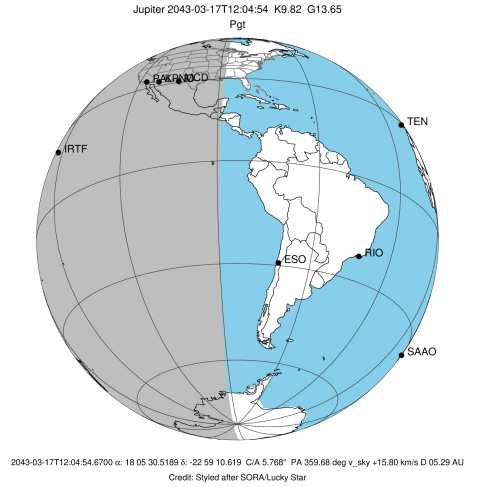
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	MAR 17 10:47 - MAR 17 13:16	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+	MAR 17 10:47 - MAR 17 10:47	Pin
MCD	McDonald Obs. 2.7m	30.7	256.0	+	MAR 17 10:48 - MAR 17 10:48	Pin
TEN	Teide Obs./Tenerife	28.3	343.5			Pnn
IRTF	Mauna Kea/IRTF	19.8	204.5	+	MAR 17 13:12 - MAR 17 13:12	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



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-03-17T12:01:57.560
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        : 4069585799084025344
2Mass ID (if available) : 18053052-2259106
ICRS Star Coord at Epoch: 18h 05m 30.51885s -22:59:10.61935s
RUWE (>1.4 is poor) : 1.06
K magnitude           : 9.816
G magnitude           : 13.655
RP magnitude          : 12.632
BP magnitude          : 14.733
DUPflag              : 0
Distance (au)         : 5.293
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 15.80
Sun-Target sep (deg) : 84.93
Sun-Moon sep (deg)   : 166.76
B (ring opening deg) : -2.48
PA of pole (deg)     : -1.43
Pole direction: RA (deg): 268.05663
Dec (deg): 64.49732
C/A sky separation ("): 4.460
C/A sky separation (km): 17122.9
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
    
```

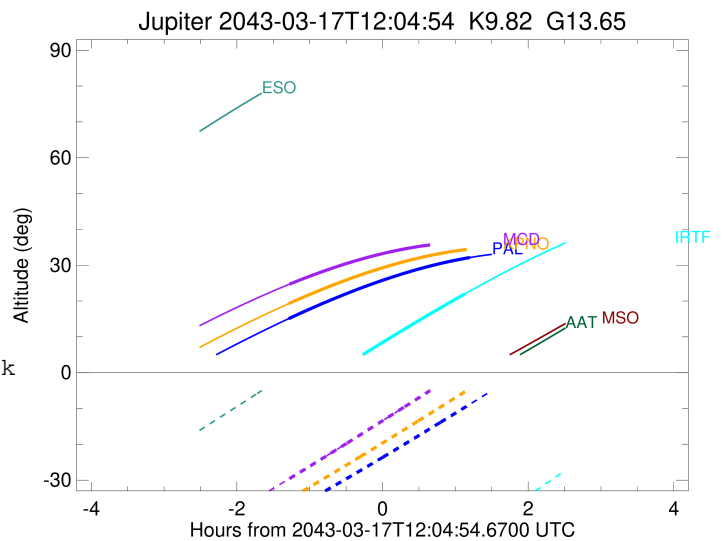
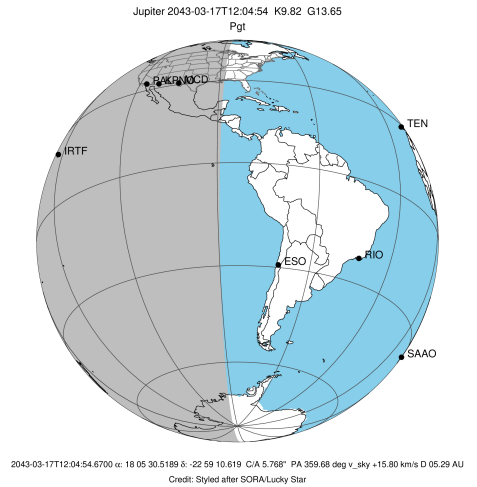


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-03-17T10:47:30.085	15.06	-38.68	71491.4	-15.32	-17.39
Jupiter	E	2043-03-17T13:16:52.526	32.13	-8.81	71491.6	-12.52	-14.24

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-03-17T12:02:21.440
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        : 4069585799084025344
2Mass ID (if available) : 18053052-2259106
ICRS Star Coord at Epoch: 18h 05m 30.51885s -22:59:10.61935s
RUWE (>1.4 is poor) : 1.06
K magnitude           : 9.816
G magnitude           : 13.655
RP magnitude          : 12.632
BP magnitude          : 14.733
DUPflag              : 0
Distance (au)         : 5.293
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 15.80
Sun-Target sep (deg)  : 84.93
Sun-Moon sep (deg)    : 166.83
B (ring opening deg) : -2.48
PA of pole (deg)      : -1.43
Pole direction: RA (deg): 268.05663
Dec (deg): 64.49732
C/A sky separation (") : 4.459
C/A sky separation (km) : 17117.8
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
    
```

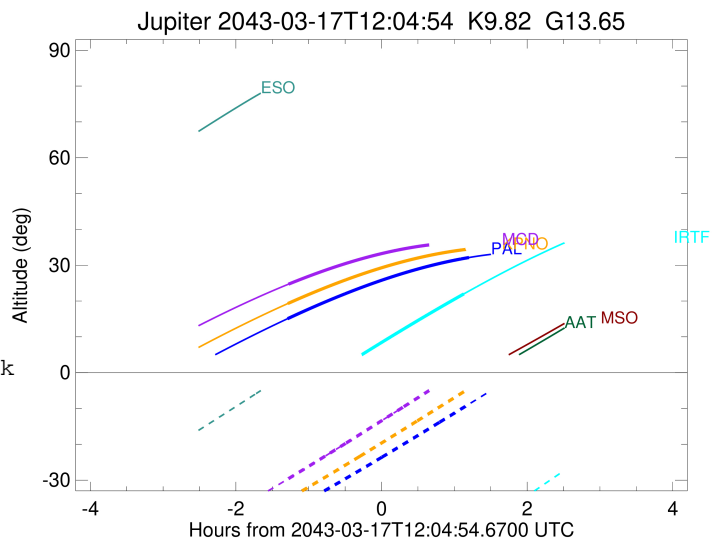
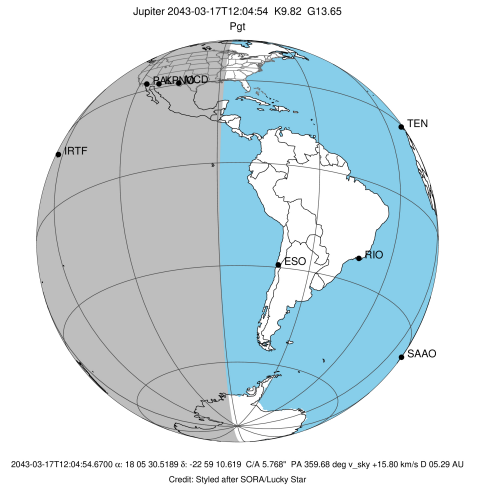


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-03-17T10:47:45.889	19.30	-35.28	71491.4	-15.28	-17.34
Jupiter	E	2043-03-17T13:17:21.933	34.52	-4.34x	71491.6	-12.56	-14.29

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-03-17T12:03:00.750
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        : 4069585799084025344
2Mass ID (if available) : 18053052-2259106
ICRS Star Coord at Epoch: 18h 05m 30.51885s -22:59:10.61935s
RUWE (>1.4 is poor) : 1.06
K magnitude           : 9.816
G magnitude           : 13.655
RP magnitude          : 12.632
BP magnitude          : 14.733
DUPflag              : 0
Distance (au)         : 5.293
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 15.80
Sun-Target sep (deg)  : 84.93
Sun-Moon sep (deg)   : 166.93
B (ring opening deg) : -2.48
PA of pole (deg)     : -1.43
Pole direction: RA (deg): 268.05663
Dec (deg): 64.49732
C/A sky separation (") : 4.453
C/A sky separation (km) : 17092.7
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
    
```

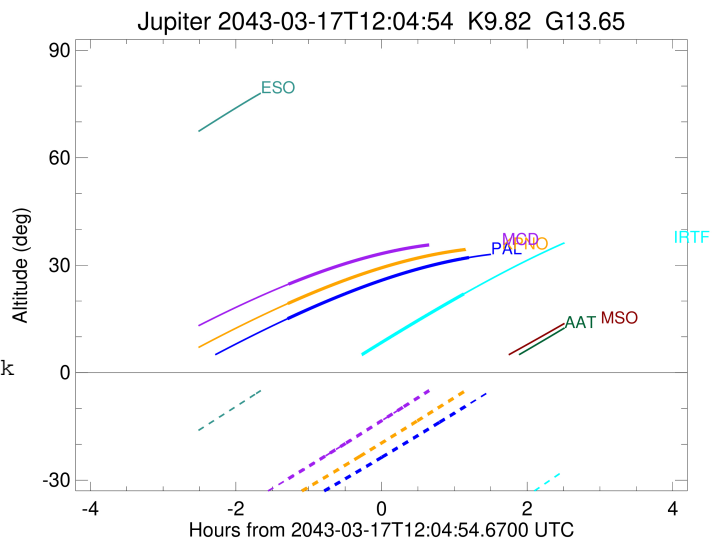
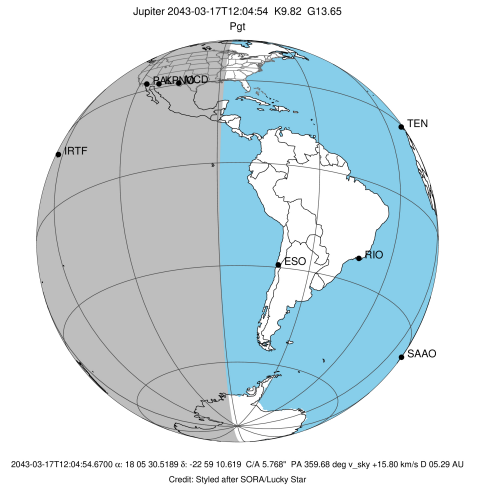


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-03-17T10:48:15.091	24.70	-29.58	71491.4	-15.20	-17.25
Jupiter	E	2043-03-17T13:18:07.092	36.50	2.32x	71491.6	-12.62	-14.35

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-03-17T11:59:06.120
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      : 4069585799084025344
2Mass ID (if available) : 18053052-2259106
ICRS Star Coord at Epoch: 18h 05m 30.51885s -22:59:10.61935s
RUWE (>1.4 is poor) : 1.06
K magnitude          : 9.816
G magnitude          : 13.655
RP magnitude         : 12.632
BP magnitude         : 14.733
DUPflag             : 0
Distance (au)       : 5.293
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 15.80
Sun-Target sep (deg) : 84.93
Sun-Moon sep (deg)   : 166.19
B (ring opening deg) : -2.48
PA of pole (deg)     : -1.43
Pole direction: RA (deg): 268.05663
Dec (deg): 64.49732
C/A sky separation (") : 5.045
C/A sky separation (km) : 19368.7
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	2043-03-17T10:46:18.664	-8.43x	-71.17	71491.2	-17.42	-19.73
Jupiter	E	2043-03-17T13:12:37.597	21.96	-46.21	71491.5	-14.04	-15.95