

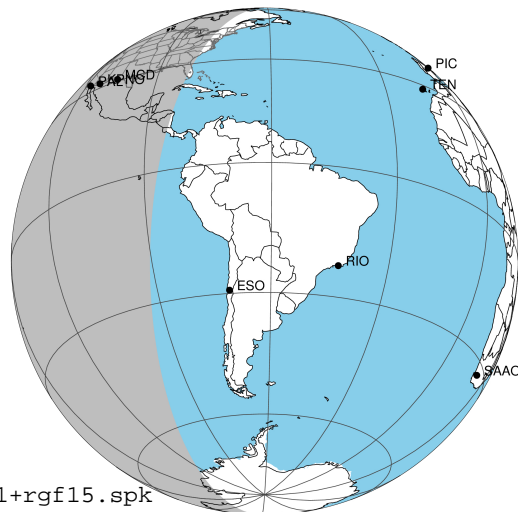
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-02-20T11:59:14.530
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068712099759795200
 2Mass ID (if available) : 17513247-2257441

Jupiter 2043-02-20T11:59:14 K7.25 G14.27 Pgt

ICRS Star Coord at Epoch: 17h 51m 32.47769s -22:57:44.10418s

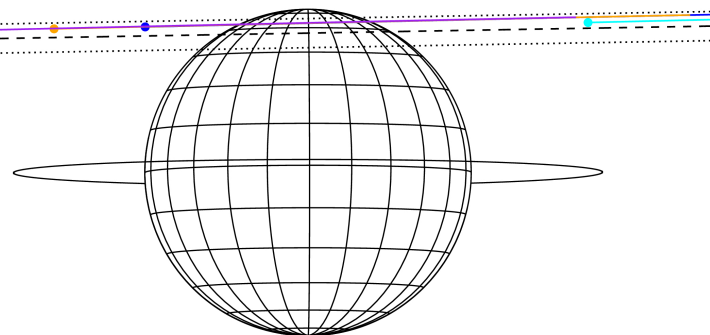
RUWE (>1.4 is poor) : 0.88
 K magnitude : 7.253
 G magnitude : 14.271
 RP magnitude : 12.668
 BP magnitude : 18.404
 DUPflag : 0
 Distance (au) : 5.680
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 26.66
 Sun-Target sep (deg) : 63.09
 Sun-Moon sep (deg) : 157.69
 B (ring opening deg) : -2.54
 PA of pole (deg) : 0.07
 Pole direction: RA (deg): 268.05662
 Dec (deg): 64.49732
 C/A sky separation (") : 14.818
 C/A sky separation (km) : 61048.2
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-02-20T11:59:14 K7.25 G14.27
 Pgt



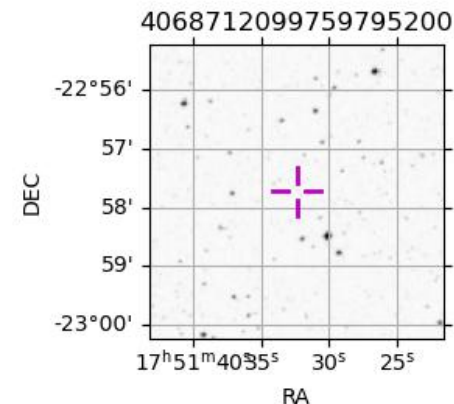
2043-02-20T11:59:14.5300 a: 17 51 32.4777 & -22 57 44.104 C/A ***** PA 181.00 deg v_sky +26.66 km/s D 05.68 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PAL
 KPNO
 MCD
 IRTF
 ESO



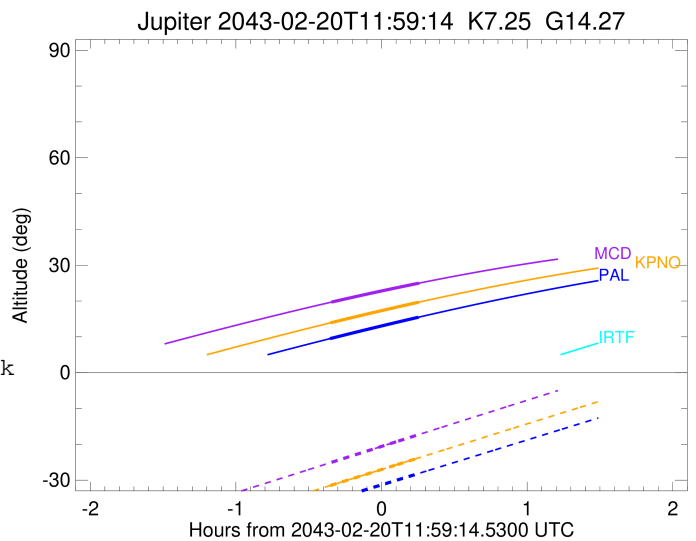
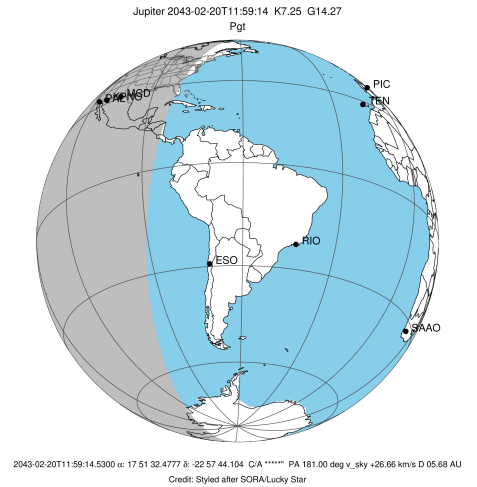
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	FEB 20 11:38 - FEB 20 12:14	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	FEB 20 11:38 - FEB 20 12:14	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+ +	FEB 20 11:38 - FEB 20 12:14	Pie
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			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            : 2043-02-20T11:56:14.630
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      : 4068712099759795200
2Mass ID (if available) : 17513247-2257441
ICRS Star Coord at Epoch: 17h 51m 32.47769s -22:57:44.10418s
RUWE (>1.4 is poor) : 0.88
K magnitude          : 7.253
G magnitude          : 14.271
RP magnitude         : 12.668
BP magnitude         : 18.404
DUPflag             : 0
Distance (au)       : 5.680
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 26.66
Sun-Target sep (deg) : 63.09
Sun-Moon sep (deg)   : 158.52
B (ring opening deg) : -2.54
PA of pole (deg)     : 0.07
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation ("): 15.867
C/A sky separation (km): 65366.9
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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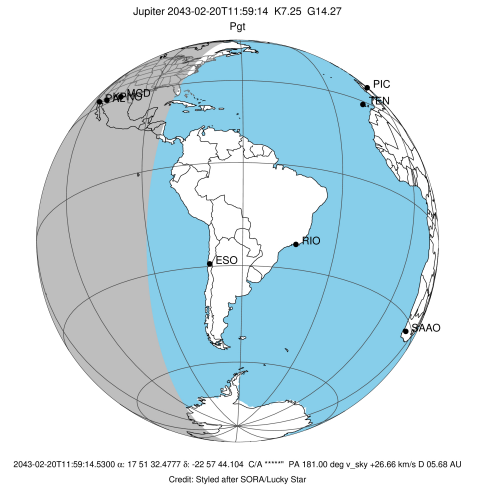


x: target alt < 5.0 deg or sun > -5.0 deg

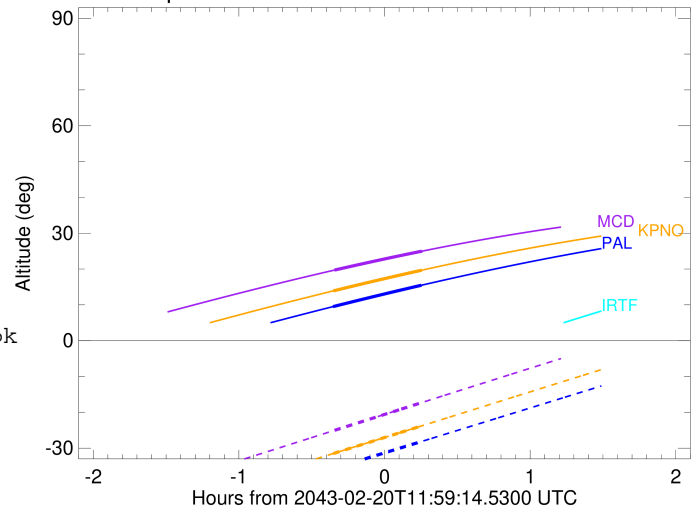
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-20T11:38:00.912	9.50	-35.70	71484.8	64.79	67.48
Jupiter	E	2043-02-20T12:14:29.651	15.47	-28.14	71484.5	67.19	69.67

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-20T11:56:23.760
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       : 4068712099759795200
2Mass ID (if available) : 17513247-2257441
ICRS Star Coord at Epoch: 17h 51m 32.47769s -22:57:44.10418s
RUWE (>1.4 is poor) : 0.88
K magnitude           : 7.253
G magnitude           : 14.271
RP magnitude          : 12.668
BP magnitude          : 18.404
DUPflag              : 0
Distance (au)        : 5.680
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 26.66
Sun-Target sep (deg) : 63.09
Sun-Moon sep (deg)   : 158.52
B (ring opening deg) : -2.54
PA of pole (deg)     : 0.07
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 15.881
C/A sky separation (km) : 65425.5
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
    
```



Jupiter 2043-02-20T11:59:14 K7.25 G14.27

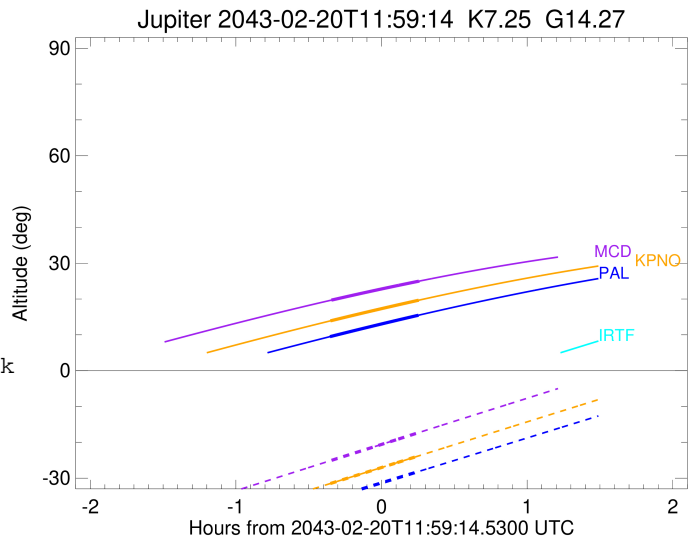
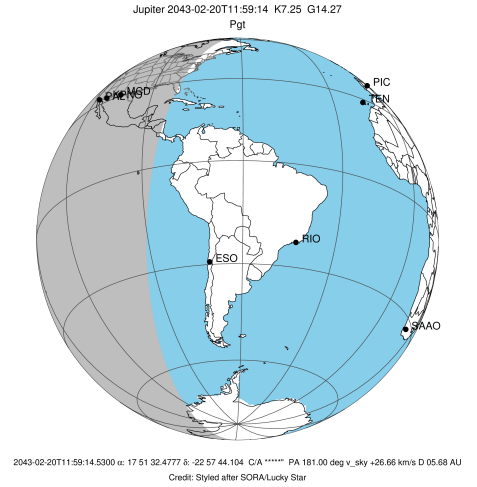


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-20T11:38:13.625	13.91	-31.49	71484.8	64.92	67.60
Jupiter	E	2043-02-20T12:14:35.139	19.67	-23.78	71484.5	67.29	69.77

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-02-20T11:56:41.420
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        : 4068712099759795200
2Mass ID (if available) : 17513247-2257441
ICRS Star Coord at Epoch: 17h 51m 32.47769s -22:57:44.10418s
RUWE (>1.4 is poor) : 0.88
K magnitude           : 7.253
G magnitude           : 14.271
RP magnitude          : 12.668
BP magnitude          : 18.404
DUPflag              : 0
Distance (au)         : 5.680
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 26.66
Sun-Target sep (deg) : 63.09
Sun-Moon sep (deg)   : 158.49
B (ring opening deg) : -2.54
PA of pole (deg)     : 0.07
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 15.910
C/A sky separation (km) : 65545.5
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	2043-02-20T11:38:39.801	19.70	-25.03	71484.8	65.18	67.84
Jupiter	E	2043-02-20T12:14:44.163	24.99	-17.25	71484.5	67.50	69.96