

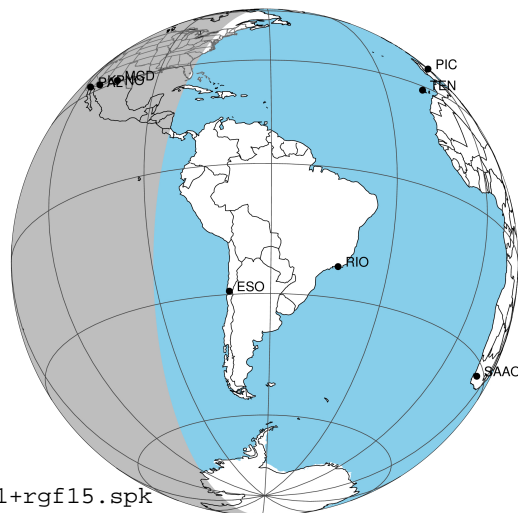
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-02-21T11:55:45.870  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4068701070281389568  
 2Mass ID (if available) : 17521258-2258213

Jupiter 2043-02-21T11:55:45 K9.81 G13.66 Pgt

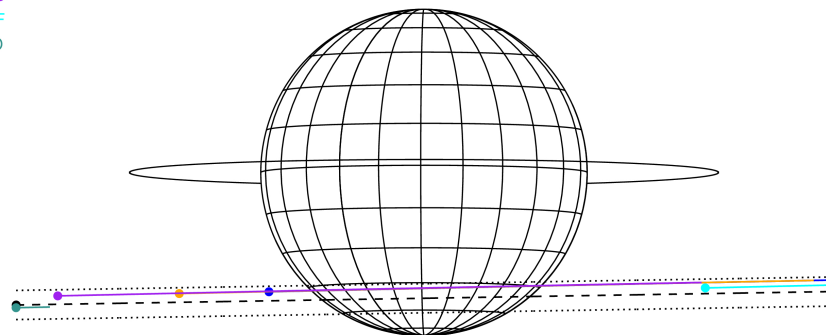
ICRS Star Coord at Epoch: 17h 52m 12.57722s -22:58:21.73173s

RUWE (>1.4 is poor) : 0.89  
 K magnitude : 9.815  
 G magnitude : 13.659  
 RP magnitude : 12.597  
 BP magnitude : 14.795  
 DUPflag : 0  
 Distance (au) : 5.666  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 26.26  
 Sun-Target sep (deg) : 63.94  
 Sun-Moon sep (deg) : 144.79  
 B (ring opening deg) : -2.53  
 PA of pole (deg) : 0.00  
 Pole direction: RA (deg): 268.05662  
 Dec (deg): 64.49732  
 C/A sky separation (") : 13.406  
 C/A sky separation (km) : 55088.9  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk

Jupiter 2043-02-21T11:55:45 K9.81 G13.66  
 Pgt



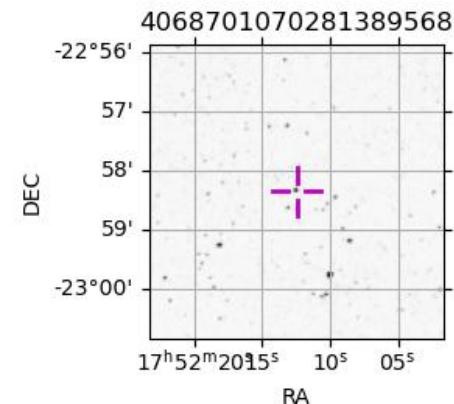
Earth  
 PAL  
 KPNO  
 MCD  
 IRTF  
 ESO



2043-02-21T11:55:45.8700 α: 17 52 12.5772 δ: -22 58 21.732 C/A \*\*\*\*\* PA 0.94 deg v\_sky +26.27 km/s D 05.67 AU  
 Credit: Styled after SORA/Lucky Star

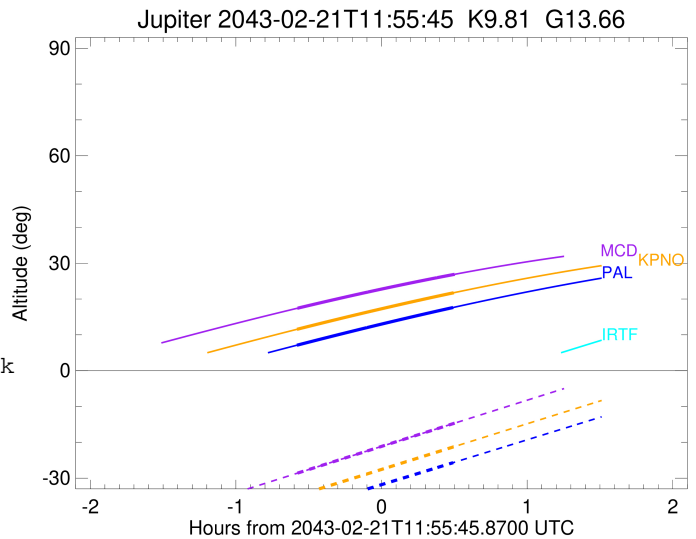
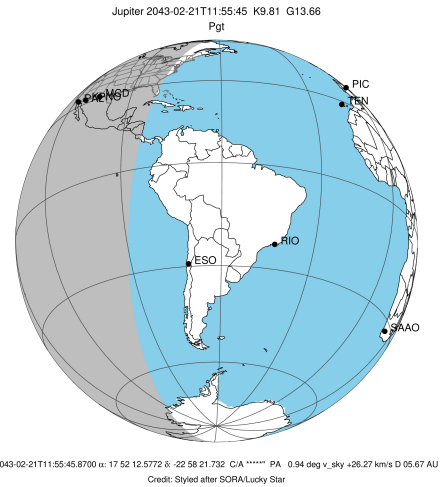
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	FEB 21 11:20 - FEB 21 12:25	Pie
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	FEB 21 11:20 - FEB 21 12:25	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+ +	FEB 21 11:21 - FEB 21 12:25	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            : 2043-02-21T11:53:05.100
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       : 4068701070281389568
2Mass ID (if available) : 17521258-2258213
ICRS Star Coord at Epoch: 17h 52m 12.57722s -22:58:21.73173s
RUWE (>1.4 is poor) : 0.89
K magnitude           : 9.815
G magnitude           : 13.659
RP magnitude          : 12.597
BP magnitude          : 14.795
DUPflag              : 0
Distance (au)        : 5.666
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 26.26
Sun-Target sep (deg) : 63.94
Sun-Moon sep (deg)   : 145.53
B (ring opening deg) : -2.53
PA of pole (deg)     : 0.00
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation ("): 12.354
C/A sky separation (km): 50766.0
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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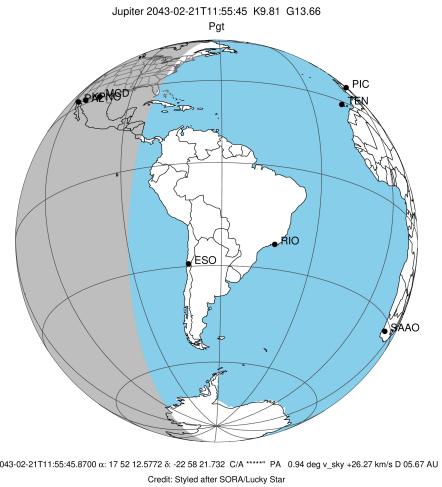


x: target alt < 5.0 deg or sun > -5.0 deg

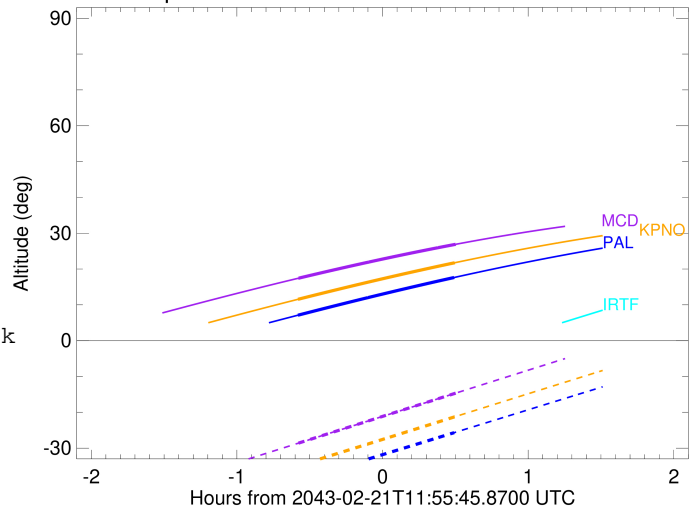
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-21T11:20:55.514	7.11	-38.97	71487.4	-46.42	-50.10
Jupiter	E	2043-02-21T12:25:18.793	17.63	-25.67	71487.8	-43.98	-47.69

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-21T11:53:13.370
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       : 4068701070281389568
2Mass ID (if available) : 17521258-2258213
ICRS Star Coord at Epoch: 17h 52m 12.57722s -22:58:21.73173s
RUWE (>1.4 is poor) : 0.89
K magnitude           : 9.815
G magnitude           : 13.659
RP magnitude         : 12.597
BP magnitude         : 14.795
DUPflag              : 0
Distance (au)        : 5.666
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 26.26
Sun-Target sep (deg) : 63.94
Sun-Moon sep (deg)   : 145.54
B (ring opening deg) : -2.53
PA of pole (deg)     : 0.00
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 12.340
C/A sky separation (km) : 50707.6
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
    
```



Jupiter 2043-02-21T11:55:45 K9.81 G13.66

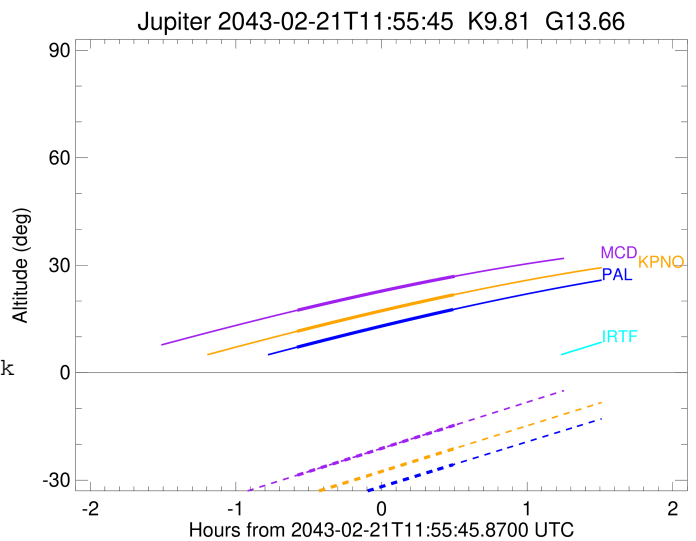
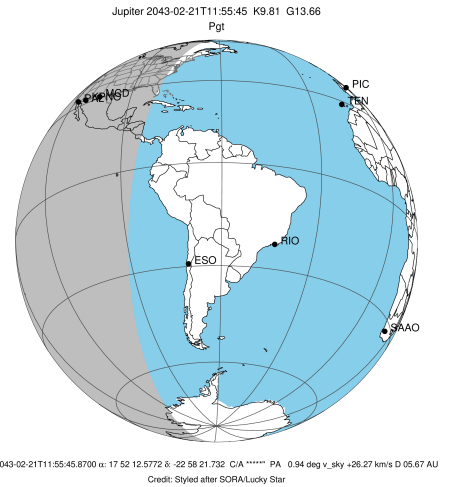


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-21T11:20:59.084	11.55	-34.90	71487.4	-46.35	-50.03
Jupiter	E	2043-02-21T12:25:31.606	21.75	-21.25	71487.8	-43.93	-47.64

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-21T11:53:29.280
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       : 4068701070281389568
2Mass ID (if available) : 17521258-2258213
ICRS Star Coord at Epoch: 17h 52m 12.57722s -22:58:21.73173s
RUWE (>1.4 is poor) : 0.89
K magnitude           : 9.815
G magnitude           : 13.659
RP magnitude         : 12.597
BP magnitude         : 14.795
DUPflag              : 0
Distance (au)        : 5.666
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 26.26
Sun-Target sep (deg) : 63.94
Sun-Moon sep (deg)   : 145.54
B (ring opening deg) : -2.53
PA of pole (deg)     : 0.00
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation ("): 12.311
C/A sky separation (km): 50587.9
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	2043-02-21T11:21:07.147	17.43	-28.60	71487.4	-46.19	-49.87
Jupiter	E	2043-02-21T12:25:55.079	26.90	-14.65	71487.8	-43.82	-47.54