

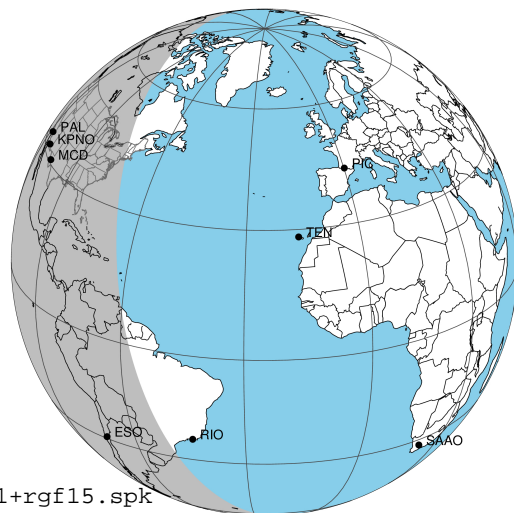
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2048-08-10T09:57:12.090
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3404104118609345408
 2Mass ID (if available) : 05312888+2245011

Jupiter 2048-08-10T09:57:12 K9.53 G12.71 Pgt

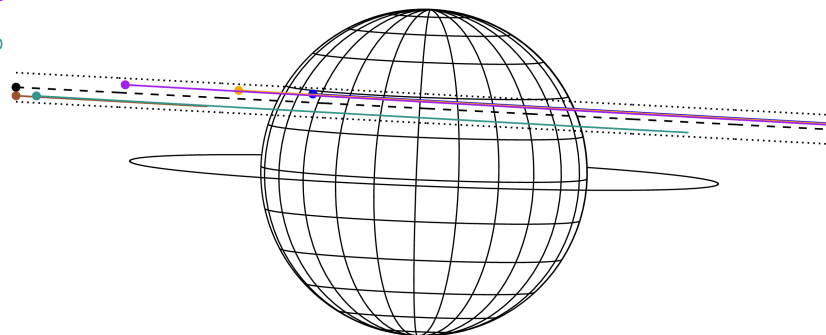
ICRS Star Coord at Epoch: 05h 31m 28.89507s +22:45:01.12744s

RUWE (>1.4 is poor) : 1.05
 K magnitude : 9.531
 G magnitude : 12.714
 RP magnitude : 11.799
 BP magnitude : 13.581
 DUPflag : 0
 Distance (au) : 5.587
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 30.04
 Sun-Target sep (deg) : 54.36
 Sun-Moon sep (deg) : 62.17
 B (ring opening deg) : 2.66
 PA of pole (deg) : -2.23
 Pole direction: RA (deg): 268.05732
 Dec (deg): 64.49722
 C/A sky separation (") : 6.920
 C/A sky separation (km) : 28039.5
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2048-08-10T09:57:12 K9.53 G12.71
 Pgt



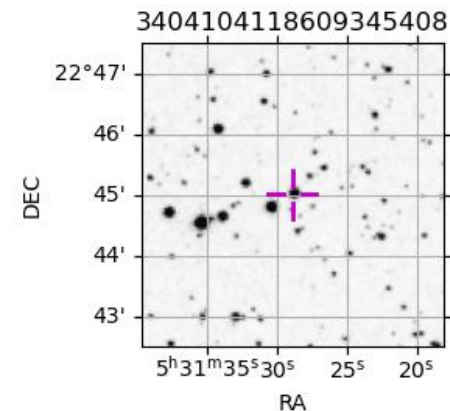
Earth
 PAL
 KPNO
 MCD
 RIO
 ESO



2048-08-10T09:57:12.0900 cc: 05 31 28.8951 s: +22 45 01.127 C/A 6.929" PA 177.03 deg v_sky +30.04 km/s D 05.59 AU
 Credit: Styled after SORA/Lucky Star

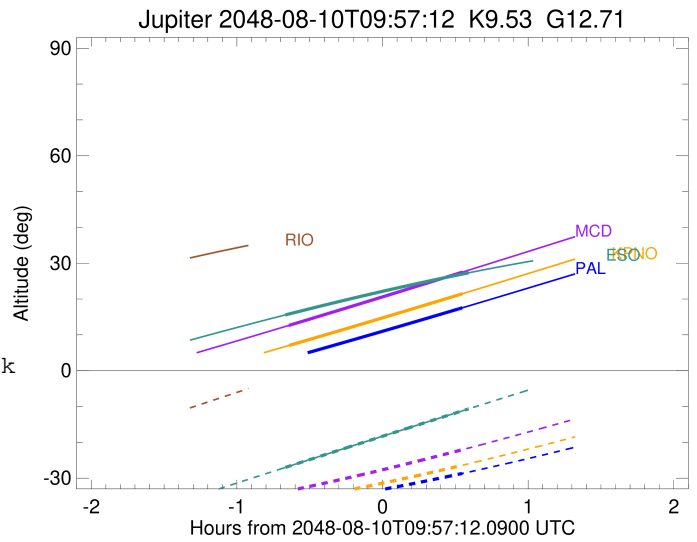
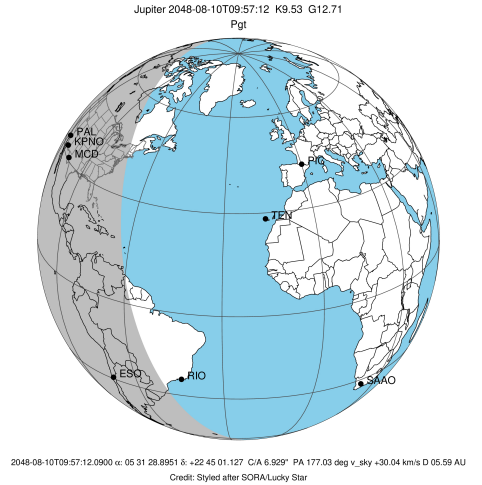
Observable events with sun below -5 deg and altitude above 5 deg

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	+	AUG 10 10:30 - AUG 10 10:30	Pne
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4	+ +	AUG 10 09:18 - AUG 10 10:30	Pie
MCD	McDonald Obs. 2.7m	30.7	256.0	+ +	AUG 10 09:18 - AUG 10 10:30	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	+ +	AUG 10 09:17 - AUG 10 10:32	Pie
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             : 2048-08-10T09:54:25.180
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        : 3404104118609345408
2Mass ID (if available) : 05312888+2245011
ICRS Star Coord at Epoch: 05h 31m 28.89507s +22:45:01.12744s
RUWE (>1.4 is poor) : 1.05
K magnitude           : 9.531
G magnitude           : 12.714
RP magnitude          : 11.799
BP magnitude          : 13.581
DUPflag              : 0
Distance (au)         : 5.587
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 30.04
Sun-Target sep (deg)  : 54.36
Sun-Moon sep (deg)   : 62.69
B (ring opening deg) : 2.66
PA of pole (deg)     : -2.23
Pole direction: RA (deg): 268.05732
Dec (deg): 64.49722
C/A sky separation (" ) : 7.794
C/A sky separation (km) : 31583.0
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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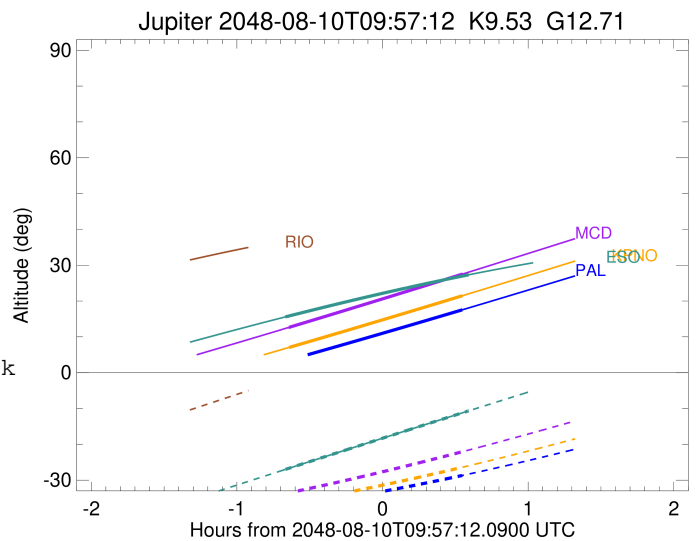
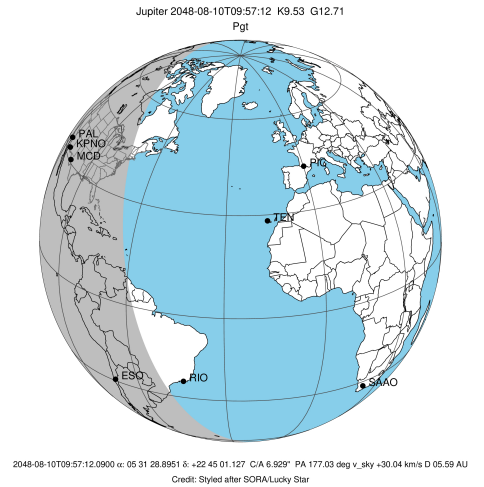


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2048-08-10T09:18:53.933	3.57x	-37.34	71490.0	27.20	30.40
Jupiter	E	2048-08-10T10:30:01.385	17.53	-28.70	71490.3	25.16	28.20

```

target                : Jupiter
target radius (km)    : 71492.00
C/A epoch              : 2048-08-10T09:54:22.110
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         : 3404104118609345408
2Mass ID (if available) : 05312888+2245011
ICRS Star Coord at Epoch: 05h 31m 28.89507s +22:45:01.12744s
RUWE (>1.4 is poor)  : 1.05
K magnitude             : 9.531
G magnitude             : 12.714
RP magnitude           : 11.799
BP magnitude           : 13.581
DUPflag                : 0
Distance (au)          : 5.587
f0 (km)                : 0.00
g0 (km)                : 0.00
skyplane vel. (km/s)   : 30.04
Sun-Target sep (deg)   : 54.36
Sun-Moon sep (deg)     : 62.75
B (ring opening deg)   : 2.66
PA of pole (deg)       : -2.23
Pole direction: RA (deg): 268.05732
Dec (deg): 64.49722
C/A sky separation (") : 7.718
C/A sky separation (km) : 31276.5
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
    
```

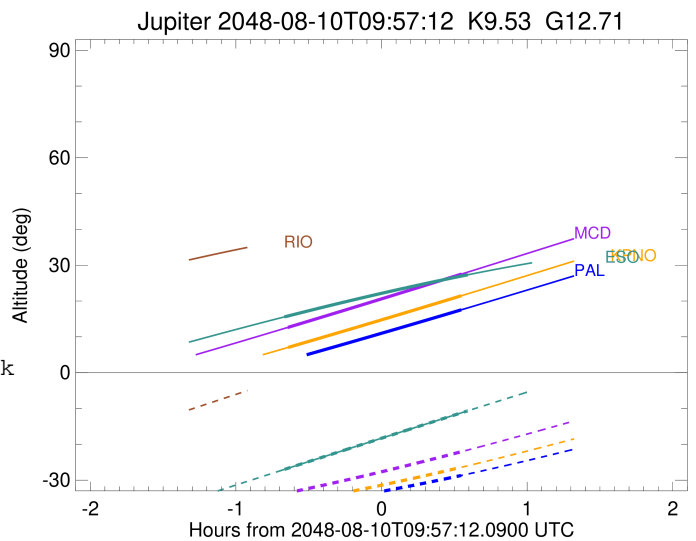
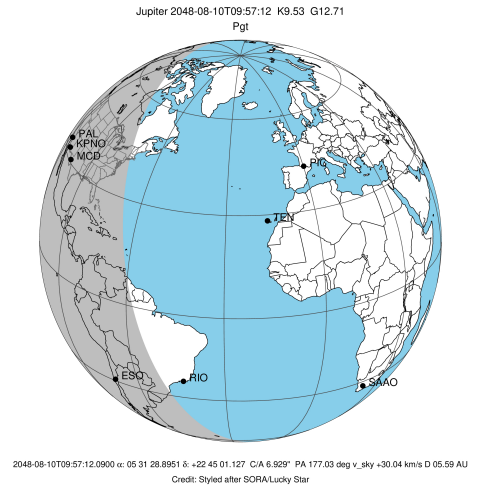


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2048-08-10T09:18:43.422	7.05	-36.37	71490.0	26.94	30.11
Jupiter	E	2048-08-10T10:30:05.863	21.47	-26.41	71490.3	24.89	27.90

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2048-08-10T09:54:21.880
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      : 3404104118609345408
2Mass ID (if available) : 05312888+2245011
ICRS Star Coord at Epoch: 05h 31m 28.89507s +22:45:01.12744s
RUWE (>1.4 is poor) : 1.05
K magnitude          : 9.531
G magnitude          : 12.714
RP magnitude         : 11.799
BP magnitude         : 13.581
DUPflag             : 0
Distance (au)       : 5.587
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 30.04
Sun-Target sep (deg) : 54.36
Sun-Moon sep (deg)  : 62.83
B (ring opening deg) : 2.66
PA of pole (deg)    : -2.23
Pole direction: RA (deg): 268.05732
Dec (deg): 64.49722
C/A sky separation (" ) : 7.621
C/A sky separation (km) : 30882.9
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
    
```

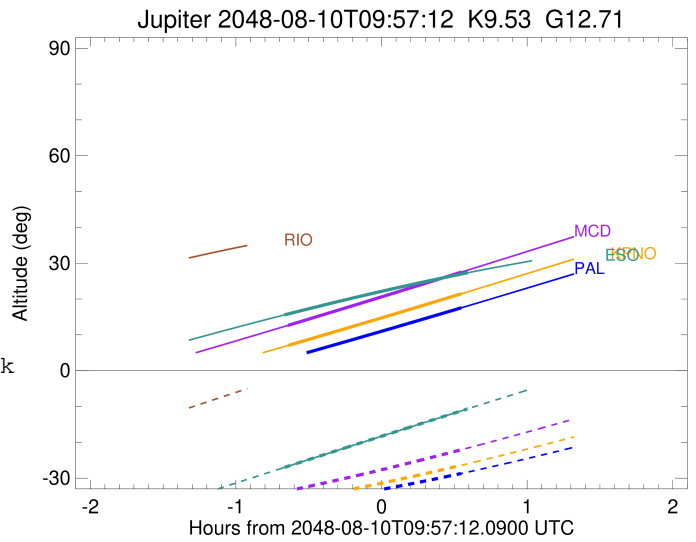
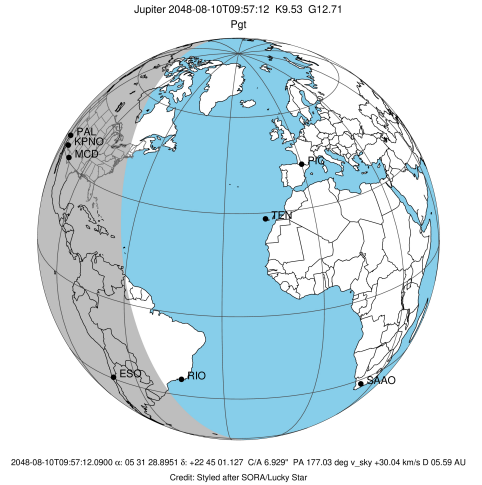


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2048-08-10T09:18:33.184	12.62	-33.54	71490.1	26.60	29.75
Jupiter	E	2048-08-10T10:30:15.709	27.54	-22.04	71490.3	24.53	27.52

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2048-08-10T09:54:55.370
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : ESO
Location             : European Southern Obs. (3.6m)
Latitude (deg)       : -29.26097
E. Longitude (deg)   : 289.26831
Altitude (km)        : 2.400
Gaia source ID       : 3404104118609345408
2Mass ID (if available) : 05312888+2245011
ICRS Star Coord at Epoch: 05h 31m 28.89507s +22:45:01.12744s
RUWE (>1.4 is poor) : 1.05
K magnitude          : 9.531
G magnitude          : 12.714
RP magnitude         : 11.799
BP magnitude         : 13.581
DUPflag             : 0
Distance (au)        : 5.587
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 30.04
Sun-Target sep (deg) : 54.36
Sun-Moon sep (deg)   : 62.74
B (ring opening deg) : 2.66
PA of pole (deg)     : -2.23
Pole direction: RA (deg): 268.05732
Dec (deg): 64.49722
C/A sky separation (" ) : 5.892
C/A sky separation (km) : 23875.1
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	2048-08-10T09:17:13.585	15.57	-27.00	71490.8	20.48	23.10
Jupiter	E	2048-08-10T10:32:41.668	27.31	-10.66	71491.0	18.53	20.95