

target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2029-08-24T00:09:38.650
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3630341658363260032
 2Mass ID (if available) : 13292873-0811220

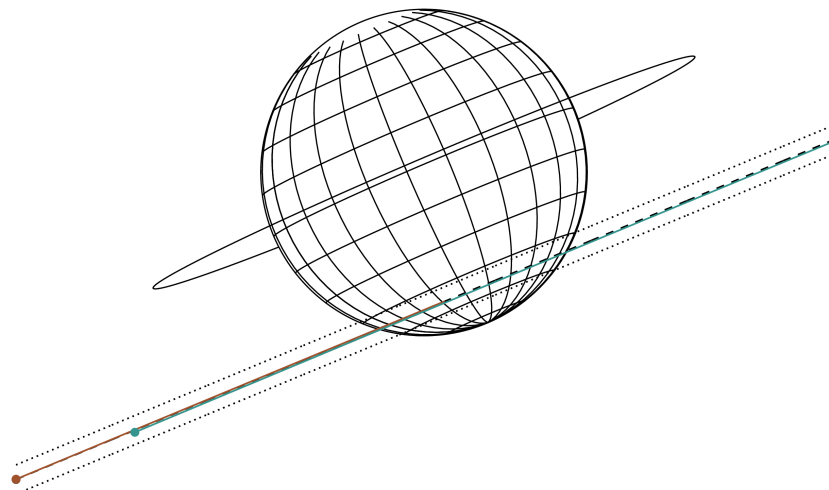
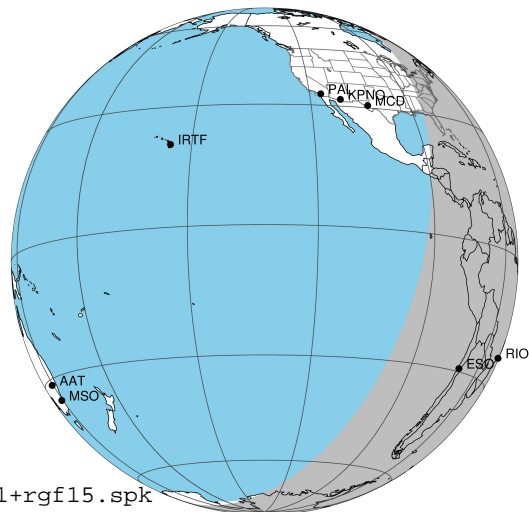
Jupiter 2029-08-24T00:09:38 K9.28 G10.97 Pgt

ICRS Star Coord at Epoch: 13h 29m 28.51824s -08:11:24.66326s

RUWE (>1.4 is poor) : 1.10
 K magnitude : 9.280
 G magnitude : 10.968
 RP magnitude : 10.406
 BP magnitude : 11.355
 DUPflag : 0
 Distance (au) : 5.988
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 30.33
 Sun-Target sep (deg) : 53.01
 Sun-Moon sep (deg) : 125.94
 B (ring opening deg) : -2.69
 PA of pole (deg) : 23.13
 Pole direction: RA (deg): 268.05743
 Dec (deg): 64.49654
 C/A sky separation (") : 12.804
 C/A sky separation (km) : 55611.1
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2029-08-24T00:09:38 K9.28 G10.97
 Pgt

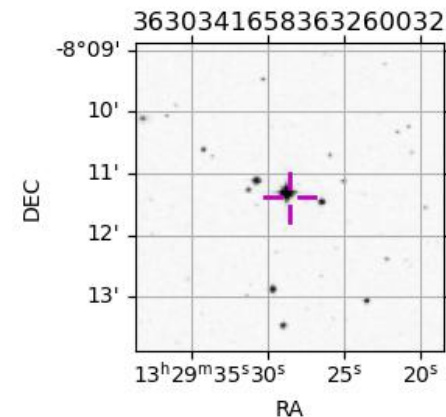
Earth
 RIO
 ESO



2029-08-24T00:09:38.6500 α: 13 29 28.5182 δ: -08 11 24.663 C/A ***** PA 22.56 deg v_sky +30.33 km/s D 05.99 AU
 Credit: Styled after SORA/Lucky Star

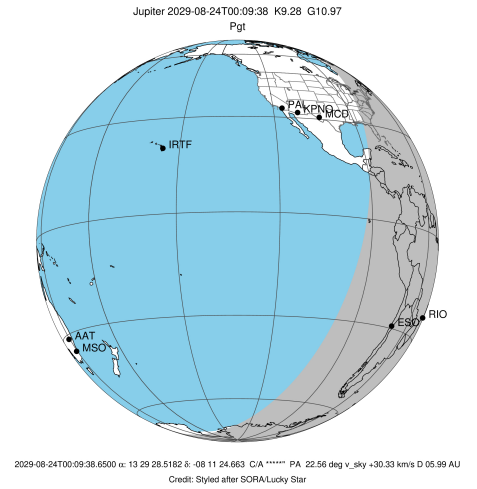
Observable events with sun below -5 deg and altitude above 5 deg

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			Pnn
PMO	Purple Mtn Obs. Nanking	32.1	118.8			Pnn
KPNO	Kitt Peak Natl Obs	32.0	248.4			Pnn
MCD	McDonald Obs. 2.7m	30.7	256.0			Pnn
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	+	AUG 23 23:48 - AUG 23 23:48	Pin
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	AUG 23 23:48 - AUG 24 00:37	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

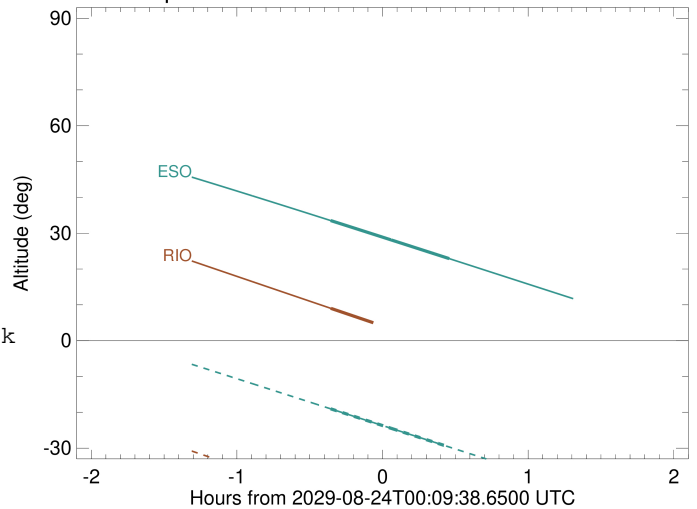


```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2029-08-24T00:13:05.010
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : RIO
Location             : Rio de Janeiro
Latitude (deg)       : -22.89506
E. Longitude (deg)   : 316.77708
Altitude (km)        : 0.033
Gaia source ID       : 3630341658363260032
2Mass ID (if available) : 13292873-0811220
ICRS Star Coord at Epoch: 13h 29m 28.51824s -08:11:24.66326s
RUWE (>1.4 is poor) : 1.10
K magnitude          : 9.280
G magnitude          : 10.968
RP magnitude         : 10.406
BP magnitude         : 11.355
DUPflag             : 0
Distance (au)        : 5.988
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 30.33
Sun-Target sep (deg) : 53.01
Sun-Moon sep (deg)   : 126.54
B (ring opening deg) : -2.69
PA of pole (deg)     : 23.13
Pole direction: RA (deg): 268.05743
Dec (deg): 64.49654
C/A sky separation (") : 12.805
C/A sky separation (km) : 55614.7
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
    
```



Jupiter 2029-08-24T00:09:38 K9.28 G10.97

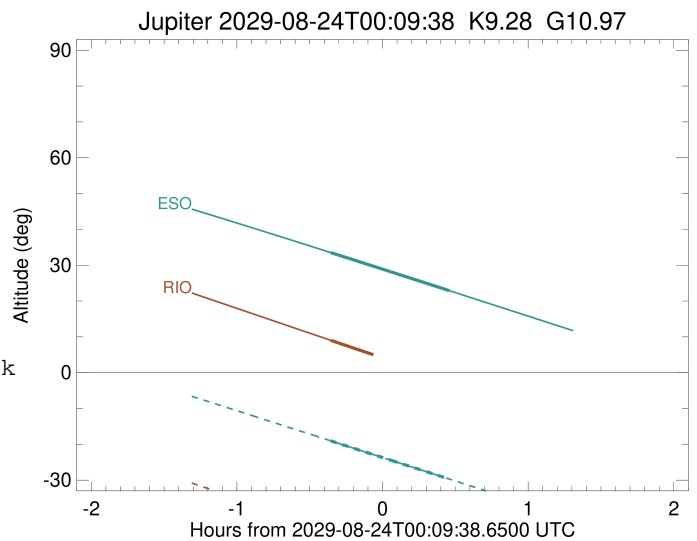
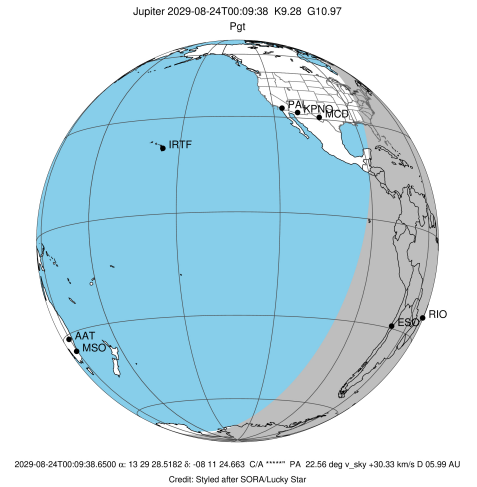


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2029-08-23T23:48:22.359	9.02	-43.99	71486.1	-50.34	-53.91
Jupiter	E	2029-08-24T00:37:45.254	-2.29x	-55.19	71485.9	-51.69	-55.22

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2029-08-24T00:12:44.270
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       : 3630341658363260032
2Mass ID (if available) : 13292873-0811220
ICRS Star Coord at Epoch: 13h 29m 28.51824s -08:11:24.66326s
RUWE (>1.4 is poor) : 1.10
K magnitude           : 9.280
G magnitude           : 10.968
RP magnitude         : 10.406
BP magnitude         : 11.355
DUPflag              : 0
Distance (au)        : 5.988
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 30.33
Sun-Target sep (deg) : 53.01
Sun-Moon sep (deg)   : 126.77
B (ring opening deg) : -2.69
PA of pole (deg)     : 23.13
Pole direction: RA (deg): 268.05743
Dec (deg): 64.49654
C/A sky separation (") : 12.942
C/A sky separation (km) : 56211.4
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	2029-08-23T23:48:18.344	33.52	-19.03	71486.0	-51.25	-54.80
Jupiter	E	2029-08-24T00:37:08.192	22.90	-29.69	71485.8	-52.31	-55.80