

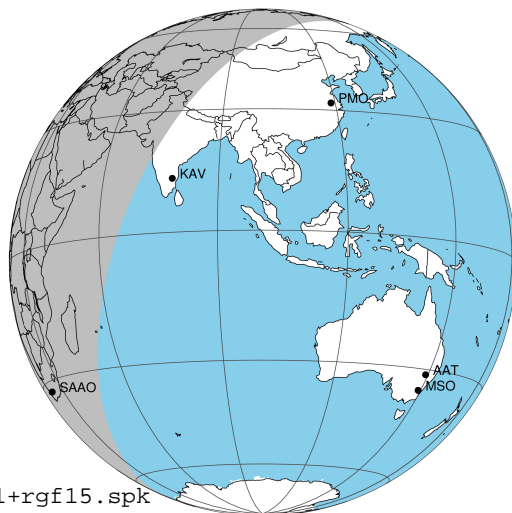
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2028-12-08T01:31:08.020
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3631405710741142912
 2Mass ID (if available) : 13200257-0709201

Jupiter 2028-12-08T01:31:08 K9.49 G10.63 Pgt

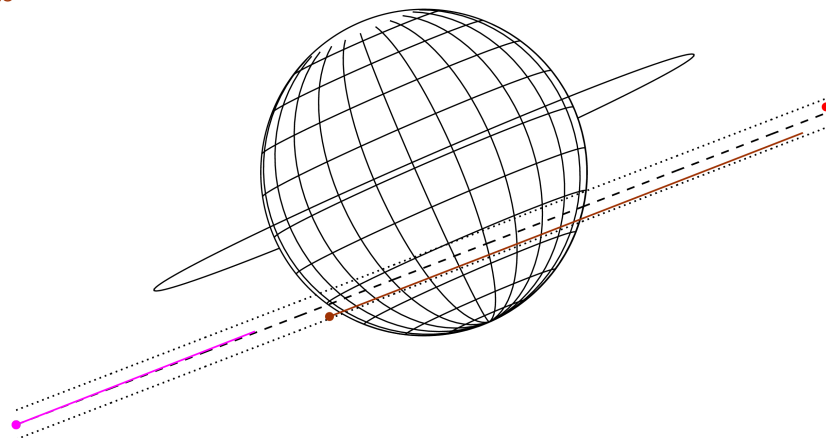
ICRS Star Coord at Epoch: 13h 20m 02.59714s -07:09:20.55139s

RUWE (>1.4 is poor) : 0.83
 K magnitude : 9.489
 G magnitude : 10.630
 RP magnitude : 10.214
 BP magnitude : 10.885
 DUPflag : 0
 Distance (au) : 5.960
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 29.52
 Sun-Target sep (deg) : 54.92
 Sun-Moon sep (deg) : 50.61
 B (ring opening deg) : -2.71
 PA of pole (deg) : 23.57
 Pole direction: RA (deg): 268.05755
 Dec (deg): 64.49658
 C/A sky separation (") : 9.013
 C/A sky separation (km) : 38960.4
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2028-12-08T01:31:08 K9.49 G10.63
 Pgt



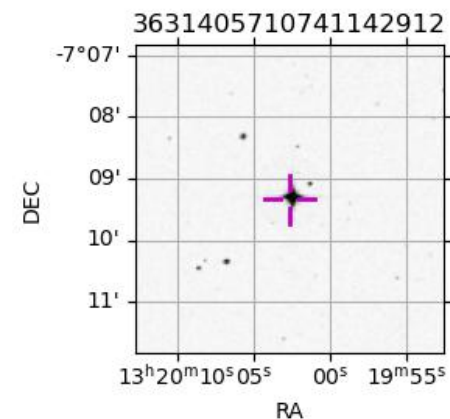
Earth
 PIC
 KAV
 SAAO



2028-12-08T01:31:08.0200 at: 13 20 02.5971 s: -07 09 20.551 C/A 9.020" PA 21.05 deg v_sky +29.52 km/s D 05.96 AU
 Credit: Styled after SORA/Lucky Star

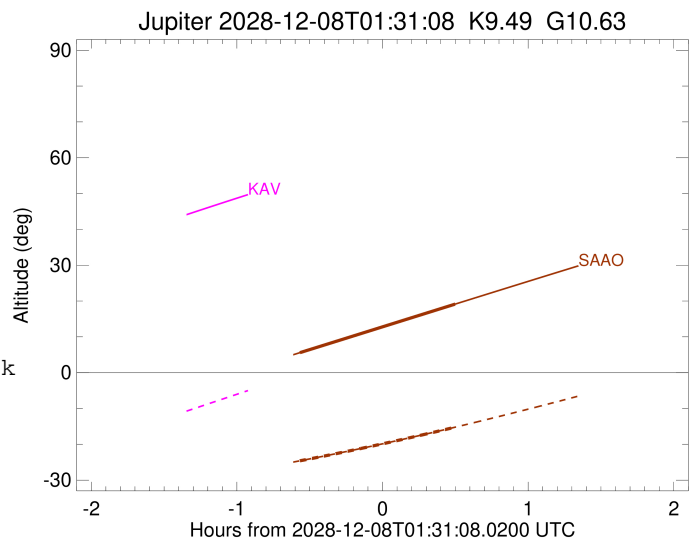
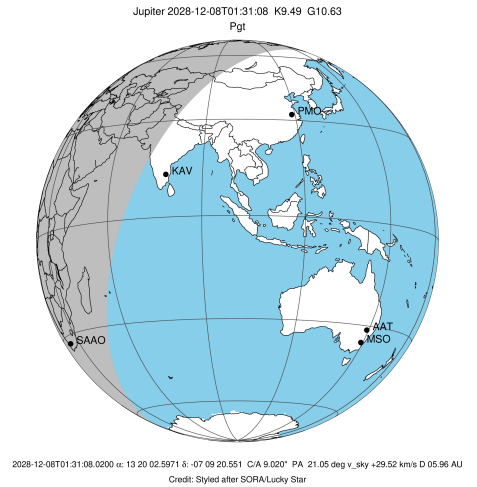
Observable events with sun below -5 deg and altitude above 5 deg

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			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	+ +	DEC 08 00:57 - DEC 08 02:01	Pie
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2028-12-08T01:29:03.040
Event type          : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code       : SAAO
Location            : So. Afr. Astro. Obs. (Sutherland)
Latitude (deg)      : -32.37953
E. Longitude (deg)  : 20.81070
Altitude (km)       : 1.768
Gaia source ID      : 3631405710741142912
2Mass ID (if available) : 13200257-0709201
ICRS Star Coord at Epoch: 13h 20m 02.59714s -07:09:20.55139s
RUWE (>1.4 is poor) : 0.83
K magnitude          : 9.489
G magnitude          : 10.630
RP magnitude         : 10.214
BP magnitude         : 10.885
DUPflag             : 0
Distance (au)       : 5.960
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 29.52
Sun-Target sep (deg) : 54.92
Sun-Moon sep (deg)   : 50.37
B (ring opening deg) : -2.71
PA of pole (deg)     : 23.57
Pole direction: RA (deg): 268.05755
Dec (deg): 64.49658
C/A sky separation (") : 10.155
C/A sky separation (km) : 43897.2
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	2028-12-08T00:57:09.997	5.60	-24.59	71488.6	-35.44	-39.05
Jupiter	E	2028-12-08T02:00:59.936	19.12	-15.23	71487.8	-40.19	-43.90