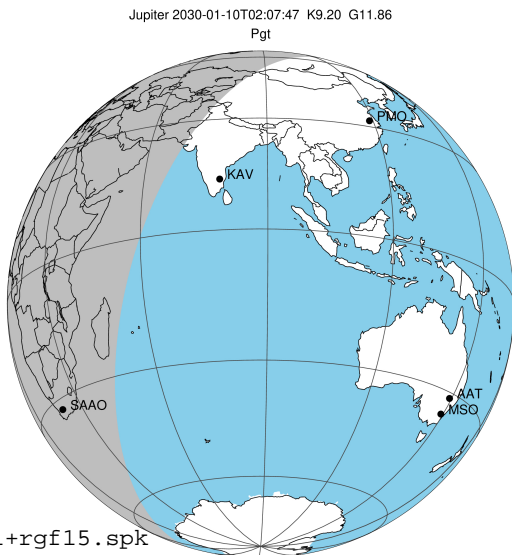


target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2030-01-10T02:07:47.030  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 6259089929617854720  
 2Mass ID (if available) : 15181017-1712121

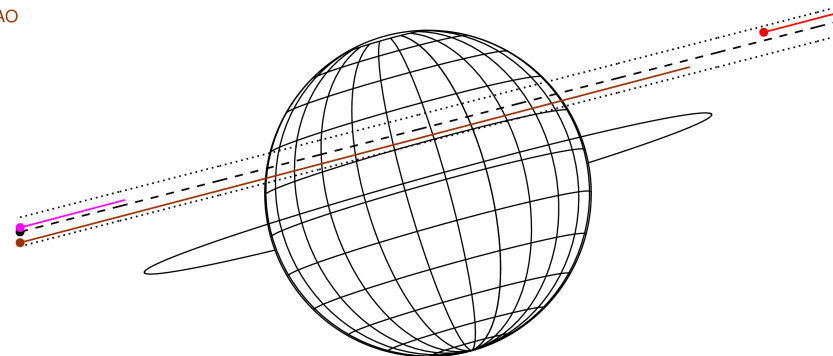
Jupiter 2030-01-10T02:07:47 K9.20 G11.86 Pgt

ICRS Star Coord at Epoch: 15h 18m 10.17161s -17:12:12.36157s  
 RUWE (>1.4 is poor) : 1.04  
 K magnitude : 9.197  
 G magnitude : 11.862  
 RP magnitude : 11.070  
 BP magnitude : 12.535  
 DUPflag : 0  
 Distance (au) : 5.881  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 28.62  
 Sun-Target sep (deg) : 57.77  
 Sun-Moon sep (deg) : 130.81  
 B (ring opening deg) : -3.15  
 PA of pole (deg) : 15.58  
 Pole direction: RA (deg): 268.05735  
 Dec (deg): 64.49653  
 C/A sky separation (") : 6.623  
 C/A sky separation (km) : 28245.1  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk  
 URKALLvl1.spk  
 naif0012.tls  
 nep097.bsp  
 nep101.bsp  
 sat4401.bsp



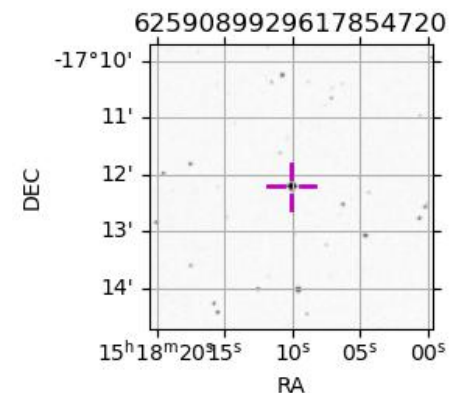
2030-01-10T02:07:47.0300 ex: 15 18 10.1716 s: -17 12 12.362 C/A 6.613" PA 194.43 deg v\_sky +28.62 km/s D 05.88 AU  
 Credit: Styled after SORA/Lucky Star

Earth  
 PIC  
 KAV  
 SAAO



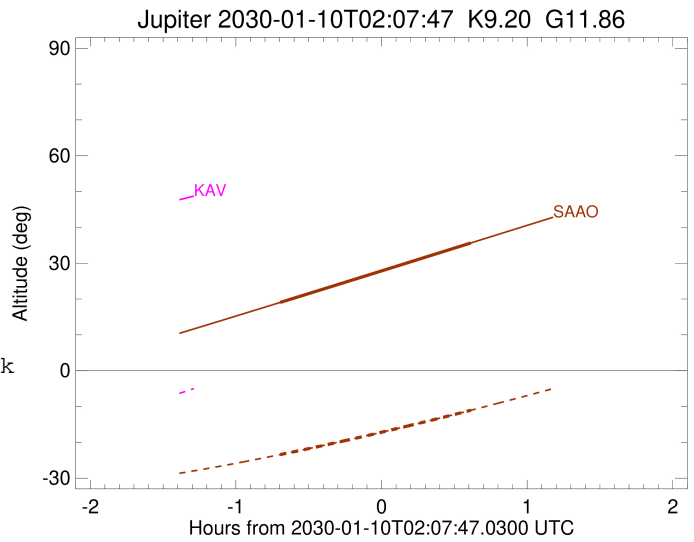
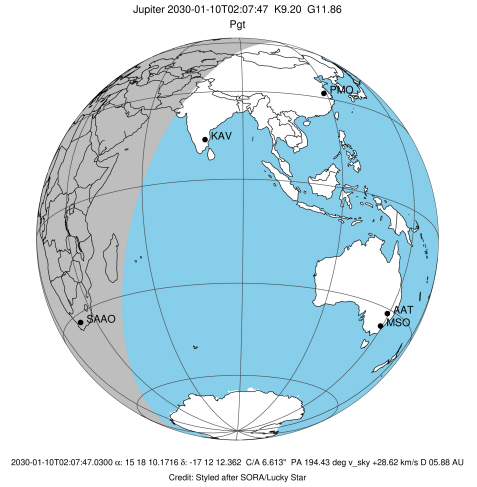
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	JAN 10 01:26 - JAN 10 02:44	Pie
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2030-01-10T02:05:16.080
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       : 6259089929617854720
2Mass ID (if available) : 15181017-1712121
ICRS Star Coord at Epoch: 15h 18m 10.17161s -17:12:12.36157s
RUWE (>1.4 is poor) : 1.04
K magnitude          : 9.197
G magnitude          : 11.862
RP magnitude         : 11.070
BP magnitude         : 12.535
DUPflag             : 0
Distance (au)       : 5.881
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 28.62
Sun-Target sep (deg) : 57.77
Sun-Moon sep (deg)   : 130.70
B (ring opening deg) : -3.15
PA of pole (deg)     : 15.58
Pole direction: RA (deg): 268.05735
Dec (deg): 64.49653
C/A sky separation ("): 5.731
C/A sky separation (km): 24444.5
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	2030-01-10T01:26:02.548	19.05	-23.42	71490.3	20.84	23.49
Jupiter	E	2030-01-10T02:44:35.842	35.64	-11.06	71490.5	19.11	21.59