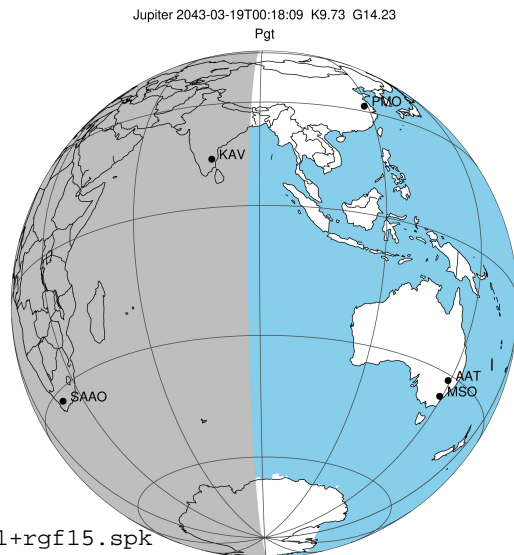


target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2043-03-19T00:18:09.980  
 Event type : Pgt  
 : Jupiter occs: geocentric, topocentric  
 : Not a ringed target  
 Gaia source ID : 4069579373812285312  
 2Mass ID (if available) : 18060860-2258558

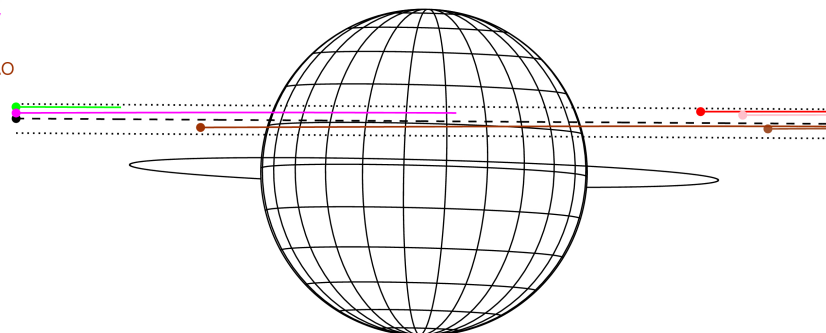
Jupiter 2043-03-19T00:18:09 K9.73 G14.23 Pgt

ICRS Star Coord at Epoch: 18h 06m 08.60508s -22:58:55.78167s  
 RUWE (>1.4 is poor) : 1.15  
 K magnitude : 9.735  
 G magnitude : 14.230  
 RP magnitude : 13.074  
 BP magnitude : 15.631  
 DUPflag : 0  
 Distance (au) : 5.268  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : 15.10  
 Sun-Target sep (deg) : 86.28  
 Sun-Moon sep (deg) : 169.67  
 B (ring opening deg) : -2.48  
 PA of pole (deg) : -1.50  
 Pole direction: RA (deg): 268.05663  
 Dec (deg): 64.49732  
 C/A sky separation (") : 5.883  
 C/A sky separation (km) : 22480.0  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk



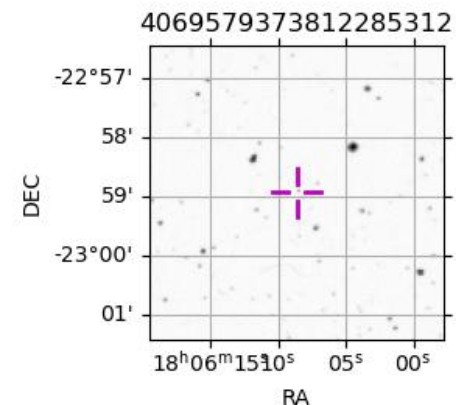
2043-03-19T00:18:09.9800 ex: 18 06 08.6051 s: -22 58 55.782 C/A 5.873° PA 179.62 deg v\_sky +15.10 km/s D 05.27 AU  
 Credit: Styled after SORA/Lucky Star

Earth  
 PIC  
 PMO  
 TEN  
 KAV  
 RIO  
 SAAO



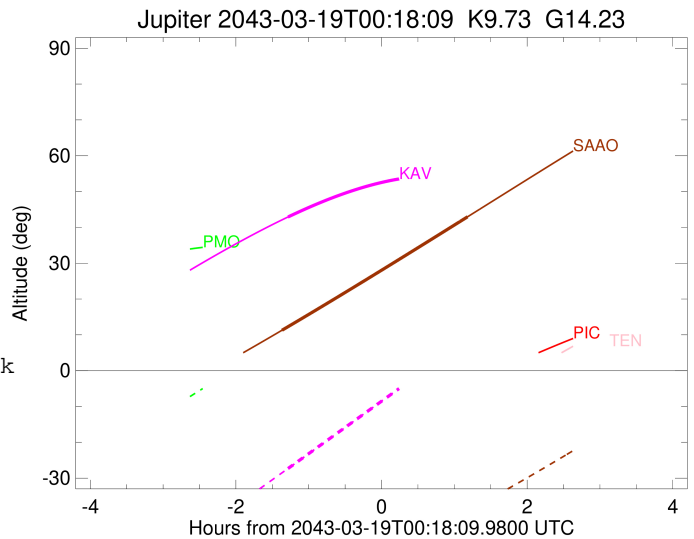
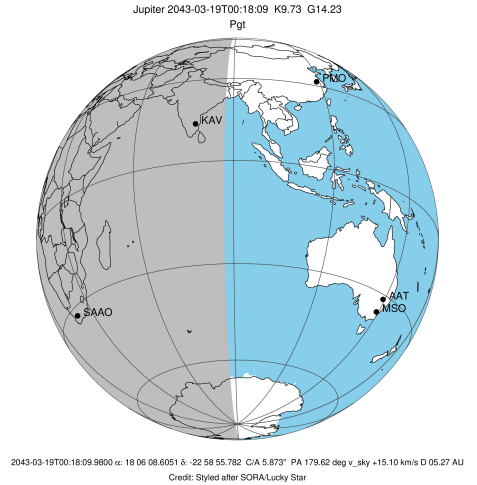
Observable events with sun below -5 deg and altitude above 5 deg

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	+	MAR 18 23:01 - MAR 18 23:01	Pin
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	+	MAR 18 22:56 - MAR 19 01:29	Pie
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-03-19T00:16:37.770
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : Not a ringed target
Observer code       : KAV
Location            : Kavalur Observatory
Latitude (deg)      : 12.57556
E. Longitude (deg)  : 78.83167
Altitude (km)       : 0.722
Gaia source ID      : 4069579373812285312
2Mass ID (if available) : 18060860-2258558
ICRS Star Coord at Epoch: 18h 06m 08.60508s -22:58:55.78167s
RUWE (>1.4 is poor) : 1.15
K magnitude          : 9.735
G magnitude          : 14.230
RP magnitude         : 13.074
BP magnitude         : 15.631
DUPflag             : 0
Distance (au)       : 5.269
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 15.10
Sun-Target sep (deg) : 86.28
Sun-Moon sep (deg)  : 170.26
B (ring opening deg) : -2.48
PA of pole (deg)    : -1.50
Pole direction: RA (deg): 268.05663
Dec (deg): 64.49732
C/A sky separation (" ) : 6.840
C/A sky separation (km) : 26136.3
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
    
```

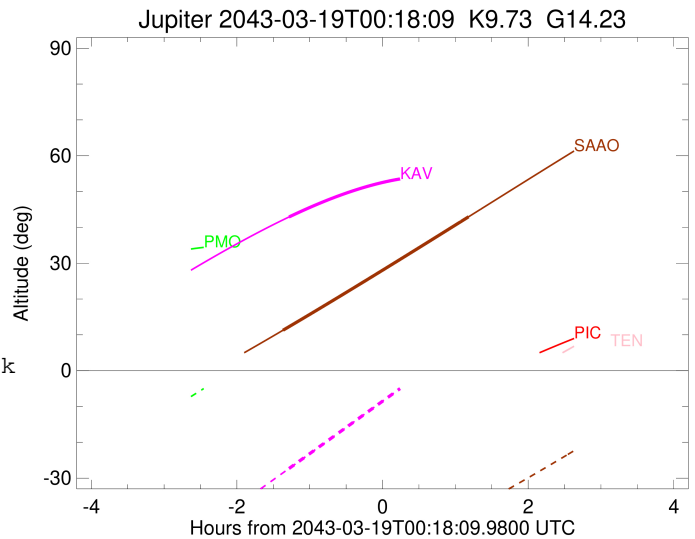
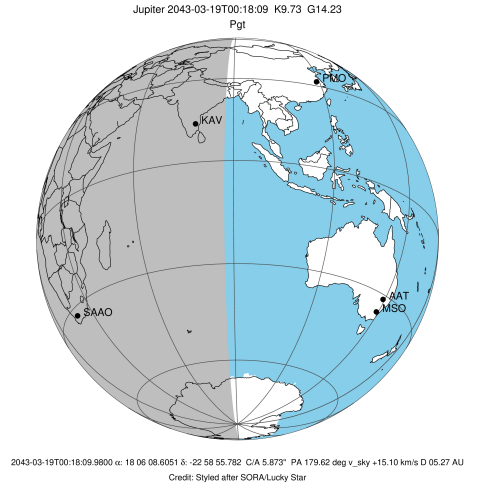


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-03-18T23:01:05.785	42.89	-27.32	71491.0	20.06	22.64
Jupiter	E	2043-03-19T01:32:28.209	54.00	9.60x	71490.8	22.56	25.38

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-03-19T00:12:15.980
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       : 4069579373812285312
2Mass ID (if available) : 18060860-2258558
ICRS Star Coord at Epoch: 18h 06m 08.60508s -22:58:55.78167s
RUWE (>1.4 is poor) : 1.15
K magnitude           : 9.735
G magnitude           : 14.230
RP magnitude         : 13.074
BP magnitude         : 15.631
DUPflag              : 0
Distance (au)        : 5.269
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 15.10
Sun-Target sep (deg) : 86.28
Sun-Moon sep (deg)   : 170.16
B (ring opening deg) : -2.48
PA of pole (deg)     : -1.50
Pole direction: RA (deg): 268.05663
Dec (deg): 64.49732
C/A sky separation ("): 5.251
C/A sky separation (km): 20066.6
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
    
```



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	2043-03-18T22:56:17.654	11.31	-56.98	71491.5	14.59	16.57
Jupiter	E	2043-03-19T01:29:00.863	42.93	-39.16	71491.2	17.92	20.27