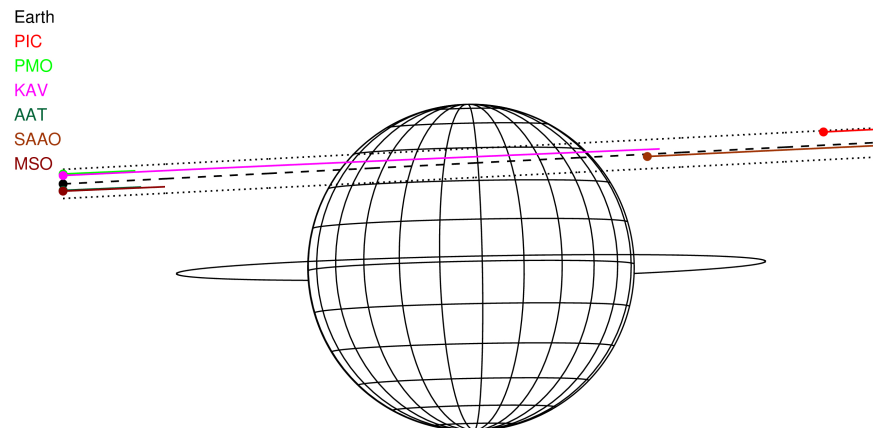
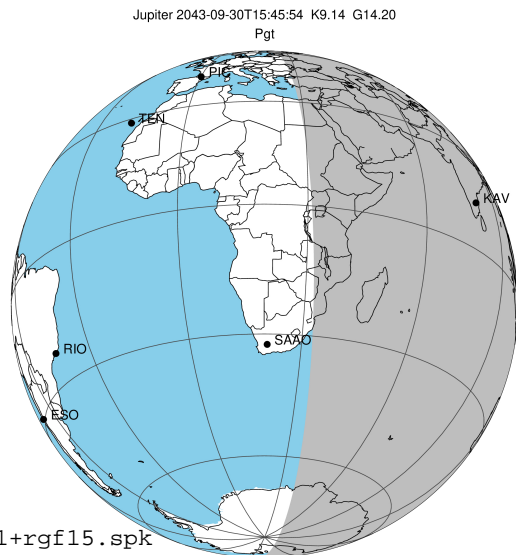


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-09-30T15:45:54.290
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4116490479778569216
 2Mass ID (if available) : 17405928-2316179

Jupiter 2043-09-30T15:45:54 K9.14 G14.20 Pgt

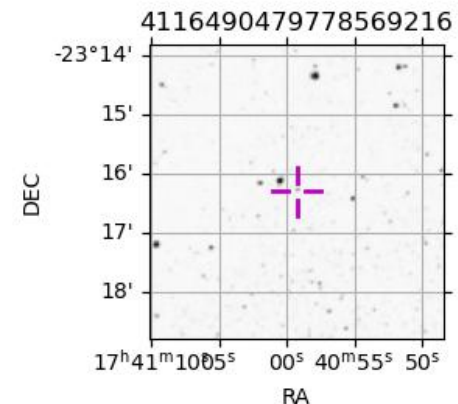
ICRS Star Coord at Epoch: 17h 40m 59.27182s -23:16:18.23482s
 RUWE (>1.4 is poor) : 0.94
 K magnitude : 9.142
 G magnitude : 14.195
 RP magnitude : 12.911
 BP magnitude : 15.804
 DUPflag : 0
 Distance (au) : 5.331
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 18.86
 Sun-Target sep (deg) : 78.86
 Sun-Moon sep (deg) : 107.77
 B (ring opening deg) : -2.20
 PA of pole (deg) : 1.21
 Pole direction: RA (deg): 268.05674
 Dec (deg): 64.49731
 C/A sky separation (") : 11.808
 C/A sky separation (km) : 45652.0
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



2043-09-30T15:45:54.2900 a: 17 40 59.2718 s: -23 16 18.235 C/A ***** PA 182.91 deg v_sky +18.86 km/s D 05.33 AU
 Credit: Styled after SORA/Lucky Star

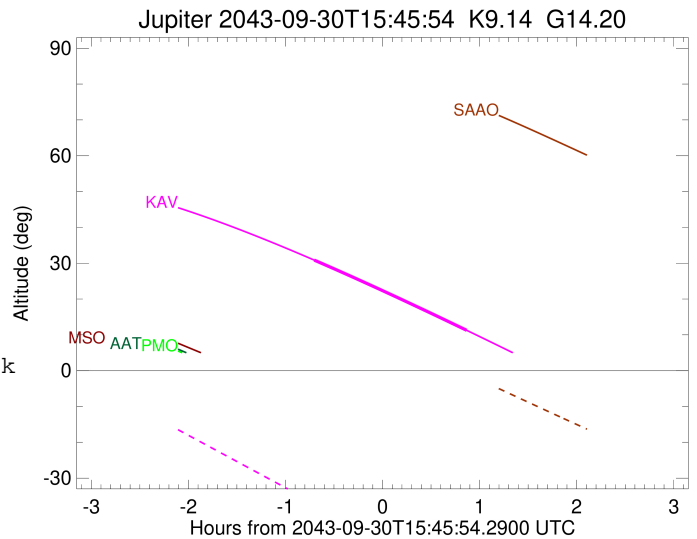
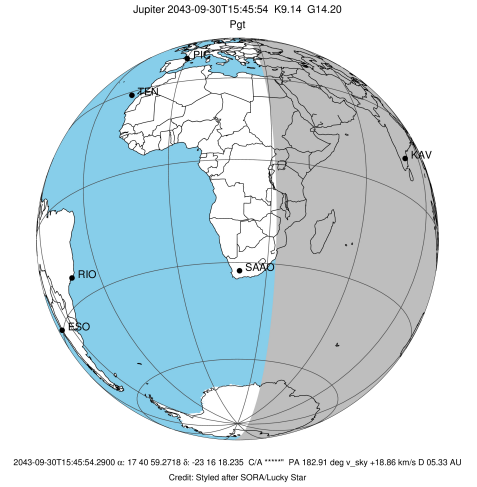
Observable events with sun below -5 deg and altitude above 5 deg

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	+ +	SEP 30 15:03 - SEP 30 16:37	Pie
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			Pnn
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-09-30T15:50:53.650
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      : 4116490479778569216
2Mass ID (if available) : 17405928-2316179
ICRS Star Coord at Epoch: 17h 40m 59.27182s -23:16:18.23482s
RUWE (>1.4 is poor) : 0.94
K magnitude          : 9.142
G magnitude          : 14.195
RP magnitude         : 12.911
BP magnitude         : 15.804
DUPflag             : 0
Distance (au)       : 5.331
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 18.86
Sun-Target sep (deg) : 78.86
Sun-Moon sep (deg)  : 107.88
B (ring opening deg) : -2.20
PA of pole (deg)    : 1.21
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (" ) : 12.518
C/A sky separation (km) : 48399.9
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	2043-09-30T15:03:39.947	30.86	-36.98	71489.1	41.28	45.00
Jupiter	E	2043-09-30T16:37:52.423	11.27	-59.60	71488.8	43.80	47.51