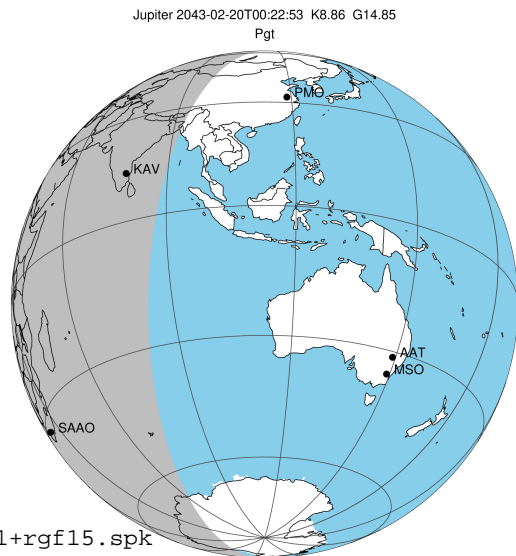


target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-02-20T00:22:53.940
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068707151955936000
 2Mass ID (if available) : 17511285-2257435

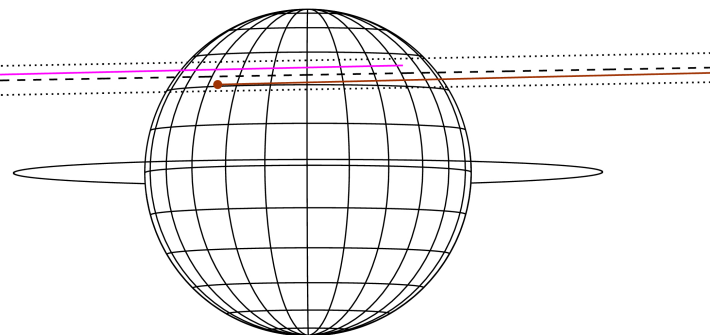
Jupiter 2043-02-20T00:22:53 K8.86 G14.85 Pgt

ICRS Star Coord at Epoch: 17h 51m 12.84043s -22:57:43.72186s
 RUWE (>1.4 is poor) : 1.02
 K magnitude : 8.863
 G magnitude : 14.848
 RP magnitude : 13.388
 BP magnitude : 17.666
 DUPflag : 0
 Distance (au) : 5.687
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 26.85
 Sun-Target sep (deg) : 62.67
 Sun-Moon sep (deg) : 163.85
 B (ring opening deg) : -2.54
 PA of pole (deg) : 0.11
 Pole direction: RA (deg): 268.05662
 Dec (deg): 64.49732
 C/A sky separation (") : 10.366
 C/A sky separation (km) : 42758.8
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk



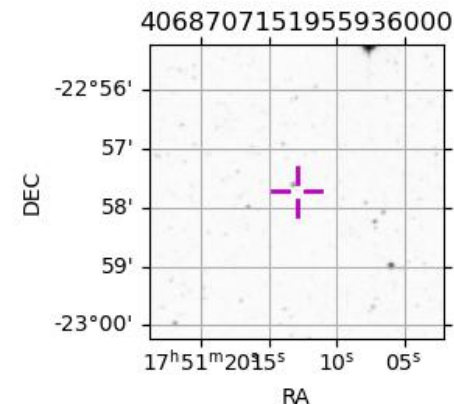
2043-02-20T00:22:53.9400 @: 17 51 12.8404 s -22 57 43.722 C/A ***** PA 181.04 deg v_sky +26.85 km/s D 05.69 AU
 Credit: Styled after SORA/Lucky Star

Earth
 KAV
 SAAO



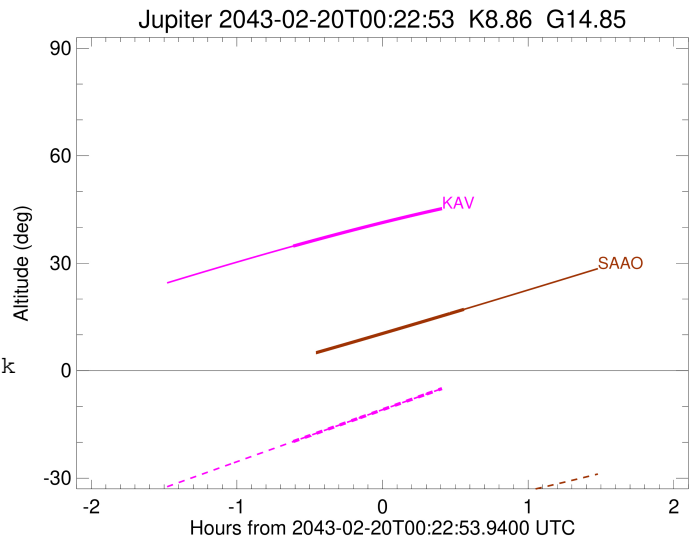
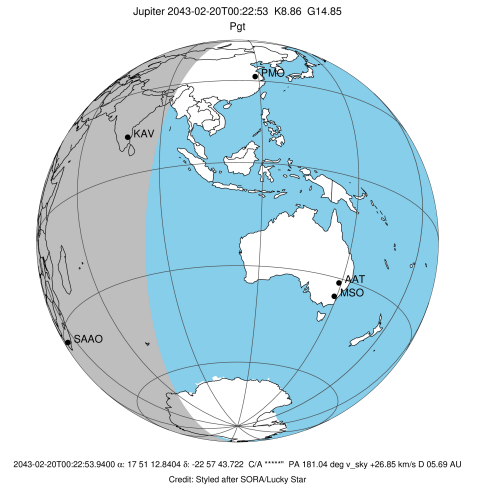
Observable events with sun below -5 deg and altitude above 5 deg

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	+	FEB 19 23:46 - FEB 19 23:46	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	+	FEB 20 00:56 - FEB 20 00:56	Pne
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-20T00:20:33.720
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      : 4068707151955936000
2Mass ID (if available) : 17511285-2257435
ICRS Star Coord at Epoch: 17h 51m 12.84043s -22:57:43.72186s
RUWE (>1.4 is poor) : 1.02
K magnitude          : 8.863
G magnitude          : 14.848
RP magnitude         : 13.388
BP magnitude         : 17.666
DUPflag             : 0
Distance (au)       : 5.687
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 26.85
Sun-Target sep (deg) : 62.67
Sun-Moon sep (deg)  : 164.67
B (ring opening deg) : -2.54
PA of pole (deg)    : 0.11
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (" ) : 11.147
C/A sky separation (km) : 45981.3
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
    
```

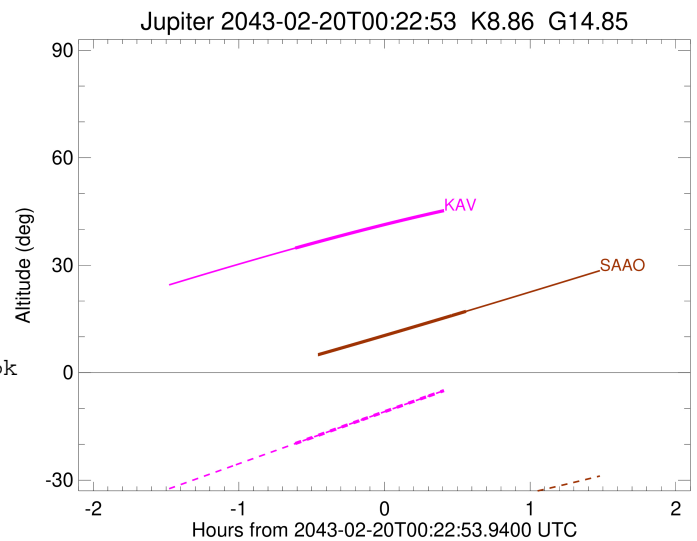
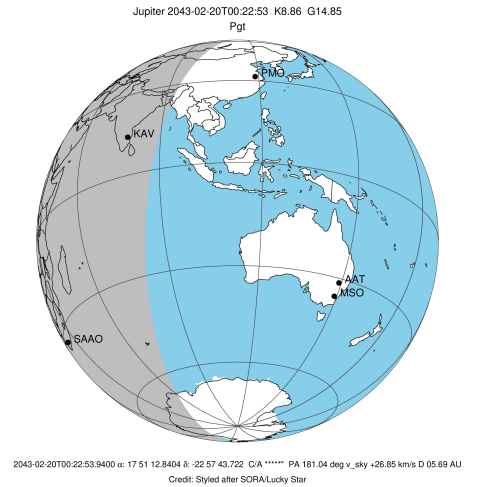


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-19T23:46:07.919	34.77	-19.78	71488.5	38.81	42.50
Jupiter	E	2043-02-20T00:55:03.477	46.35	-3.16x	71488.2	41.11	44.83

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-20T00:19:26.640
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       : 4068707151955936000
2Mass ID (if available) : 17511285-2257435
ICRS Star Coord at Epoch: 17h 51m 12.84043s -22:57:43.72186s
RUWE (>1.4 is poor) : 1.02
K magnitude           : 8.863
G magnitude           : 14.848
RP magnitude          : 13.388
BP magnitude          : 17.666
DUPflag              : 0
Distance (au)         : 5.687
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 26.85
Sun-Target sep (deg) : 62.67
Sun-Moon sep (deg)   : 164.45
B (ring opening deg) : -2.54
PA of pole (deg)     : 0.11
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 9.564
C/A sky separation (km) : 39452.0
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	2043-02-19T23:42:31.469	2.51x	-45.00	71489.5	32.21	35.70
Jupiter	E	2043-02-20T00:56:28.072	17.11	-37.32	71489.1	34.71	38.30