

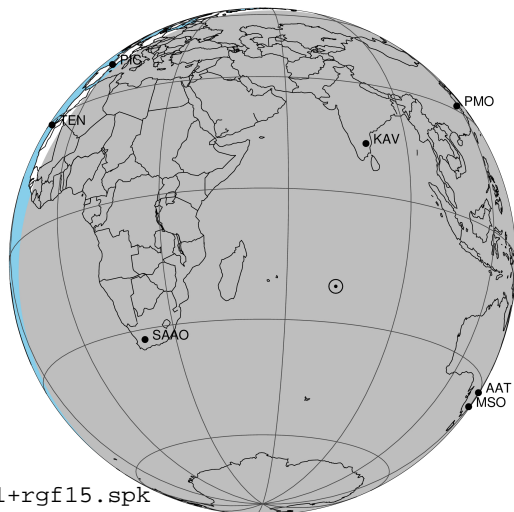
target : Jupiter  
 target radius (km) : 71492.00  
 C/A epoch : 2030-05-29T19:08:27.790  
 Event type : Pt  
 : Jupiter occs: topocentric, not geocentric  
 : Not a ringed target  
 Gaia source ID : 6259263446296689408  
 2Mass ID (if available) : 15124774-1641584

Jupiter 2030-05-29T19:08:27 K8.72 G11.19 Pt

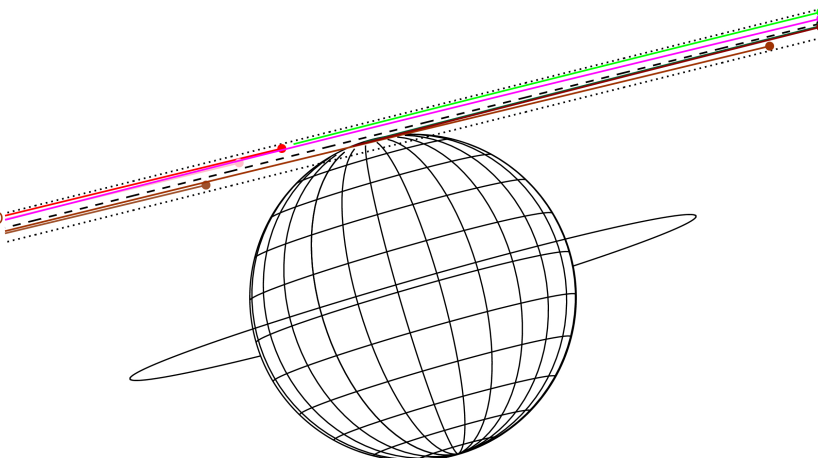
ICRS Star Coord at Epoch: 15h 12m 47.72311s -16:41:58.13275s

RUWE (>1.4 is poor) : 1.14  
 K magnitude : 8.720  
 G magnitude : 11.187  
 RP magnitude : 10.447  
 BP magnitude : 11.791  
 DUPflag : 0  
 Distance (au) : 4.418  
 f0 (km) : 0.00  
 g0 (km) : 0.00  
 skyplane vel. (km/s) : -15.54  
 Sun-Target sep (deg) : 162.24  
 Sun-Moon sep (deg) : 170.07  
 B (ring opening deg) : -3.28  
 PA of pole (deg) : 16.05  
 Pole direction: RA (deg): 268.05724  
 Dec (deg): 64.49652  
 C/A sky separation (") : 22.795  
 C/A sky separation (km) : 73036.9  
 NAIF SPICE kernels : RAJobs\_U111+rgf15.spk

Jupiter 2030-05-29T19:08:27 K8.72 G11.19  
 Pt



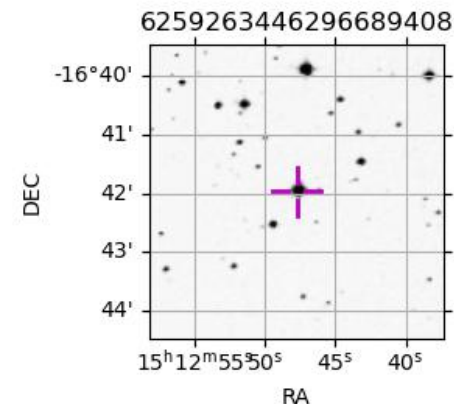
Earth  
 PIC  
 PMO  
 TEN  
 KAV  
 RIO  
 AAT  
 SAAO  
 MSO



2030-05-29T19:08:27.7900 a: 15 12 47.72311 s: -16 41 58.133 C/A \*\*\*\*\* PA 194.06 deg v\_sky -15.54 km/s D 04.42 AU  
 Credit: Styled after SORA/Lucky Star

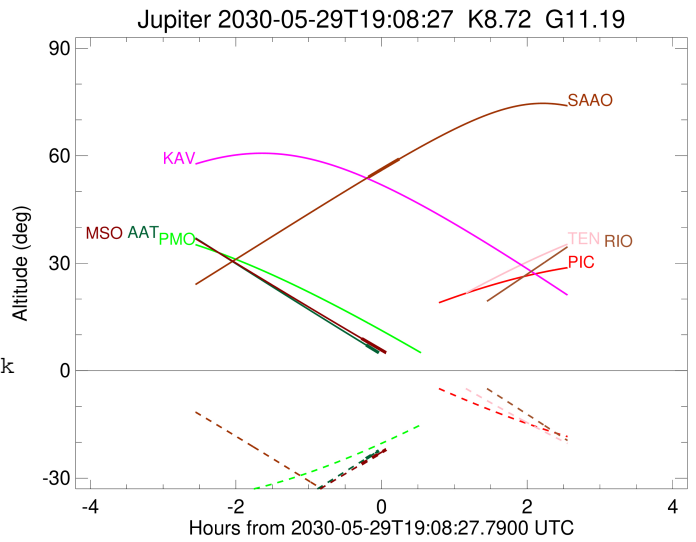
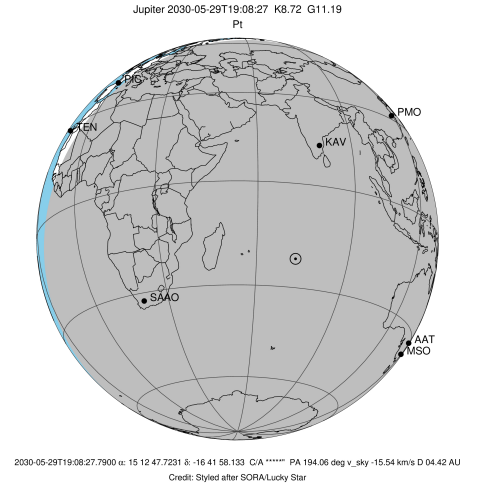
Observable events with sun below -5 deg and altitude above 5 deg

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	+	MAY 29 18:55 - MAY 29 18:55	Pin
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+	MAY 29 18:57 - MAY 29 19:23	Pie
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	MAY 29 18:52 - MAY 29 18:52	Pin



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2030-05-29T19:02:31.900
Event type            : Pt
: Jupiter occs: topocentric, not geocentric
: Not a ringed target
Observer code         : AAT
Location              : Siding Spring (AAT)
Latitude (deg)        : -31.27703
E. Longitude (deg)    : 149.06608
Altitude (km)         : 1.164
Gaia source ID        : 6259263446296689408
2Mass ID (if available) : 15124774-1641584
ICRS Star Coord at Epoch: 15h 12m 47.72311s -16:41:58.13275s
RUWE (>1.4 is poor) : 1.14
K magnitude           : 8.720
G magnitude           : 11.187
RP magnitude          : 10.447
BP magnitude          : 11.791
DUPflag              : 0
Distance (au)         : 4.418
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -15.54
Sun-Target sep (deg) : 162.24
Sun-Moon sep (deg)   : 170.74
B (ring opening deg) : -3.28
PA of pole (deg)     : 16.05
Pole direction: RA (deg): 268.05724
Dec (deg): 64.49652
C/A sky separation (") : 22.222
C/A sky separation (km) : 71198.9
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
    
```

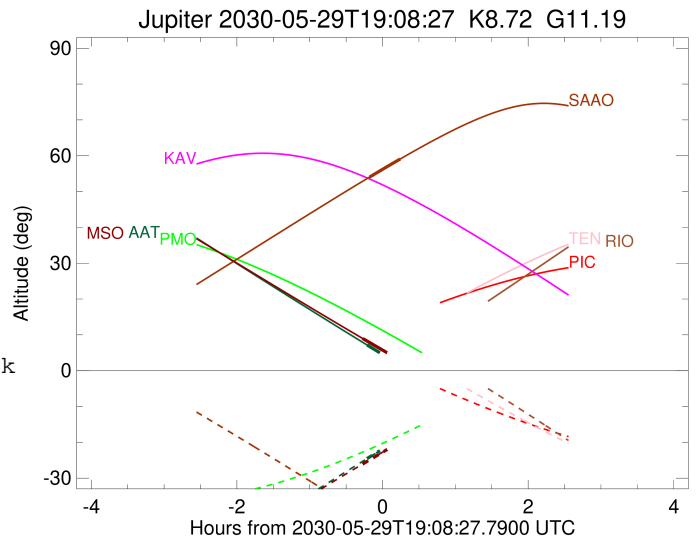
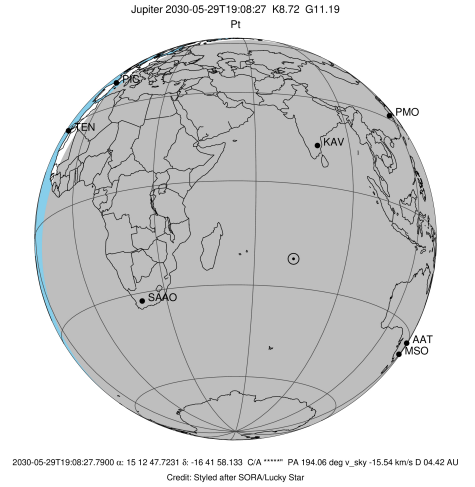


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2030-05-29T18:55:46.136	7.16	-24.54	71477.6	82.62	83.48
Jupiter	E	2030-05-29T19:09:17.878	4.37x	-21.71	71477.4	85.20	85.77

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2030-05-29T19:10:20.650
Event type          : Pt
                    : Jupiter occs: topocentric, not geocentric
                    : 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      : 6259263446296689408
2Mass ID (if available) : 15124774-1641584
ICRS Star Coord at Epoch: 15h 12m 47.72311s -16:41:58.13275s
RUWE (>1.4 is poor) : 1.14
K magnitude          : 8.720
G magnitude          : 11.187
RP magnitude         : 10.447
BP magnitude         : 11.791
DUPflag             : 0
Distance (au)       : 4.418
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.54
Sun-Target sep (deg) : 162.24
Sun-Moon sep (deg)  : 169.75
B (ring opening deg) : -3.28
PA of pole (deg)    : 16.05
Pole direction: RA (deg): 268.05724
Dec (deg): 64.49652
C/A sky separation ("): 21.988
C/A sky separation (km): 70450.7
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
    
```

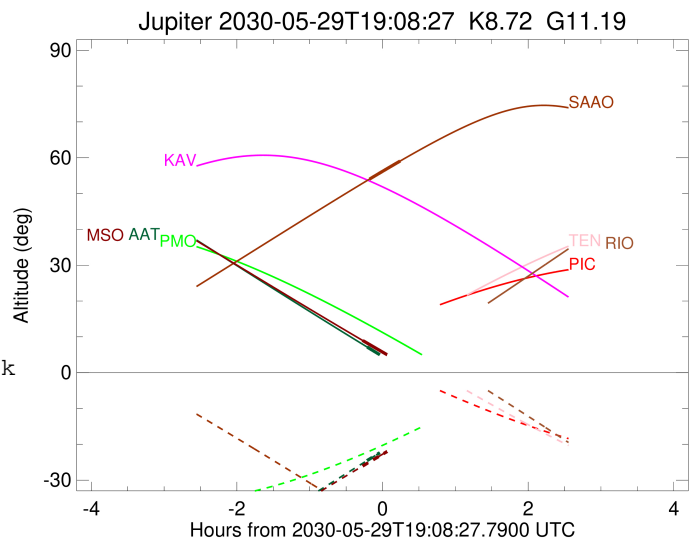
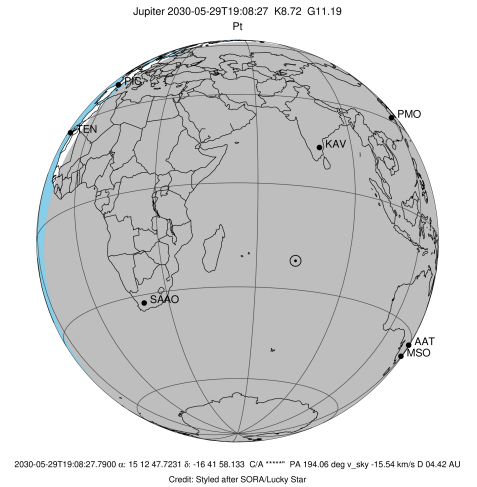


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2030-05-29T18:57:38.149	54.00	-41.11	71478.0	77.36	78.82
Jupiter	E	2030-05-29T19:23:02.481	59.08	-46.49	71477.6	82.06	82.99

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2030-05-29T19:02:40.020
Event type           : Pt
: Jupiter occs: topocentric, not geocentric
: Not a ringed target
Observer code        : MSO
Location             : Mt. Stromlo Observatory
Latitude (deg)       : -35.32000
E. Longitude (deg)   : 149.00833
Altitude (km)        : 0.770
Gaia source ID       : 6259263446296689408
2Mass ID (if available) : 15124774-1641584
ICRS Star Coord at Epoch: 15h 12m 47.72311s -16:41:58.13275s
RUWE (>1.4 is poor) : 1.14
K magnitude           : 8.720
G magnitude           : 11.187
RP magnitude         : 10.447
BP magnitude         : 11.791
DUPflag              : 0
Distance (au)        : 4.418
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -15.54
Sun-Target sep (deg) : 162.24
Sun-Moon sep (deg)   : 170.70
B (ring opening deg) : -3.28
PA of pole (deg)     : 16.05
Pole direction: RA (deg): 268.05724
Dec (deg): 64.49652
C/A sky separation (") : 22.096
C/A sky separation (km) : 70796.3
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	2030-05-29T18:52:06.496	8.99	-26.06	71477.8	79.96	81.13
Jupiter	E	2030-05-29T19:13:14.178	4.82x	-21.82	71477.5	82.86	83.70