

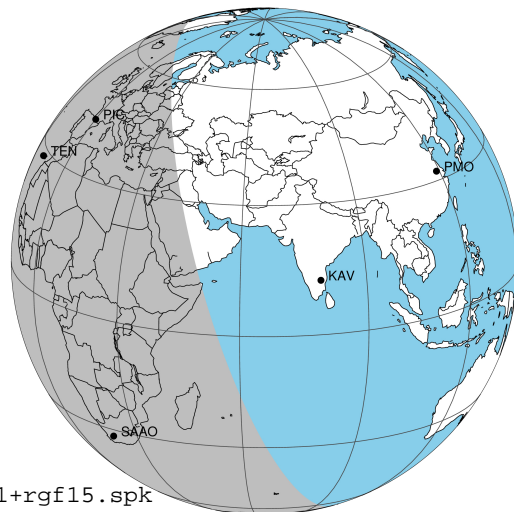
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2047-07-30T02:27:31.350
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 55413191312406144
 2Mass ID (if available) : 03181655+1707525

Jupiter 2047-07-30T02:27:31 K9.48 G11.81 Pgt

ICRS Star Coord at Epoch: 03h 18m 16.56718s +17:07:52.17289s

RUWE (>1.4 is poor) : 1.32
 K magnitude : 9.484
 G magnitude : 11.814
 RP magnitude : 11.094
 BP magnitude : 12.388
 DUPflag : 0
 Distance (au) : 5.147
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 20.95
 Sun-Target sep (deg) : 74.55
 Sun-Moon sep (deg) : 165.72
 B (ring opening deg) : 3.22
 PA of pole (deg) : -15.57
 Pole direction: RA (deg): 268.05721
 Dec (deg): 64.49723
 C/A sky separation (") : 0.914
 C/A sky separation (km) : 3412.3
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2047-07-30T02:27:31 K9.48 G11.81
 Pgt

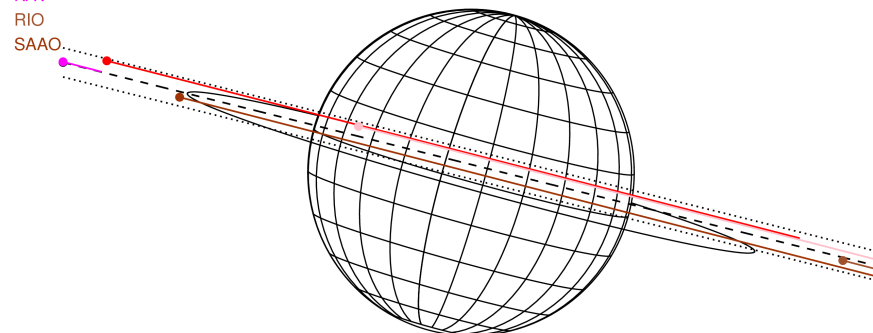


2047-07-30T02:27:31.3500 ex: 03 18 16.5672 s: +17 07 52.173 C/A 0.924" PA 165.97 deg v_sky +20.95 km/s D 05.15 AU

Credit: Styled after SORA/Lucky Star

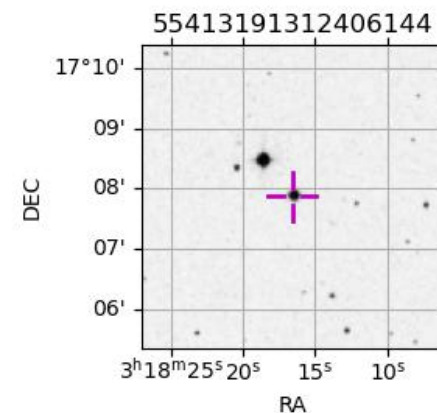
Earth

PIC
 TEN
 KAV
 RIO
 SAAO



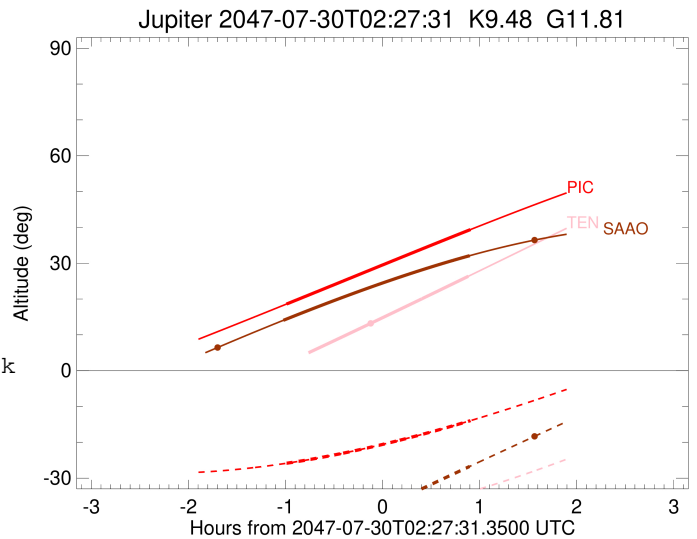
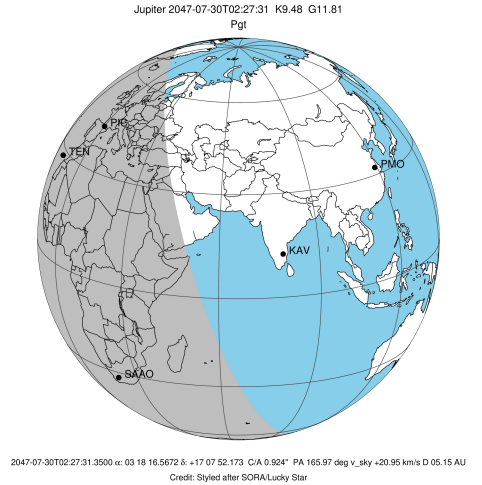
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1	+ +	JUL 30 01:28 - JUL 30 03:21	Pie
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	+	JUL 30 03:20 - JUL 30 03:20	Pne
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	+ +	JUL 30 01:26 - JUL 30 03:21	Pie
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2047-07-30T02:24:55.850
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : PIC
Location              : Pic du Midi
Latitude (deg)        : 42.93656
E. Longitude (deg)    : 0.14231
Altitude (km)         : 2.890
Gaia source ID        : 55413191312406144
2Mass ID (if available) : 03181655+1707525
ICRS Star Coord at Epoch: 03h 18m 16.56718s +17:07:52.17289s
RUWE (>1.4 is poor) : 1.32
K magnitude           : 9.484
G magnitude           : 11.814
RP magnitude          : 11.094
BP magnitude          : 12.388
DUPflag              : 0
Distance (au)         : 5.147
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 20.95
Sun-Target sep (deg) : 74.55
Sun-Moon sep (deg)   : 165.12
B (ring opening deg) : 3.22
PA of pole (deg)     : -15.57
Pole direction: RA (deg): 268.05721
Dec (deg): 64.49723
C/A sky separation (") : 2.116
C/A sky separation (km) : 7898.6
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
    
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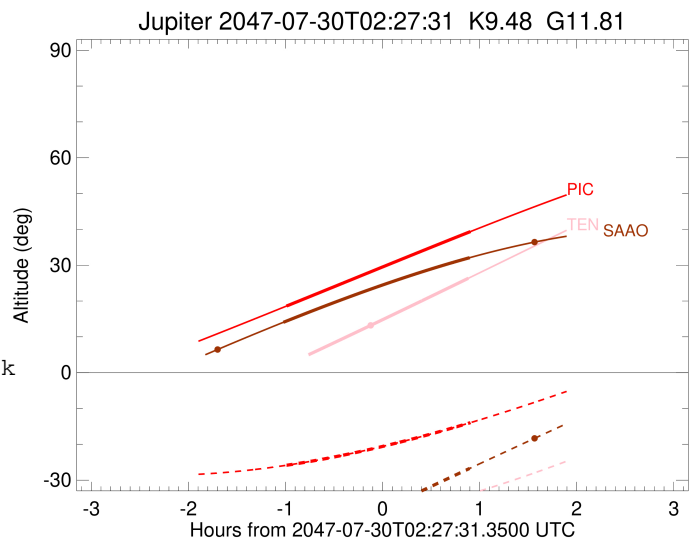
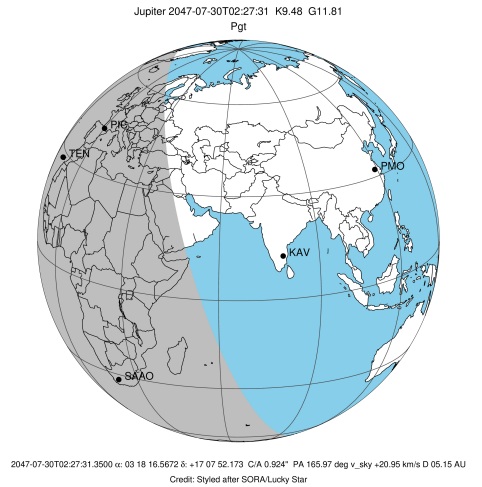


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2047-07-30T01:28:13.467	18.60	-25.84	71491.9	5.13	5.86
Jupiter	E	2047-07-30T03:21:53.929	39.38	-13.95	71491.8	7.51	8.57

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2047-07-30T02:23:45.200
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : TEN
Location             : Teide Obs./Tenerife
Latitude (deg)       : 28.30050
E. Longitude (deg)   : 343.48909
Altitude (km)        : 2.395
Gaia source ID       : 55413191312406144
2Mass ID (if available) : 03181655+1707525
ICRS Star Coord at Epoch: 03h 18m 16.56718s +17:07:52.17289s
RUWE (>1.4 is poor) : 1.32
K magnitude          : 9.484
G magnitude          : 11.814
RP magnitude         : 11.094
BP magnitude         : 12.388
DUPflag             : 0
Distance (au)        : 5.147
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 20.95
Sun-Target sep (deg) : 74.55
Sun-Moon sep (deg)   : 164.89
B (ring opening deg) : 3.22
PA of pole (deg)     : -15.57
Pole direction: RA (deg): 268.05721
Dec (deg): 64.49723
C/A sky separation (") : 1.966
C/A sky separation (km) : 7338.7
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
    
```

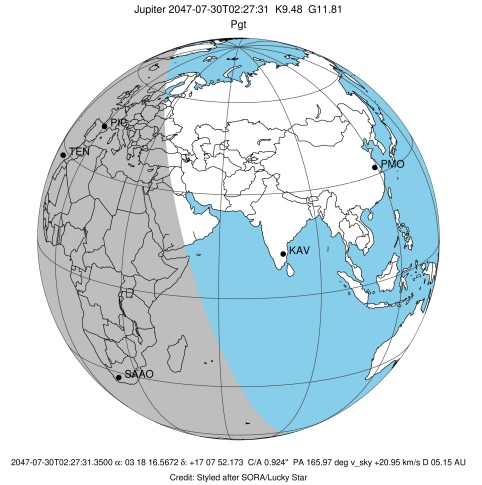


x: target alt < 5.0 deg or sun > -5.0 deg

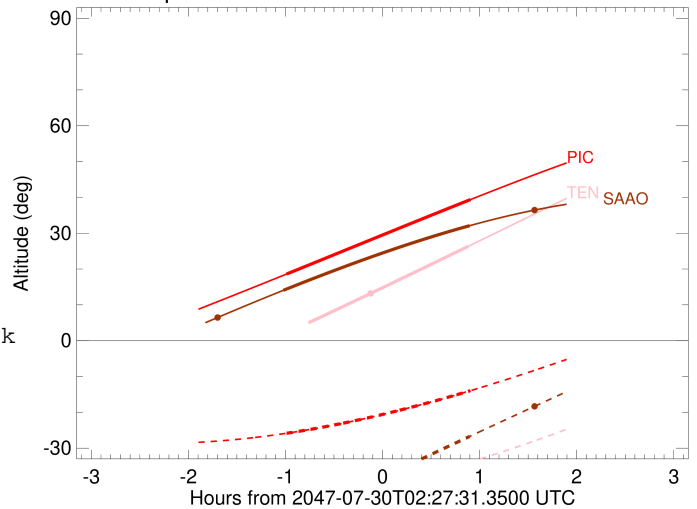
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2047-07-30T01:27:16.507	1.94x	-43.18	71491.9	4.68	5.35
Jupiter	E	2047-07-30T03:20:32.855	26.34	-33.99	71491.8	7.03	8.02

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2047-07-30T02:23:42.340
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       : 55413191312406144
2Mass ID (if available) : 03181655+1707525
ICRS Star Coord at Epoch: 03h 18m 16.56718s +17:07:52.17289s
RUWE (>1.4 is poor) : 1.32
K magnitude          : 9.484
G magnitude          : 11.814
RP magnitude         : 11.094
BP magnitude         : 12.388
DUPflag             : 0
Distance (au)        : 5.147
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 20.95
Sun-Target sep (deg) : 74.55
Sun-Moon sep (deg)   : 165.35
B (ring opening deg) : 3.22
PA of pole (deg)     : -15.57
Pole direction: RA (deg): 268.05721
Dec (deg): 64.49723
C/A sky separation (") : 0.028
C/A sky separation (km) : 102.8
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
    
```



Jupiter 2047-07-30T02:27:31 K9.48 G11.81



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	2047-07-30T01:26:16.943	14.06	-50.99	71492.0	-1.04	-1.19
Jupiter	E	2047-07-30T03:21:23.177	32.09	-26.73	71492.0	1.21	1.38