

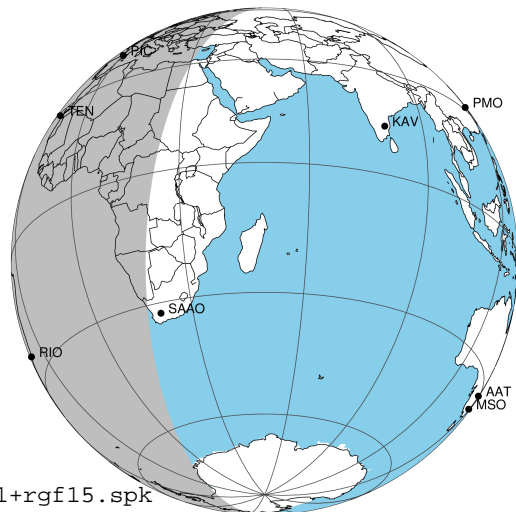
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-02-19T04:37:57.510
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068708663746825088
 2Mass ID (if available) : 17503915-2257431

Jupiter 2043-02-19T04:37:57 K8.02 G14.81 Pgt

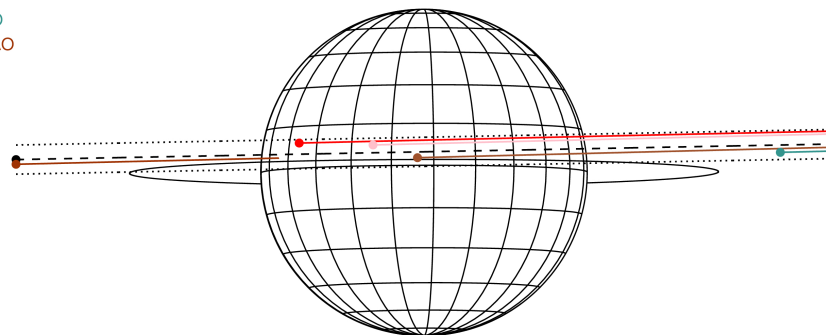
ICRS Star Coord at Epoch: 17h 50m 39.15866s -22:57:43.24874s

RUWE (>1.4 is poor) : 0.92
 K magnitude : 8.021
 G magnitude : 14.809
 RP magnitude : 13.227
 BP magnitude : 18.501
 DUPflag : 0
 Distance (au) : 5.699
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 27.18
 Sun-Target sep (deg) : 61.97
 Sun-Moon sep (deg) : 173.11
 B (ring opening deg) : -2.54
 PA of pole (deg) : 0.17
 Pole direction: RA (deg): 268.05662
 Dec (deg): 64.49732
 C/A sky separation (") : 2.193
 C/A sky separation (km) : 9064.2
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-02-19T04:37:57 K8.02 G14.81
 Pgt



Earth
 PIC
 TEN
 RIO
 ESO
 SAAO

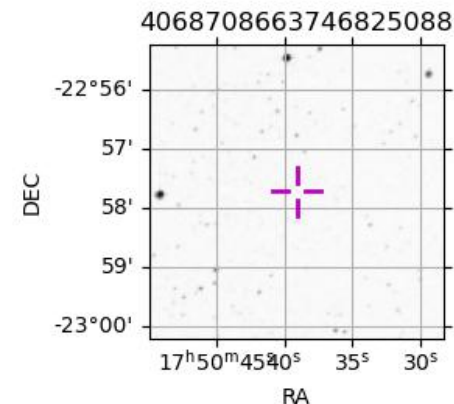


2043-02-19T04:37:57.5100 ex: 17 50 39.1587 s: -22 57 43.249 C/A 2.183 PA 181.10 deg v_sky +27.18 km/s D 05.70 AU

Credit: Styled after SORA/Lucky Star

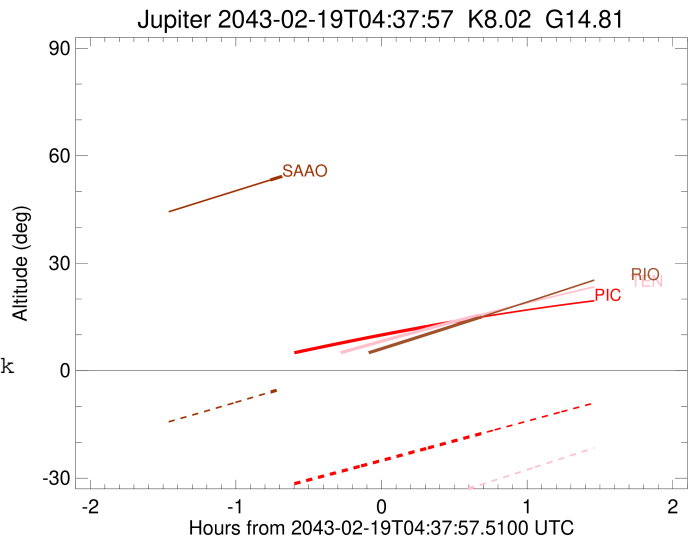
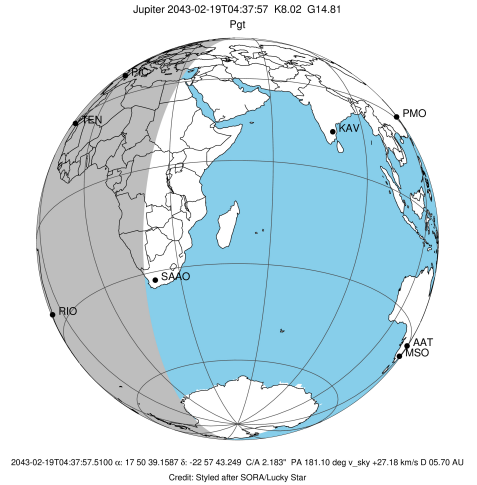
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEncode
PIC	Pic du Midi	42.9	0.1	+	FEB 19 05:19 - FEB 19 05:19	Pne
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	+	FEB 19 05:18 - FEB 19 05:18	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	+	FEB 19 05:18 - FEB 19 05:18	Pne
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 19 03:52 - FEB 19 03:52	Pin
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-02-19T04:35:40.450
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       : 4068708663746825088
2Mass ID (if available) : 17503915-2257431
ICRS Star Coord at Epoch: 17h 50m 39.15866s -22:57:43.24874s
RUWE (>1.4 is poor) : 0.92
K magnitude           : 8.021
G magnitude           : 14.809
RP magnitude          : 13.227
BP magnitude          : 18.501
DUPflag              : 0
Distance (au)         : 5.699
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 27.18
Sun-Target sep (deg) : 61.97
Sun-Moon sep (deg)   : 174.08
B (ring opening deg) : -2.54
PA of pole (deg)     : 0.17
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 3.426
C/A sky separation (km) : 14161.8
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
    
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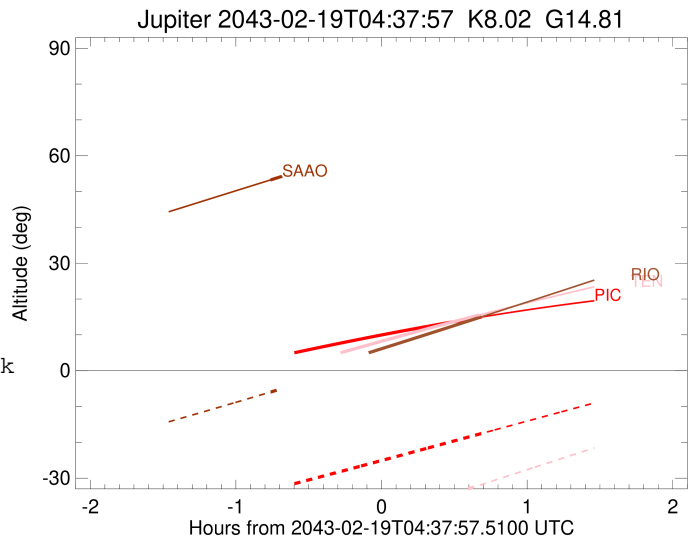
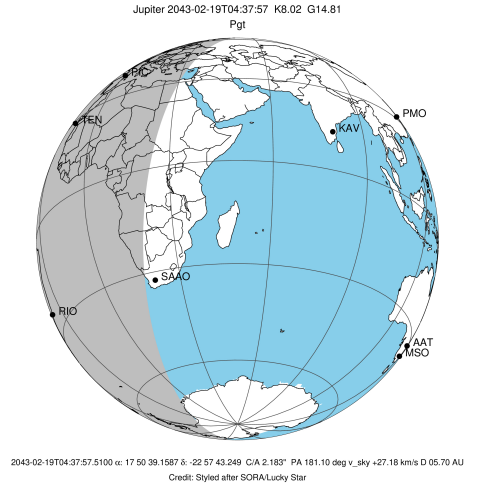


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-19T03:52:24.247	3.58x	-33.26	71491.7	10.25	11.68
Jupiter	E	2043-02-19T05:19:02.815	14.95	-17.56	71491.6	12.54	14.27

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-02-19T04:34:42.460
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        : 4068708663746825088
2Mass ID (if available) : 17503915-2257431
ICRS Star Coord at Epoch: 17h 50m 39.15866s -22:57:43.24874s
RUWE (>1.4 is poor) : 0.92
K magnitude           : 8.021
G magnitude           : 14.809
RP magnitude          : 13.227
BP magnitude          : 18.501
DUPflag              : 0
Distance (au)         : 5.699
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 27.18
Sun-Target sep (deg)  : 61.97
Sun-Moon sep (deg)    : 174.01
B (ring opening deg) : -2.54
PA of pole (deg)      : 0.17
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 3.051
C/A sky separation (km) : 12611.0
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
    
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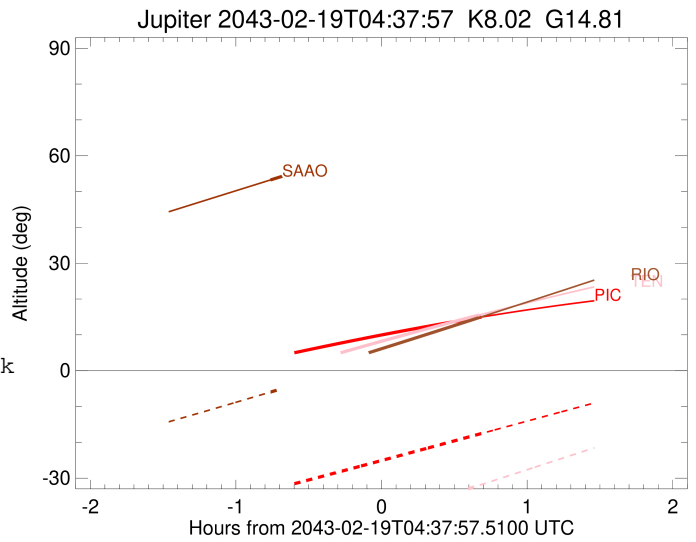
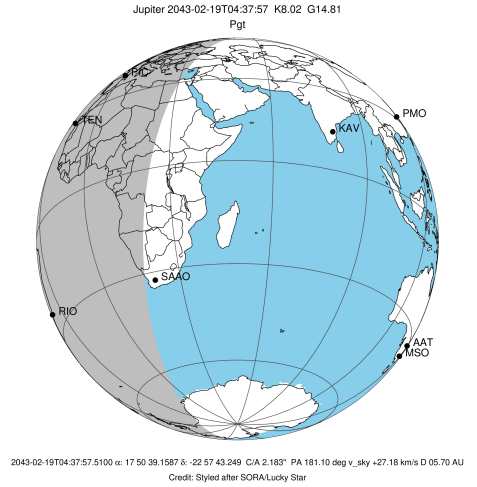


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-19T03:51:22.151	-0.83x	-50.80	71491.8	8.90	10.15
Jupiter	E	2043-02-19T05:18:11.041	15.53	-32.00	71491.7	11.37	12.95

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-19T04:34:21.530
Event type           : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code        : RIO
Location             : Rio de Janeiro
Latitude (deg)       : -22.89506
E. Longitude (deg)  : 316.77708
Altitude (km)        : 0.033
Gaia source ID       : 4068708663746825088
2Mass ID (if available) : 17503915-2257431
ICRS Star Coord at Epoch: 17h 50m 39.15866s -22:57:43.24874s
RUWE (>1.4 is poor) : 0.92
K magnitude          : 8.021
G magnitude           : 14.809
RP magnitude         : 13.227
BP magnitude         : 18.501
DUPflag             : 0
Distance (au)        : 5.699
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 27.18
Sun-Target sep (deg) : 61.97
Sun-Moon sep (deg)  : 173.27
B (ring opening deg) : -2.54
PA of pole (deg)    : 0.17
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 1.585
C/A sky separation (km) : 6553.0
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
    
```

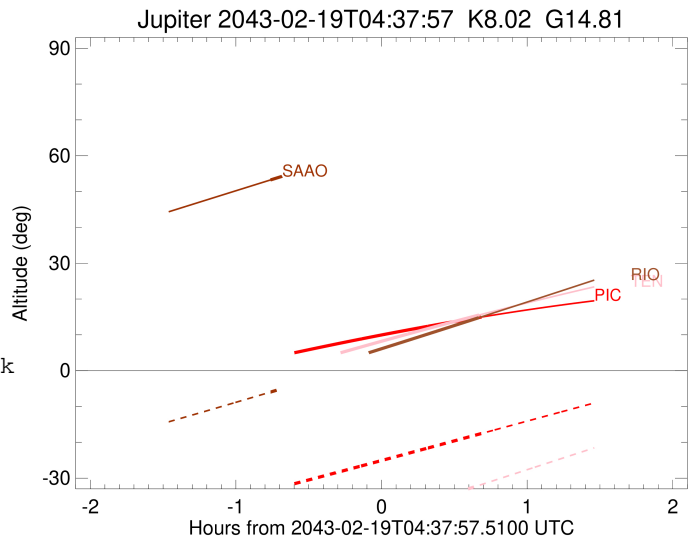
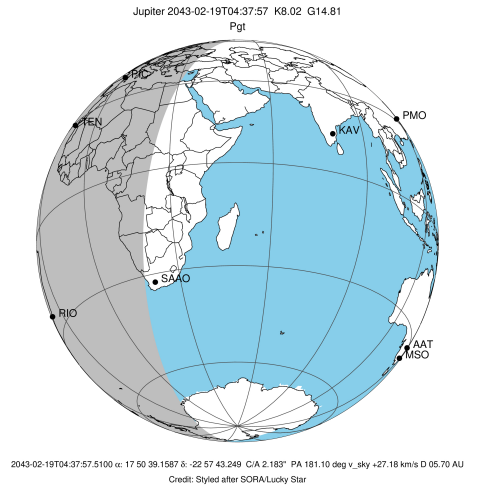


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-02-19T03:50:49.641	-3.78x	-54.24	71492.0	3.99	4.56
Jupiter	E	2043-02-19T05:18:02.601	14.78	-43.14	71491.9	6.53	7.45

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-02-19T04:36:20.020
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      : 4068708663746825088
2Mass ID (if available) : 17503915-2257431
ICRS Star Coord at Epoch: 17h 50m 39.15866s -22:57:43.24874s
RUWE (>1.4 is poor) : 0.92
K magnitude          : 8.021
G magnitude          : 14.809
RP magnitude         : 13.227
BP magnitude         : 18.501
DUPflag             : 0
Distance (au)       : 5.699
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 27.18
Sun-Target sep (deg) : 61.97
Sun-Moon sep (deg)  : 173.26
B (ring opening deg) : -2.54
PA of pole (deg)    : 0.17
Pole direction: RA (deg): 268.05662
Dec (deg): 64.49732
C/A sky separation (") : 1.871
C/A sky separation (km) : 7732.8
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
    
```



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	2043-02-19T03:52:14.115	53.24	-5.97	71491.9	5.08	5.81
Jupiter	E	2043-02-19T05:20:31.039	71.38	12.29x	71491.9	7.27	8.30