

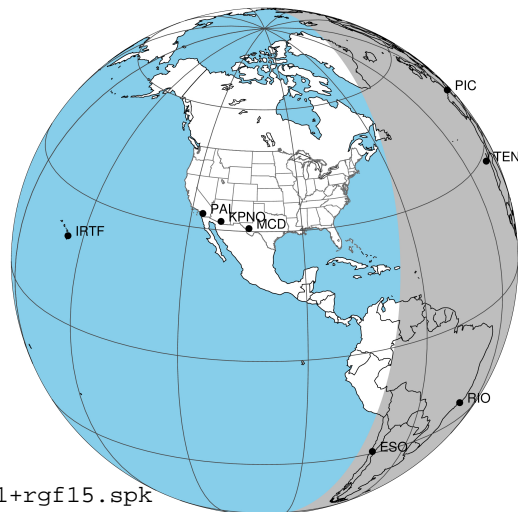
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2049-04-18T22:36:17.240
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3427610749498691840
 2Mass ID (if available) : 05434324+2316530

Jupiter 2049-04-18T22:36:17 K9.56 G11.37 Pgt

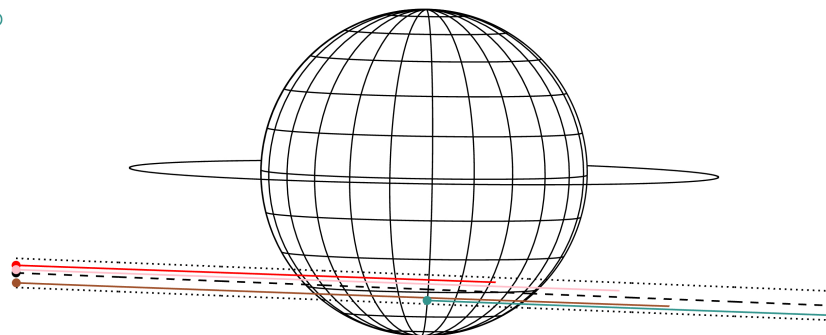
ICRS Star Coord at Epoch: 05h 43m 43.33816s +23:16:52.82619s

RUWE (>1.4 is poor) : 1.15
 K magnitude : 9.557
 G magnitude : 11.370
 RP magnitude : 10.768
 BP magnitude : 11.806
 DUPflag : 0
 Distance (au) : 5.616
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 28.57
 Sun-Target sep (deg) : 57.63
 Sun-Moon sep (deg) : 133.83
 B (ring opening deg) : 2.21
 PA of pole (deg) : -0.92
 Pole direction: RA (deg): 268.05743
 Dec (deg): 64.49719
 C/A sky separation (") : 12.550
 C/A sky separation (km) : 51116.9
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2049-04-18T22:36:17 K9.56 G11.37
 Pgt



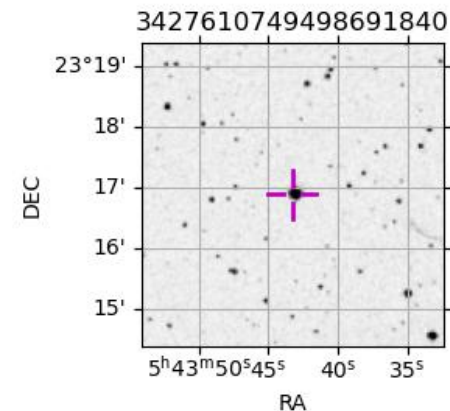
Earth
 PIC
 TEN
 RIO
 ESO



2049-04-18T22:36:17.2400 α: 05 43 43.3382 δ: +23 16 52.826 C/A ***** PA 357.70 deg v_sky +28.57 km/s D 05.62 AU
 Credit: Styled after SORA/Lucky Star

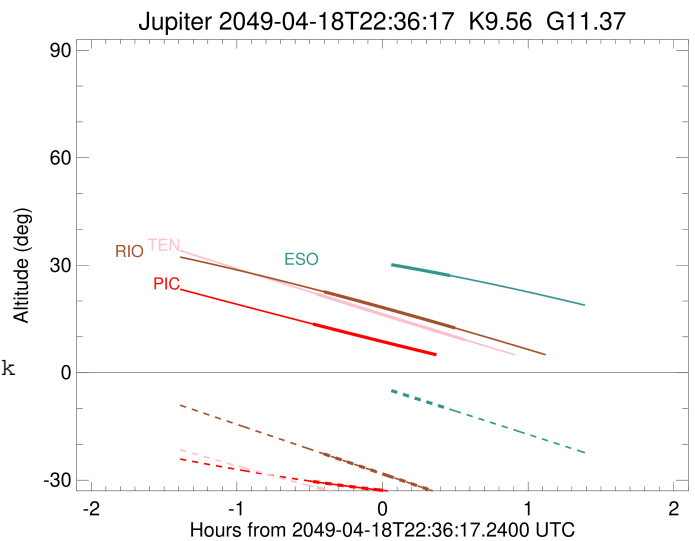
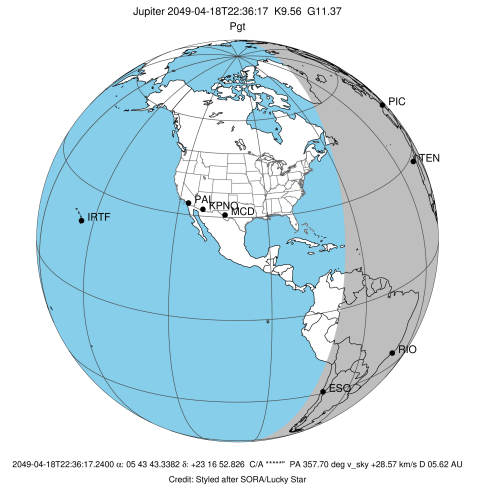
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1	+	APR 18 22:07 - APR 18 22:07	Pin
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	+ +	APR 18 22:09 - APR 18 23:10	Pie
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	+ +	APR 18 22:12 - APR 18 23:06	Pie
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	APR 18 23:04 - APR 18 23:04	Pne
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



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2049-04-18T22:39:11.010
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       : 3427610749498691840
2Mass ID (if available) : 05434324+2316530
ICRS Star Coord at Epoch: 05h 43m 43.33816s +23:16:52.82619s
RUWE (>1.4 is poor) : 1.15
K magnitude           : 9.557
G magnitude           : 11.370
RP magnitude         : 10.768
BP magnitude         : 11.806
DUPflag              : 0
Distance (au)        : 5.616
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 28.57
Sun-Target sep (deg) : 57.63
Sun-Moon sep (deg)   : 134.41
B (ring opening deg) : 2.21
PA of pole (deg)     : -0.92
Pole direction: RA (deg): 268.05743
Dec (deg): 64.49719
C/A sky separation ("): 11.530
C/A sky separation (km): 46962.8
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
    
```

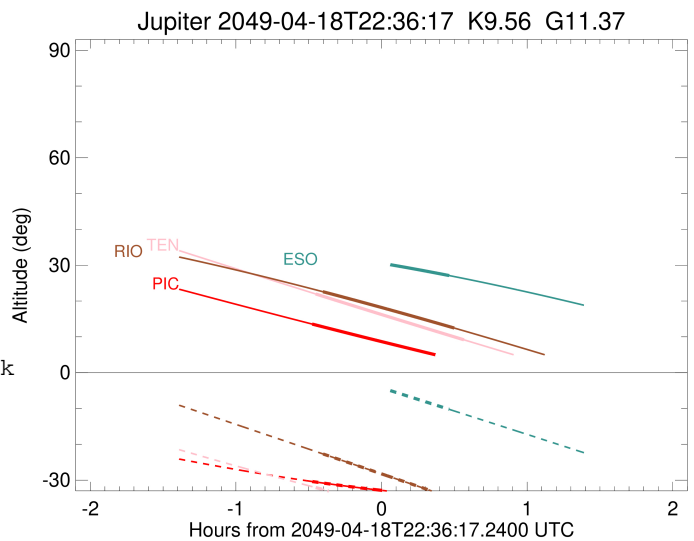
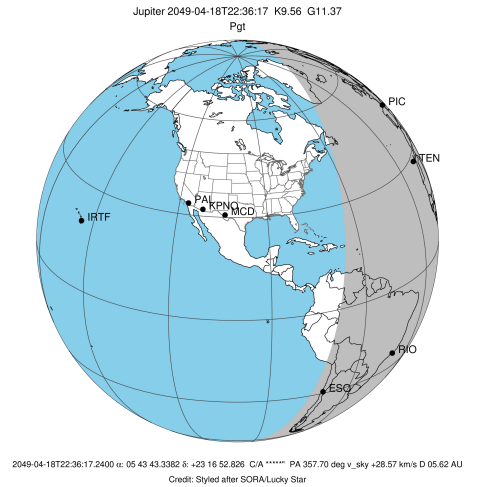


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-04-18T22:07:46.697	13.55	-30.39	71489.3	-39.92	-43.62
Jupiter	E	2049-04-18T23:10:31.626	3.04x	-34.91	71489.0	-42.14	-45.86

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2049-04-18T22:39:45.580
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        : 3427610749498691840
2Mass ID (if available) : 05434324+2316530
ICRS Star Coord at Epoch: 05h 43m 43.33816s +23:16:52.82619s
RUWE (>1.4 is poor) : 1.15
K magnitude           : 9.557
G magnitude           : 11.370
RP magnitude          : 10.768
BP magnitude          : 11.806
DUPflag              : 0
Distance (au)         : 5.616
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 28.57
Sun-Target sep (deg)  : 57.63
Sun-Moon sep (deg)    : 134.61
B (ring opening deg) : 2.21
PA of pole (deg)      : -0.92
Pole direction: RA (deg): 268.05743
Dec (deg): 64.49719
C/A sky separation (") : 11.975
C/A sky separation (km) : 48775.1
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
    
```

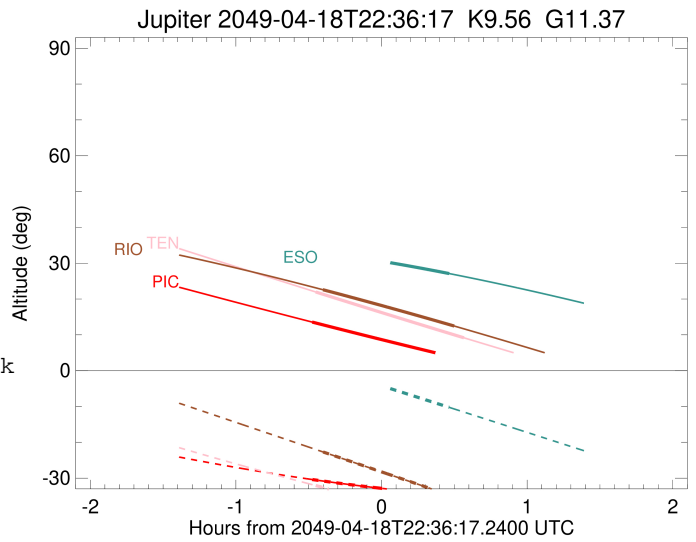
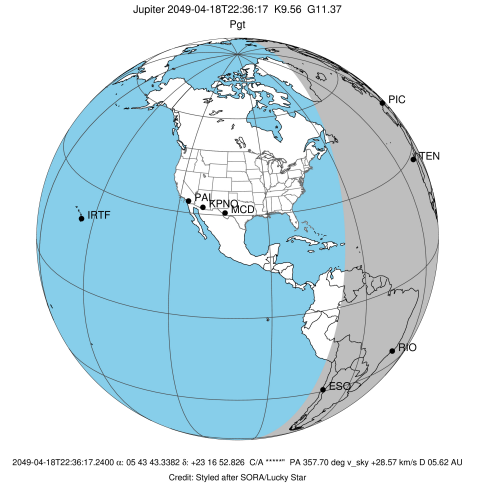


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-04-18T22:09:11.245	21.96	-32.07	71489.0	-41.92	-45.64
Jupiter	E	2049-04-18T23:10:15.775	9.17	-41.83	71488.8	-44.04	-47.75

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2049-04-18T22:39:15.330
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       : 3427610749498691840
2Mass ID (if available) : 05434324+2316530
ICRS Star Coord at Epoch: 05h 43m 43.33816s +23:16:52.82619s
RUWE (>1.4 is poor) : 1.15
K magnitude           : 9.557
G magnitude           : 11.370
RP magnitude         : 10.768
BP magnitude         : 11.806
DUPflag              : 0
Distance (au)        : 5.616
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 28.57
Sun-Target sep (deg) : 57.63
Sun-Moon sep (deg)   : 134.59
B (ring opening deg) : 2.21
PA of pole (deg)     : -0.92
Pole direction: RA (deg): 268.05743
Dec (deg): 64.49719
C/A sky separation (") : 13.455
C/A sky separation (km) : 54805.0
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
    
```

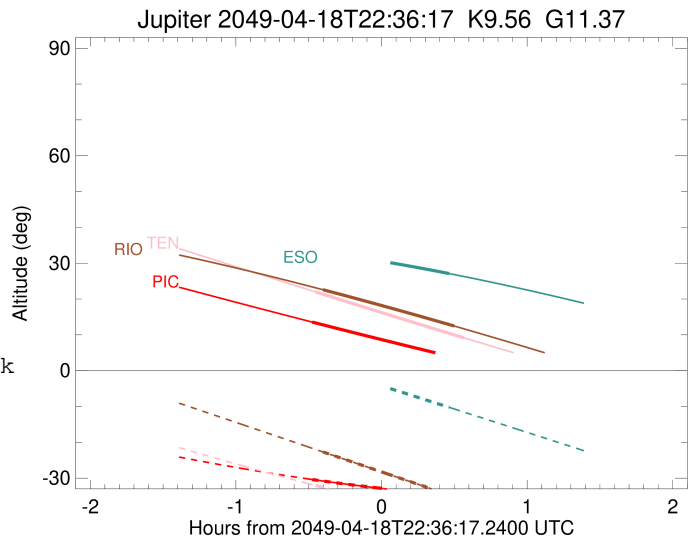
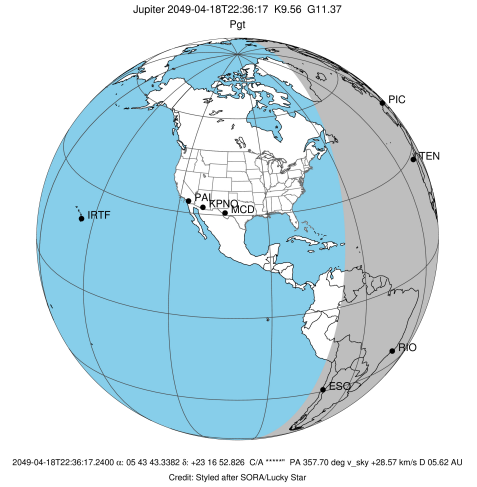


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-04-18T22:12:13.642	22.58	-22.70	71488.2	-48.88	-52.50
Jupiter	E	2049-04-18T23:06:14.090	12.46	-35.15	71488.0	-51.10	-54.64

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2049-04-18T22:37:52.210
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : ESO
Location              : European Southern Obs. (3.6m)
Latitude (deg)        : -29.26097
E. Longitude (deg)    : 289.26831
Altitude (km)         : 2.400
Gaia source ID        : 3427610749498691840
2Mass ID (if available) : 05434324+2316530
ICRS Star Coord at Epoch: 05h 43m 43.33816s +23:16:52.82619s
RUWE (>1.4 is poor) : 1.15
K magnitude           : 9.557
G magnitude           : 11.370
RP magnitude          : 10.768
BP magnitude          : 11.806
DUPflag              : 0
Distance (au)         : 5.616
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 28.57
Sun-Target sep (deg)  : 57.63
Sun-Moon sep (deg)    : 134.49
B (ring opening deg) : 2.21
PA of pole (deg)      : -0.92
Pole direction: RA (deg): 268.05743
Dec (deg): 64.49719
C/A sky separation (") : 13.742
C/A sky separation (km) : 55974.0
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	2049-04-18T22:11:34.816	33.13	1.06x	71488.1	-50.22	-53.80
Jupiter	E	2049-04-18T23:04:07.881	27.11	-10.23	71487.8	-52.71	-56.19