

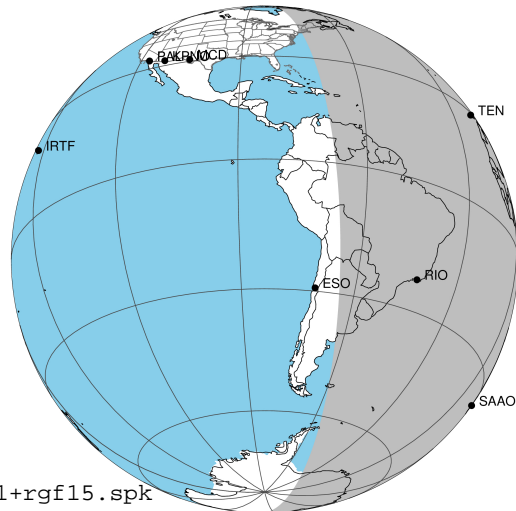
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-10-07T22:17:27.640
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4068805244591185024
 2Mass ID (if available) : 17445781-2319085

Jupiter 2043-10-07T22:17:27 K9.54 G14.41 Pgt

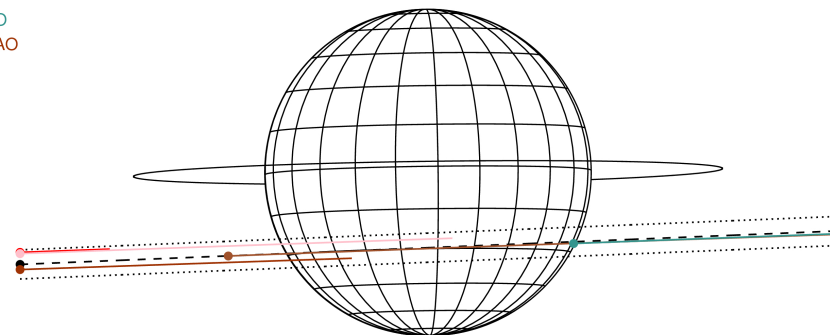
ICRS Star Coord at Epoch: 17h 44m 57.82565s -23:19:08.84256s

RUWE (>1.4 is poor) : 0.98
 K magnitude : 9.536
 G magnitude : 14.413
 RP magnitude : 13.154
 BP magnitude : 16.027
 DUPflag : 0
 Distance (au) : 5.439
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 22.04
 Sun-Target sep (deg) : 72.61
 Sun-Moon sep (deg) : 20.12
 B (ring opening deg) : -2.17
 PA of pole (deg) : 0.78
 Pole direction: RA (deg): 268.05674
 Dec (deg): 64.49731
 C/A sky separation (") : 8.345
 C/A sky separation (km) : 32917.3
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-10-07T22:17:27 K9.54 G14.41
 Pgt



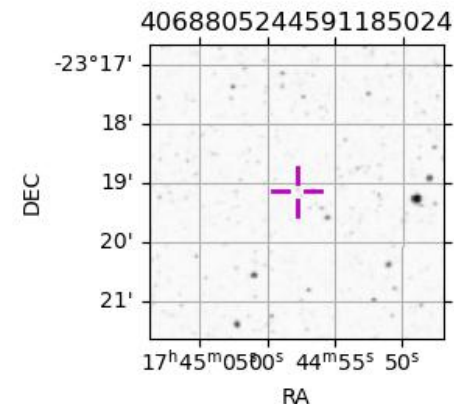
Earth
 PIC
 TEN
 RIO
 ESO
 SAAO



2043-10-07T22:17:27.6400 a: 17 44 57.8257 & -23 19 08.843 C/A 8.353" PA 2.34 deg v_sky +22.04 km/s D 05.44 AU
 Credit: Styled after SORA/Lucky Star

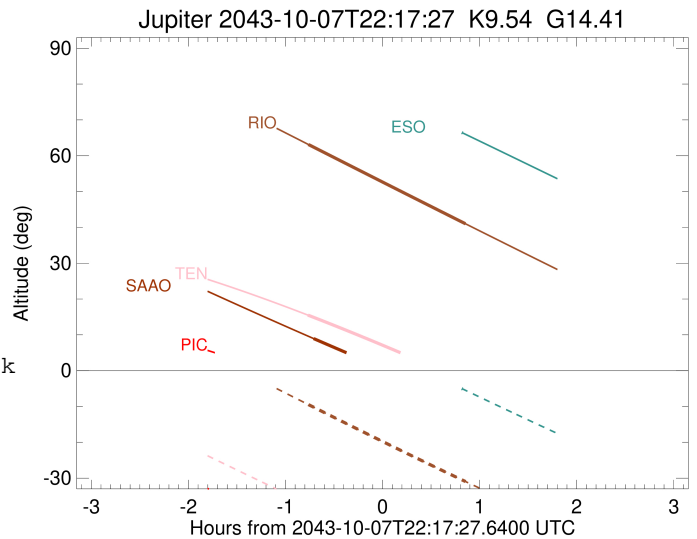
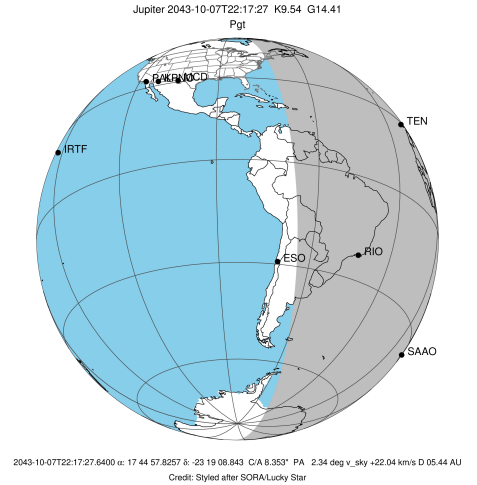
Observable events with sun below -5 deg and altitude above 5 deg

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	+	OCT 07 21:31 - OCT 07 21:31	Pin
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	+	OCT 07 21:31 - OCT 07 23:08	Pie
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+	OCT 07 23:06 - OCT 07 23:06	Pne
AAT	Siding Spring (AAT)	-31.3	149.1			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+	OCT 07 21:34 - OCT 07 21:34	Pin
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-07T22:21:09.920
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       : 4068805244591185024
2Mass ID (if available) : 17445781-2319085
ICRS Star Coord at Epoch: 17h 44m 57.82565s -23:19:08.84256s
RUWE (>1.4 is poor) : 0.98
K magnitude          : 9.536
G magnitude          : 14.413
RP magnitude         : 13.154
BP magnitude         : 16.027
DUPflag             : 0
Distance (au)       : 5.439
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 22.04
Sun-Target sep (deg) : 72.61
Sun-Moon sep (deg)  : 20.94
B (ring opening deg) : -2.17
PA of pole (deg)    : 0.78
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 7.390
C/A sky separation (km) : 29149.6
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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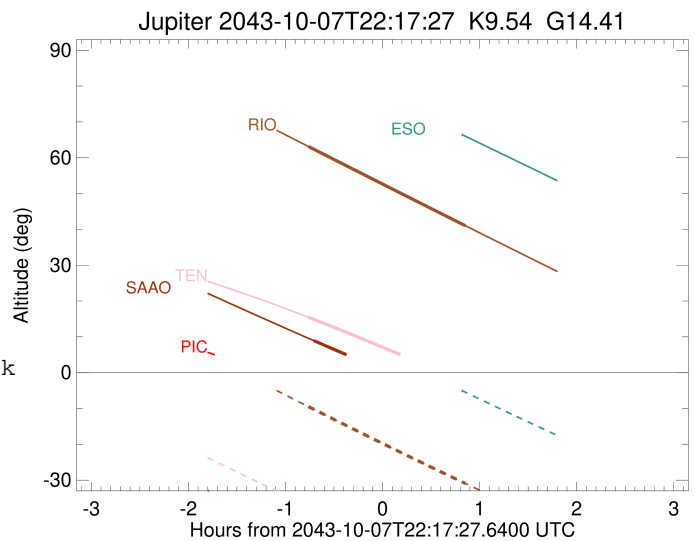
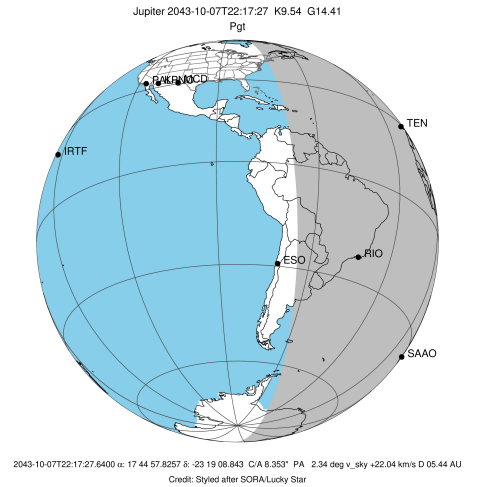


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-07T21:31:21.440	15.51	-37.18	71490.8	-25.25	-28.29
Jupiter	E	2043-10-07T23:10:45.067	-3.28x	-56.90	71491.0	-22.88	-25.73

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-07T22:20:17.830
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        : 4068805244591185024
2Mass ID (if available) : 17445781-2319085
ICRS Star Coord at Epoch: 17h 44m 57.82565s -23:19:08.84256s
RUWE (>1.4 is poor)  : 0.98
K magnitude           : 9.536
G magnitude           : 14.413
RP magnitude          : 13.154
BP magnitude          : 16.027
DUPflag              : 0
Distance (au)         : 5.439
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 22.04
Sun-Target sep (deg)  : 72.61
Sun-Moon sep (deg)    : 20.86
B (ring opening deg)  : -2.17
PA of pole (deg)      : 0.78
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 8.440
C/A sky separation (km) : 33294.5
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
    
```

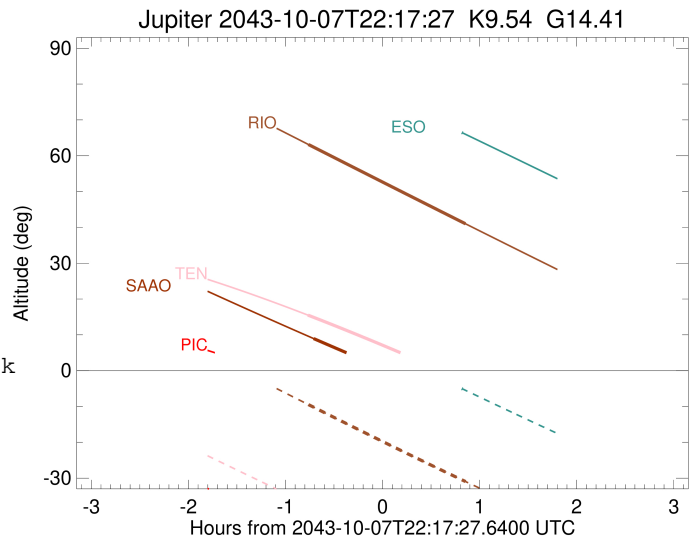
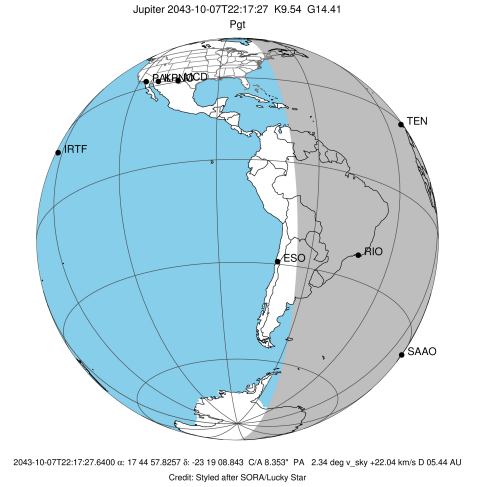


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-07T21:31:41.218	63.13	-9.47	71490.5	-29.07	-32.39
Jupiter	E	2043-10-07T23:08:44.441	41.00	-30.94	71490.7	-26.48	-29.62

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-10-07T22:18:25.900
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       : 4068805244591185024
2Mass ID (if available) : 17445781-2319085
ICRS Star Coord at Epoch: 17h 44m 57.82565s -23:19:08.84256s
RUWE (>1.4 is poor) : 0.98
K magnitude           : 9.536
G magnitude           : 14.413
RP magnitude         : 13.154
BP magnitude         : 16.027
DUPflag              : 0
Distance (au)        : 5.439
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 22.04
Sun-Target sep (deg) : 72.61
Sun-Moon sep (deg)   : 20.58
B (ring opening deg) : -2.17
PA of pole (deg)     : 0.78
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation ("): 8.510
C/A sky separation (km): 33570.4
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
    
```

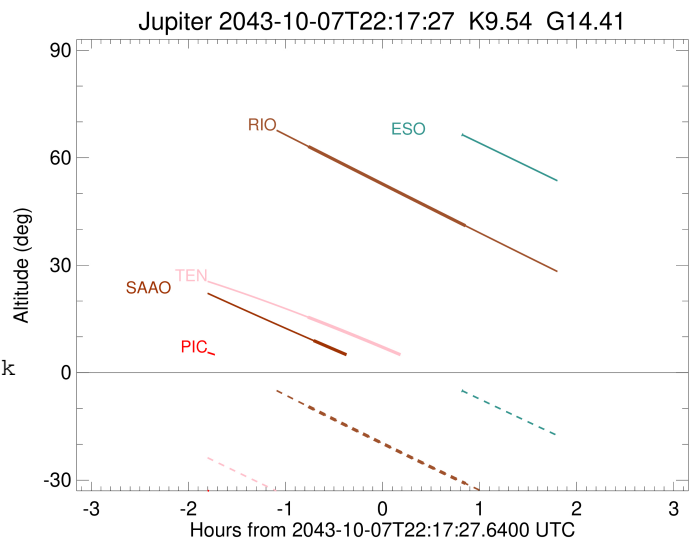
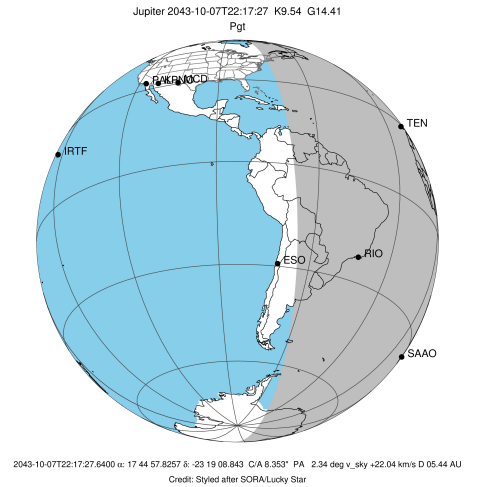


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-10-07T21:29:49.313	84.13	16.04x	71490.4	-29.53	-32.87
Jupiter	E	2043-10-07T23:06:57.791	66.36	-5.10	71490.7	-26.53	-29.68

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-10-07T22:21:17.620
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        : 4068805244591185024
2Mass ID (if available) : 17445781-2319085
ICRS Star Coord at Epoch: 17h 44m 57.82565s -23:19:08.84256s
RUWE (>1.4 is poor)  : 0.98
K magnitude           : 9.536
G magnitude           : 14.413
RP magnitude          : 13.154
BP magnitude          : 16.027
DUPflag              : 0
Distance (au)         : 5.439
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 22.04
Sun-Target sep (deg)  : 72.61
Sun-Moon sep (deg)    : 20.70
B (ring opening deg)  : -2.17
PA of pole (deg)      : 0.78
Pole direction: RA (deg): 268.05674
Dec (deg): 64.49731
C/A sky separation (") : 9.234
C/A sky separation (km) : 36425.1
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	2043-10-07T21:34:53.782	8.96	-50.29	71490.2	-31.76	-35.23
Jupiter	E	2043-10-07T23:07:30.033	-8.34x	-50.69	71490.4	-29.44	-32.77