

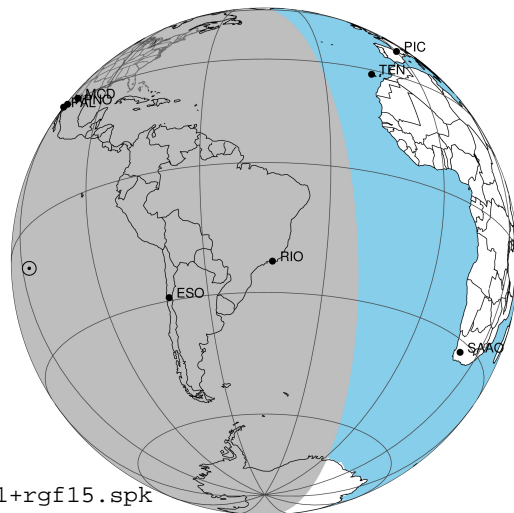
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-04-15T07:42:28.800
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4066457379353634688
 2Mass ID (if available) : 18124827-2258297

Jupiter 2043-04-15T07:42:28 K8.63 G11.57 Pgt

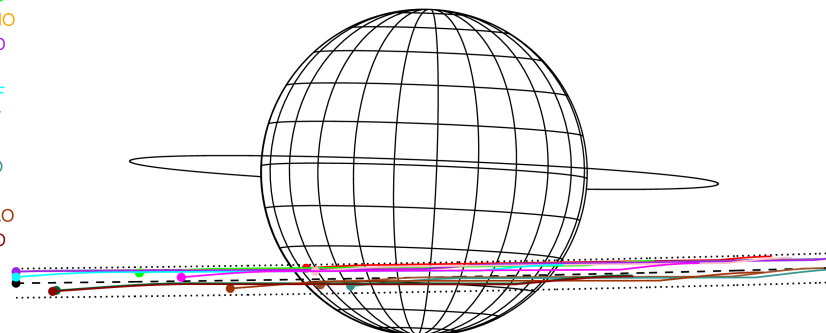
ICRS Star Coord at Epoch: 18h 12m 48.28139s -22:58:29.99196s

RUWE (>1.4 is poor) : 0.84
 K magnitude : 8.630
 G magnitude : 11.568
 RP magnitude : 10.715
 BP magnitude : 12.340
 DUPflag : 0
 Distance (au) : 4.835
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 2.20
 Sun-Target sep (deg) : 111.70
 Sun-Moon sep (deg) : 170.41
 B (ring opening deg) : -2.44
 PA of pole (deg) : -2.21
 Pole direction: RA (deg): 268.05665
 Dec (deg): 64.49732
 C/A sky separation (") : 13.101
 C/A sky separation (km) : 45942.8
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-04-15T07:42:28 K8.63 G11.57
 Pgt



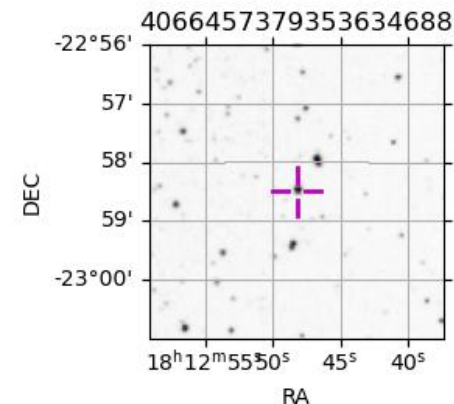
Earth
 PIC
 PAL
 PMO
 KPNO
 MCD
 TEN
 IRTF
 KAV
 RIO
 ESO
 AAT
 SAAO
 MSO



2043-04-15T07:42:28.8000 α: 18 12 48.2814 δ: -22 58 29.992 C/A ***** PA 1.03 deg v_sky + 2.20 km/s D 04.84 AU
 Credit: Styled after SORA/Lucky Star

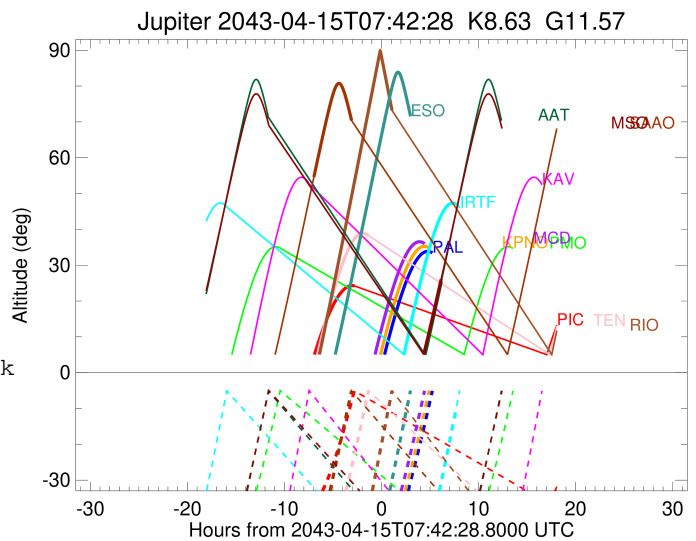
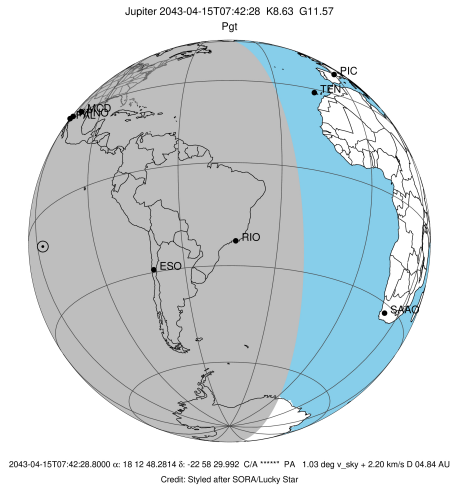
Observable events with sun below -5 deg and altitude above 5 deg

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	+	APR 15 15:22 - APR 15 15:22	Pne
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	+	APR 15 13:52 - APR 15 13:52	Pne
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+	APR 15 00:44 - APR 15 00:44	Pin
MSO	Mt. Stromlo Observatory	-35.3	149.0	+	APR 15 13:51 - APR 15 13:51	Pne



```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-04-15T07:22:52.310
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : IRTF
Location              : Mauna Kea/IRTF
Latitude (deg)        : 19.82622
E. Longitude (deg)    : 204.52800
Altitude (km)         : 4.168
Gaia source ID        : 4066457379353634688
2Mass ID (if available) : 18124827-2258297
ICRS Star Coord at Epoch: 18h 12m 48.28139s -22:58:29.99196s
RUWE (>1.4 is poor) : 0.84
K magnitude           : 8.630
G magnitude           : 11.568
RP magnitude          : 10.715
BP magnitude          : 12.340
DUPflag              : 0
Distance (au)         : 4.835
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 2.20
Sun-Target sep (deg)  : 111.70
Sun-Moon sep (deg)    : 171.14
B (ring opening deg) : -2.44
PA of pole (deg)      : -2.21
Pole direction: RA (deg): 268.05665
Dec (deg): 64.49732
C/A sky separation (") : 12.867
C/A sky separation (km) : 45124.0
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
    
```

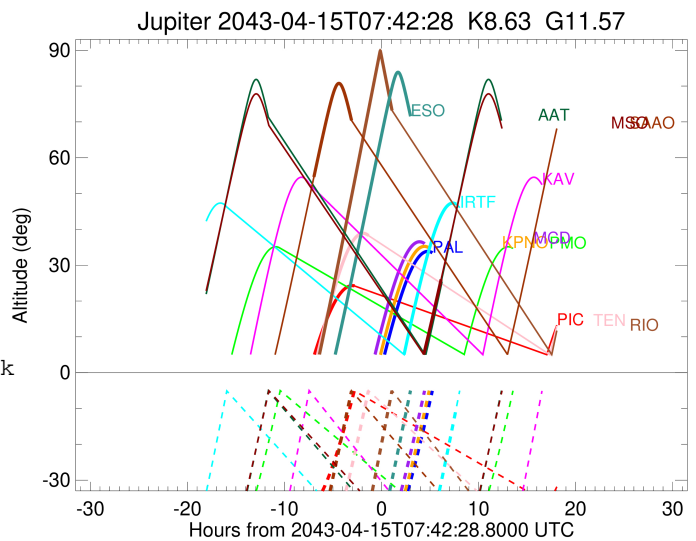
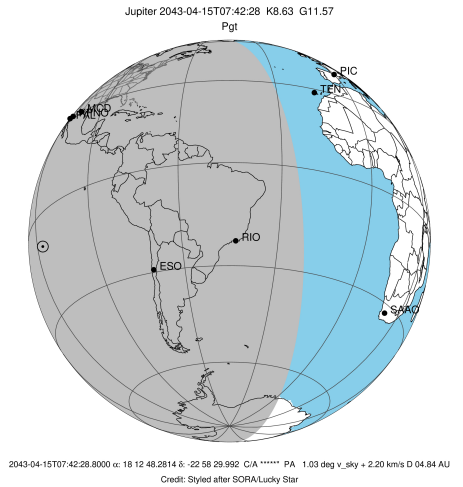


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-15T01:18:49.506	-65.15x	46.21x	71488.2	-43.20	-46.92
Jupiter	E	2043-04-15T15:22:53.860	47.05	-10.26	71489.7	-32.24	-35.73

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-04-15T07:38:05.800
Event type          : Pgt
                    : Jupiter occs: geocentric, topocentric
                    : 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      : 4066457379353634688
2Mass ID (if available) : 18124827-2258297
ICRS Star Coord at Epoch: 18h 12m 48.28139s -22:58:29.99196s
RUWE (>1.4 is poor) : 0.84
K magnitude          : 8.630
G magnitude          : 11.568
RP magnitude         : 10.715
BP magnitude         : 12.340
DUPflag             : 0
Distance (au)       : 4.835
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 2.20
Sun-Target sep (deg) : 111.70
Sun-Moon sep (deg)  : 170.01
B (ring opening deg) : -2.44
PA of pole (deg)    : -2.21
Pole direction: RA (deg): 268.05665
Dec (deg): 64.49732
C/A sky separation (") : 14.562
C/A sky separation (km) : 51067.6
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
    
```

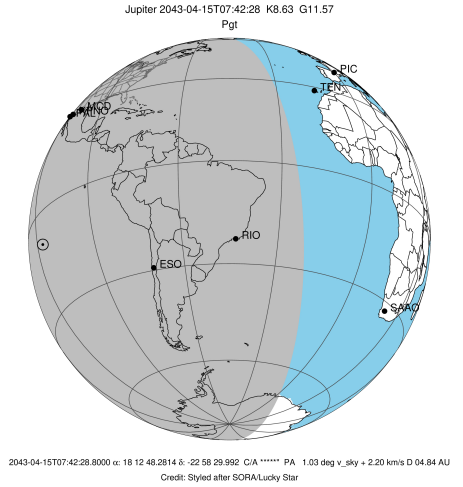


x: target alt < 5.0 deg or sun > -5.0 deg

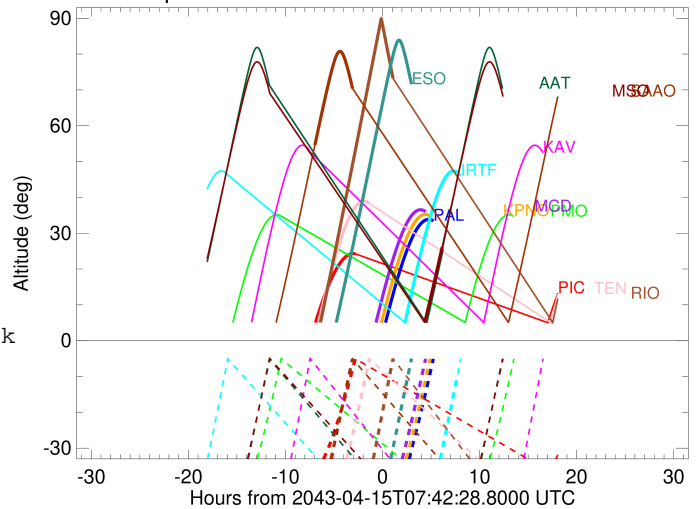
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-15T02:00:09.839	-2.72x	49.20x	71487.6	-47.04	-50.71
Jupiter	E	2043-04-15T13:52:20.721	25.54	-68.59	71488.7	-39.29	-42.99

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-04-15T07:55:46.400
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      : 4066457379353634688
2Mass ID (if available) : 18124827-2258297
ICRS Star Coord at Epoch: 18h 12m 48.28139s -22:58:29.99196s
RUWE (>1.4 is poor) : 0.84
K magnitude          : 8.630
G magnitude          : 11.568
RP magnitude         : 10.715
BP magnitude         : 12.340
DUPflag             : 0
Distance (au)       : 4.835
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : 2.20
Sun-Target sep (deg) : 111.70
Sun-Moon sep (deg)  : 169.70
B (ring opening deg) : -2.44
PA of pole (deg)    : -2.21
Pole direction: RA (deg): 268.05665
Dec (deg): 64.49732
C/A sky separation (") : 13.795
C/A sky separation (km) : 48373.5
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
    
```



Jupiter 2043-04-15T07:42:28 K8.63 G11.57

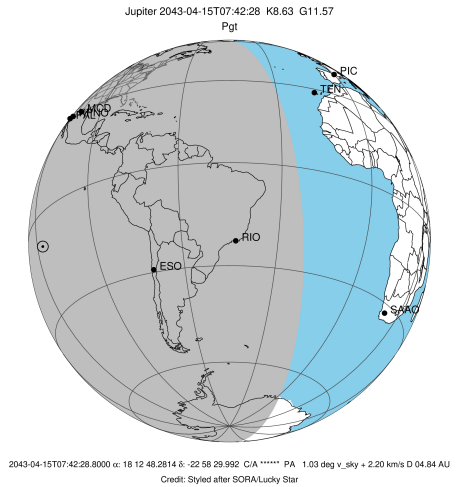


x: target alt < 5.0 deg or sun > -5.0 deg

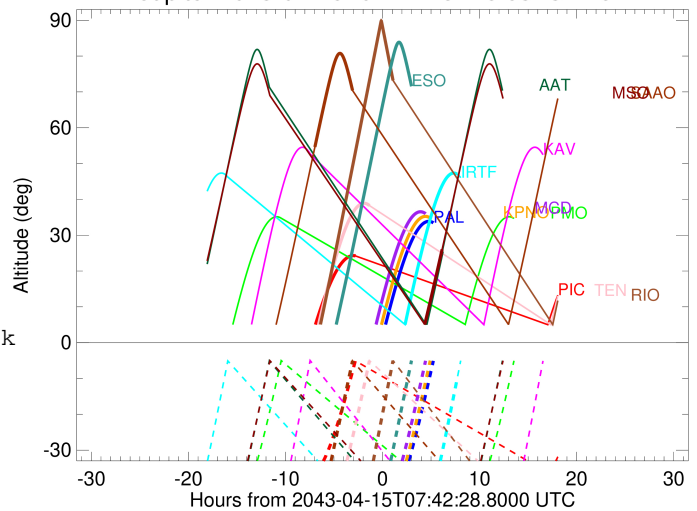
Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-04-15T00:44:30.762	54.59	-52.90	71488.0	-44.72	-48.43
Jupiter	E	2043-04-15T14:23:55.057	-33.37x	21.42x	71488.3	-42.26	-45.98

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-04-15T07:38:23.360
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: 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        : 4066457379353634688
2Mass ID (if available) : 18124827-2258297
ICRS Star Coord at Epoch: 18h 12m 48.28139s -22:58:29.99196s
RUWE (>1.4 is poor) : 0.84
K magnitude           : 8.630
G magnitude           : 11.568
RP magnitude          : 10.715
BP magnitude          : 12.340
DUPflag              : 0
Distance (au)         : 4.835
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 2.20
Sun-Target sep (deg)  : 111.70
Sun-Moon sep (deg)   : 169.99
B (ring opening deg) : -2.44
PA of pole (deg)     : -2.21
Pole direction: RA (deg): 268.05665
Dec (deg): 64.49732
C/A sky separation (") : 14.634
C/A sky separation (km) : 51317.7
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
    
```



Jupiter 2043-04-15T07:42:28 K8.63 G11.57



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	2043-04-15T02:00:43.574	-0.82x	45.17x	71487.6	-47.40	-51.06
Jupiter	E	2043-04-15T13:51:23.545	26.11	-64.56	71488.7	-39.71	-43.41