

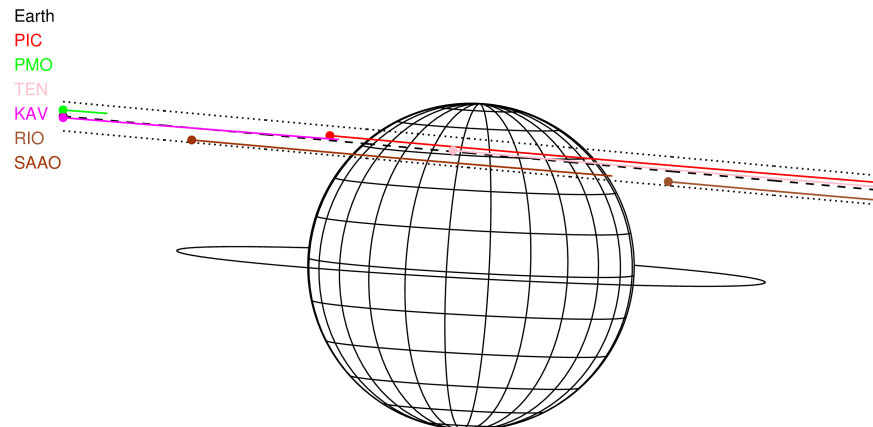
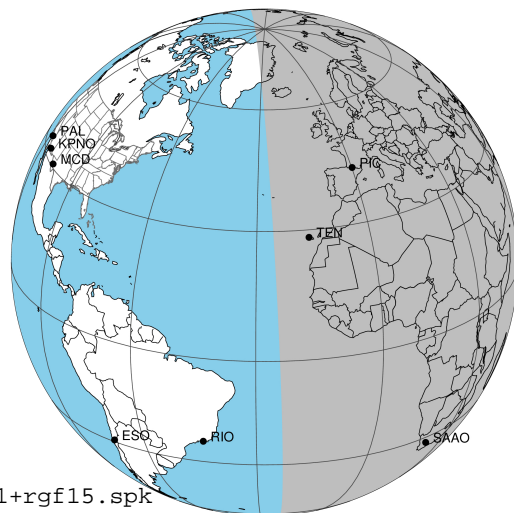
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2049-03-14T19:46:53.230
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 3416276468242527488
 2Mass ID (if available) : 05233071+2259530

Jupiter 2049-03-14T19:46:53 K9.38 G13.03 Pgt

ICRS Star Coord at Epoch: 05h 23m 30.71222s +22:59:53.14277s

RUWE (>1.4 is poor) : 1.11
 K magnitude : 9.385
 G magnitude : 13.030
 RP magnitude : 11.989
 BP magnitude : 14.146
 DUPflag : 0
 Distance (au) : 5.080
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : 13.87
 Sun-Target sep (deg) : 87.63
 Sun-Moon sep (deg) : 38.79
 B (ring opening deg) : 2.33
 PA of pole (deg) : -3.09
 Pole direction: RA (deg): 268.05741
 Dec (deg): 64.49720
 C/A sky separation (") : 13.411
 C/A sky separation (km) : 49415.7
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

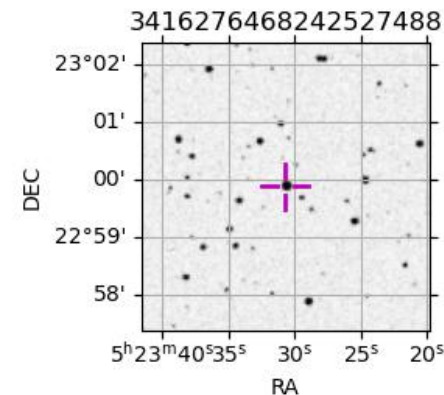
Jupiter 2049-03-14T19:46:53 K9.38 G13.03
 Pgt



2049-03-14T19:46:53.2300 α: 05 23 30.71222 δ: +22 59 53.143 C/A ***** PA 174.82 deg v_sky +13.87 km/s D 05.08 AU
 Credit: Styled after SORA/Lucky Star

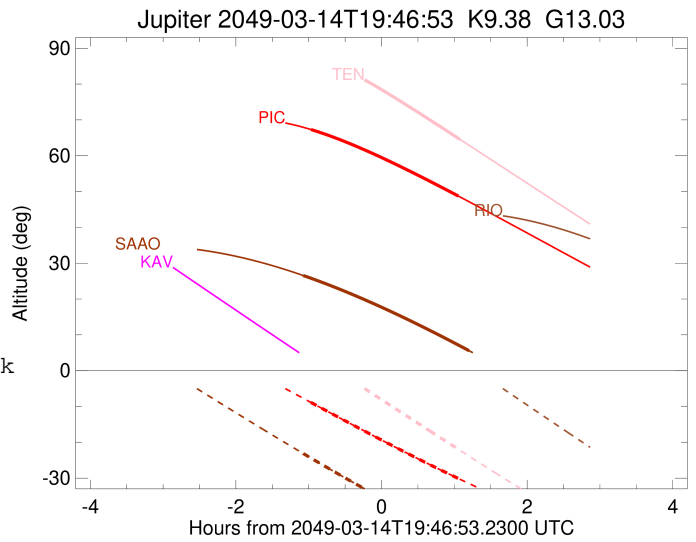
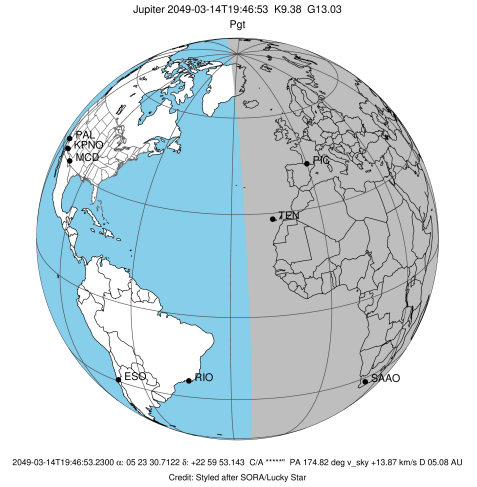
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1	+ +	MAR 14 18:48 - MAR 14 20:50	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	+	MAR 14 20:51 - MAR 14 20:51	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	+ +	MAR 14 18:42 - MAR 14 20:59	Pie
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2049-03-14T19:49:39.280
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        : 3416276468242527488
2Mass ID (if available) : 05233071+2259530
ICRS Star Coord at Epoch: 05h 23m 30.71222s +22:59:53.14277s
RUWE (>1.4 is poor) : 1.11
K magnitude           : 9.385
G magnitude           : 13.030
RP magnitude          : 11.989
BP magnitude          : 14.146
DUPflag              : 0
Distance (au)         : 5.080
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : 13.87
Sun-Target sep (deg) : 87.63
Sun-Moon sep (deg)   : 39.05
B (ring opening deg) : 2.33
PA of pole (deg)     : -3.09
Pole direction: RA (deg): 268.05741
Dec (deg): 64.49720
C/A sky separation ("): 14.002
C/A sky separation (km): 51590.6
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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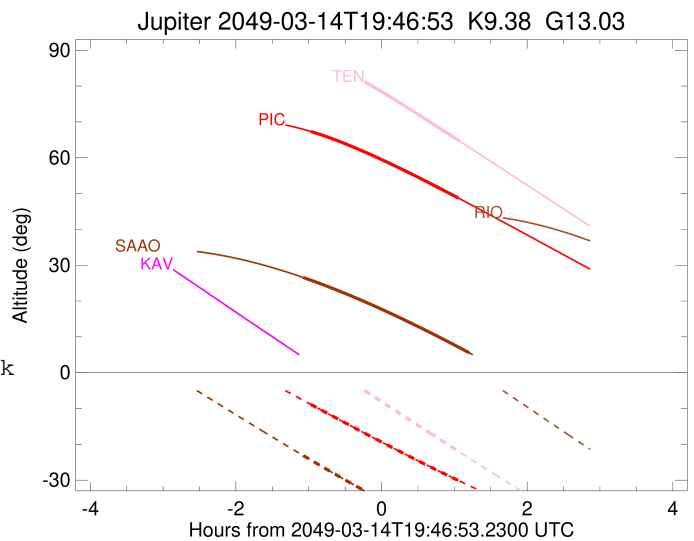
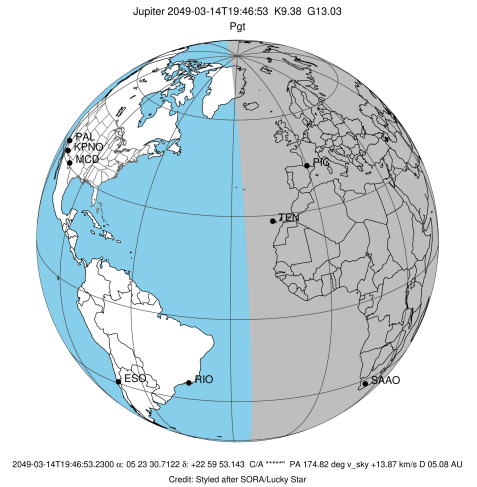


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-03-14T18:48:48.509	67.30	-8.88	71487.9	48.14	51.78
Jupiter	E	2049-03-14T20:50:13.685	48.73	-30.10	71488.4	44.29	48.00

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2049-03-14T19:48:20.360
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       : 3416276468242527488
2Mass ID (if available) : 05233071+2259530
ICRS Star Coord at Epoch: 05h 23m 30.71222s +22:59:53.14277s
RUWE (>1.4 is poor) : 1.11
K magnitude           : 9.385
G magnitude           : 13.030
RP magnitude          : 11.989
BP magnitude          : 14.146
DUPflag              : 0
Distance (au)        : 5.080
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 13.87
Sun-Target sep (deg) : 87.63
Sun-Moon sep (deg)   : 39.23
B (ring opening deg) : 2.33
PA of pole (deg)     : -3.09
Pole direction: RA (deg): 268.05741
Dec (deg): 64.49720
C/A sky separation (") : 13.550
C/A sky separation (km) : 49928.0
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
    
```

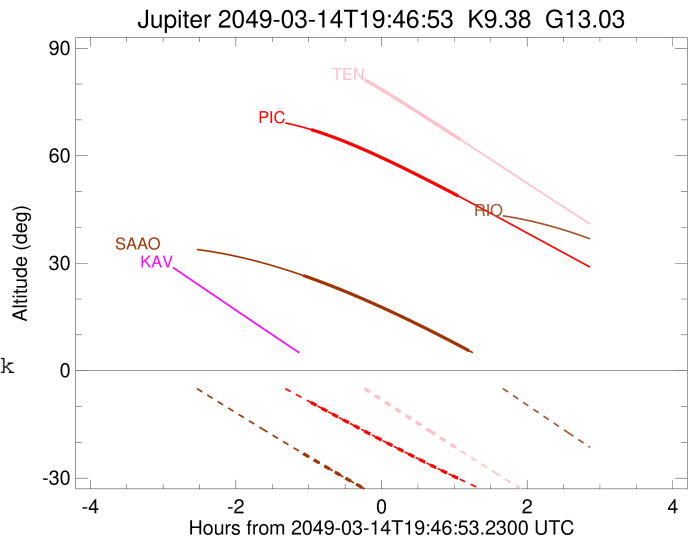
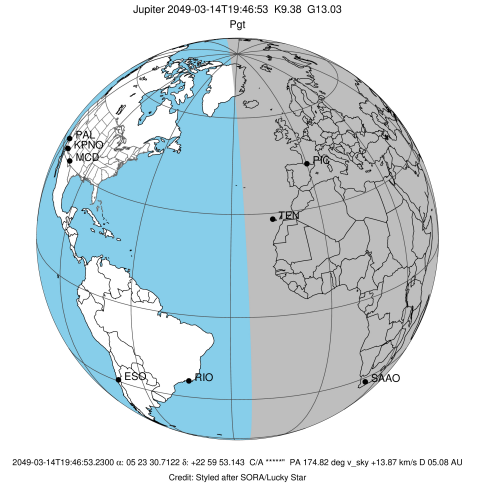


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2049-03-14T18:45:02.195	83.76	5.54x	71488.1	46.44	50.12
Jupiter	E	2049-03-14T20:51:26.832	64.58	-22.21	71488.6	42.26	45.98

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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2049-03-14T19:50:59.210
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      : 3416276468242527488
2Mass ID (if available) : 05233071+2259530
ICRS Star Coord at Epoch: 05h 23m 30.71222s +22:59:53.14277s
RUWE (>1.4 is poor) : 1.11
K magnitude          : 9.385
G magnitude          : 13.030
RP magnitude         : 11.989
BP magnitude         : 14.146
DUPflag             : 0
Distance (au)       : 5.080
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : 13.87
Sun-Target sep (deg) : 87.63
Sun-Moon sep (deg)  : 38.49
B (ring opening deg) : 2.33
PA of pole (deg)    : -3.09
Pole direction: RA (deg): 268.05741
Dec (deg): 64.49720
C/A sky separation ("): 12.103
C/A sky separation (km): 44595.0
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	2049-03-14T18:42:21.566	26.56	-23.12	71488.9	40.33	44.04
Jupiter	E	2049-03-14T20:59:04.256	5.57	-47.43	71489.3	36.94	40.60