

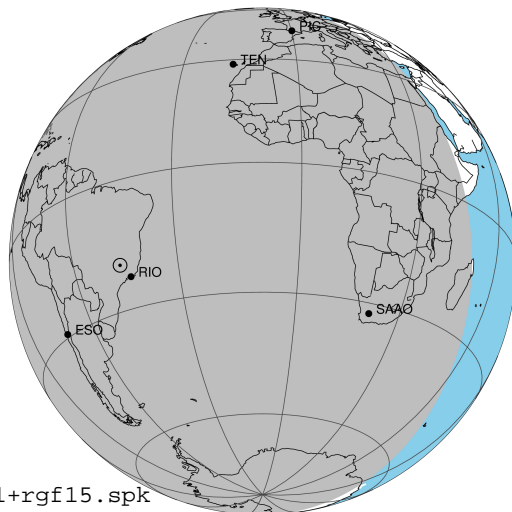
target : Jupiter
 target radius (km) : 71492.00
 C/A epoch : 2043-05-19T02:58:54.250
 Event type : Pgt
 : Jupiter occs: geocentric, topocentric
 : Not a ringed target
 Gaia source ID : 4066596776759572352
 2Mass ID (if available) : 18072577-2301254

Jupiter 2043-05-19T02:58:54 K7.81 G12.62 Pgt

ICRS Star Coord at Epoch: 18h 07m 25.76622s -23°01:25.31979s

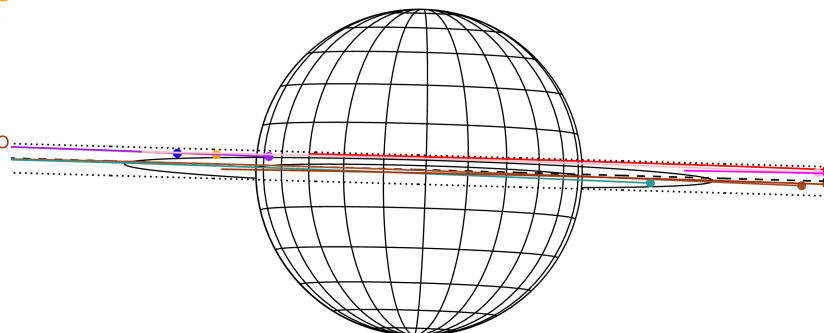
RUWE (>1.4 is poor) : 1.01
 K magnitude : 7.812
 G magnitude : 12.621
 RP magnitude : 11.375
 BP magnitude : 14.294
 DUPflag : 0
 Distance (au) : 4.411
 f0 (km) : 0.00
 g0 (km) : 0.00
 skyplane vel. (km/s) : -11.29
 Sun-Target sep (deg) : 145.76
 Sun-Moon sep (deg) : 87.20
 B (ring opening deg) : -2.43
 PA of pole (deg) : -1.64
 Pole direction: RA (deg): 268.05667
 Dec (deg): 64.49732
 C/A sky separation (") : 0.379
 C/A sky separation (km) : 1211.0
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk

Jupiter 2043-05-19T02:58:54 K7.81 G12.62
 Pgt



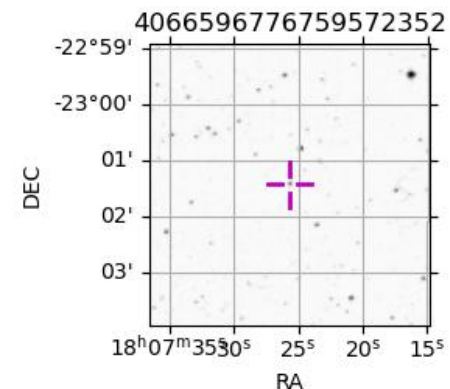
2043-05-19T02:58:54.2500 at: 18 07 25.7662 s: -23 01 25.320 C/A 0.367" PA 178.37 deg v_sky -11.29 km/s D 04.41 AU
 Credit: Styled after SORA/Lucky Star

Earth
 PIC
 PAL
 KPNO
 MCD
 TEN
 KAV
 RIO
 ESO
 SAAO



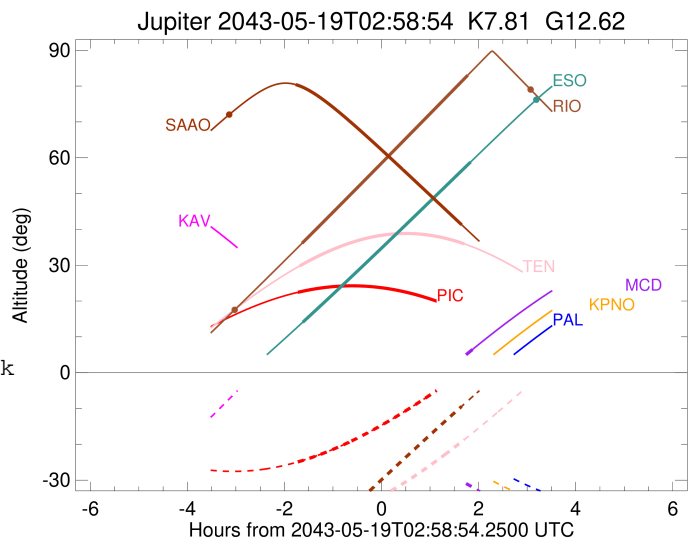
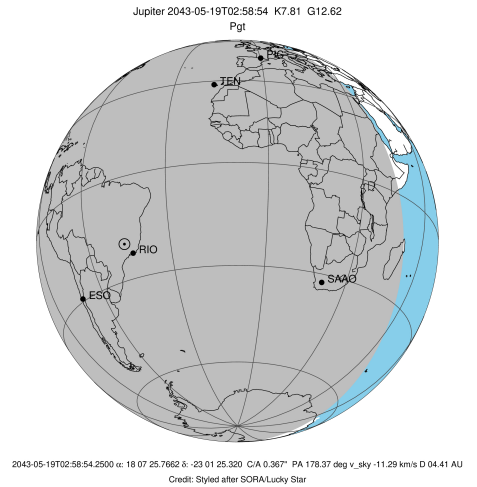
Observable events with sun below -5 deg and altitude above 5 deg

Obs	Location	lat	Elon	Target	Observed Events Interval	OCode
PIC	Pic du Midi	42.9	0.1	+	MAY 19 01:15 - MAY 19 01:15	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	+	MAY 19 04:51 - MAY 19 04:51	Pne
TEN	Teide Obs./Tenerife	28.3	343.5	+ +	MAY 19 01:17 - MAY 19 04:41	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	+ +	MAY 19 01:20 - MAY 19 04:45	Pie
ESO	European Southern Obs. (3.6m)	-29.3	289.3	+ +	MAY 19 01:21 - MAY 19 04:49	Pie
AAT	Siding Spring (AAT)	-31.3	149.1			Pnn
SAAO	So. Afr. Astro. Obs. (Sutherland)	-32.4	20.8	+ +	MAY 19 01:12 - MAY 19 04:37	Pie
MSO	Mt. Stromlo Observatory	-35.3	149.0			Pnn



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target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-05-19T02:57:36.080
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        : 4066596776759572352
2Mass ID (if available) : 18072577-2301254
ICRS Star Coord at Epoch: 18h 07m 25.76622s -23:01:25.31979s
RUWE (>1.4 is poor) : 1.01
K magnitude           : 7.812
G magnitude           : 12.621
RP magnitude          : 11.375
BP magnitude          : 14.294
DUPflag              : 0
Distance (au)         : 4.411
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -11.29
Sun-Target sep (deg)  : 145.76
Sun-Moon sep (deg)   : 87.57
B (ring opening deg) : -2.43
PA of pole (deg)     : -1.64
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 2.180
C/A sky separation (km) : 6972.7
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
    
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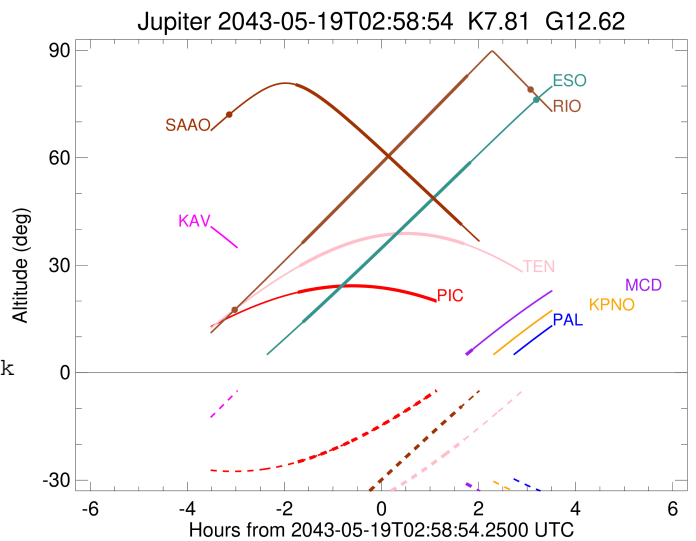
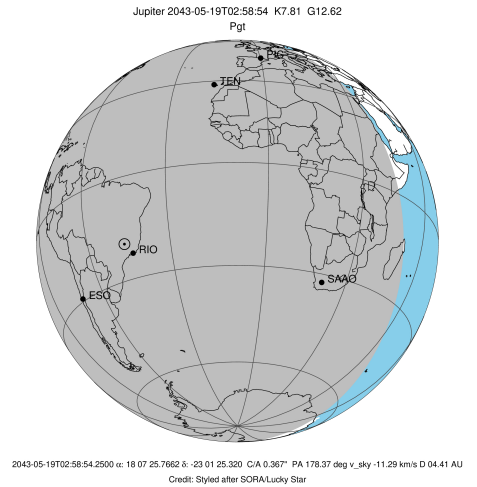


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-05-19T01:15:29.038	22.42	-24.91	71491.9	5.61	6.41
Jupiter	E	2043-05-19T04:39:45.544	17.02	0.22x	71491.9	5.29	6.05

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-05-19T03:06:46.180
Event type            : Pgt
: Jupiter occs: geocentric, topocentric
: Not a ringed target
Observer code         : MCD
Location              : McDonald Obs. 2.7m
Latitude (deg)        : 30.67158
E. Longitude (deg)    : 255.97844
Altitude (km)         : 2.075
Gaia source ID        : 4066596776759572352
2Mass ID (if available) : 18072577-2301254
ICRS Star Coord at Epoch: 18h 07m 25.76622s -23:01:25.31979s
RUWE (>1.4 is poor) : 1.01
K magnitude           : 7.812
G magnitude           : 12.621
RP magnitude          : 11.375
BP magnitude          : 14.294
DUPflag              : 0
Distance (au)         : 4.410
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -11.29
Sun-Target sep (deg) : 145.76
Sun-Moon sep (deg)   : 86.91
B (ring opening deg) : -2.43
PA of pole (deg)     : -1.64
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 1.329
C/A sky separation (km) : 4251.6
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
    
```

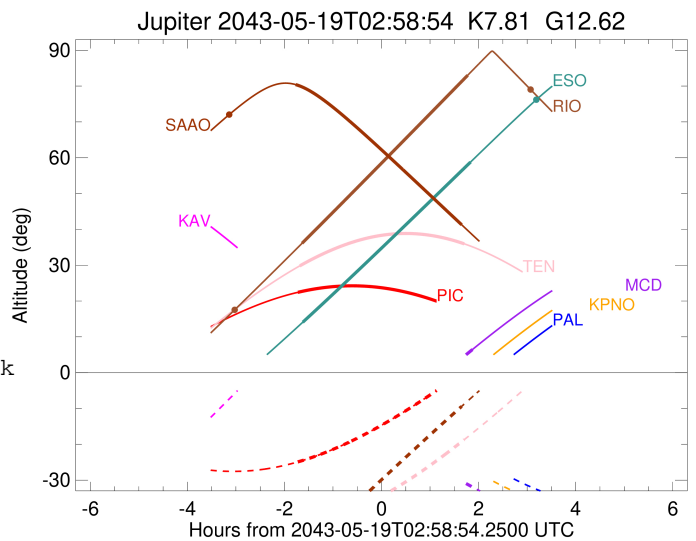
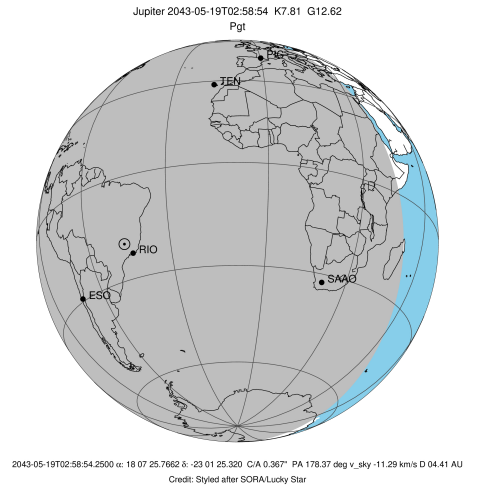


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-05-19T01:20:18.820	-36.36x	4.19x	71492.0	2.63	3.01
Jupiter	E	2043-05-19T04:51:20.634	6.46	-31.92	71492.0	4.15	4.75

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-05-19T02:59:43.330
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      : 4066596776759572352
2Mass ID (if available) : 18072577-2301254
ICRS Star Coord at Epoch: 18h 07m 25.76622s -23:01:25.31979s
RUWE (>1.4 is poor) : 1.01
K magnitude          : 7.812
G magnitude          : 12.621
RP magnitude         : 11.375
BP magnitude         : 14.294
DUPflag             : 0
Distance (au)       : 4.411
f0 (km)             : 0.00
g0 (km)             : 0.00
skyplane vel. (km/s) : -11.29
Sun-Target sep (deg) : 145.76
Sun-Moon sep (deg)  : 87.76
B (ring opening deg) : -2.43
PA of pole (deg)    : -1.64
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 1.932
C/A sky separation (km) : 6179.2
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
    
```

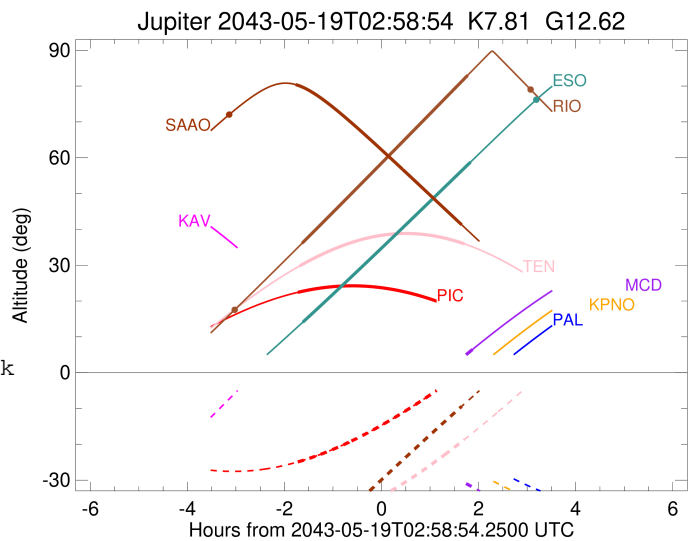
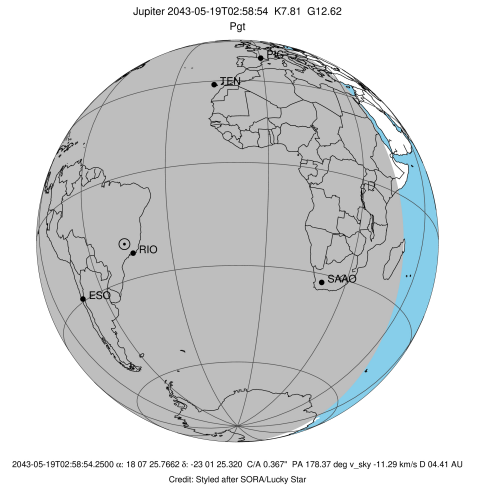


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-05-19T01:17:54.240	29.81	-42.01	71491.9	4.75	5.43
Jupiter	E	2043-05-19T04:41:11.341	35.96	-18.69	71491.9	4.81	5.49

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-05-19T03:03:39.010
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       : 4066596776759572352
2Mass ID (if available) : 18072577-2301254
ICRS Star Coord at Epoch: 18h 07m 25.76622s -23:01:25.31979s
RUWE (>1.4 is poor) : 1.01
K magnitude          : 7.812
G magnitude          : 12.621
RP magnitude         : 11.375
BP magnitude         : 14.294
DUPflag             : 0
Distance (au)        : 4.411
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -11.29
Sun-Target sep (deg) : 145.76
Sun-Moon sep (deg)   : 87.96
B (ring opening deg) : -2.43
PA of pole (deg)     : -1.64
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation ("): 0.304
C/A sky separation (km): 972.9
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
    
```

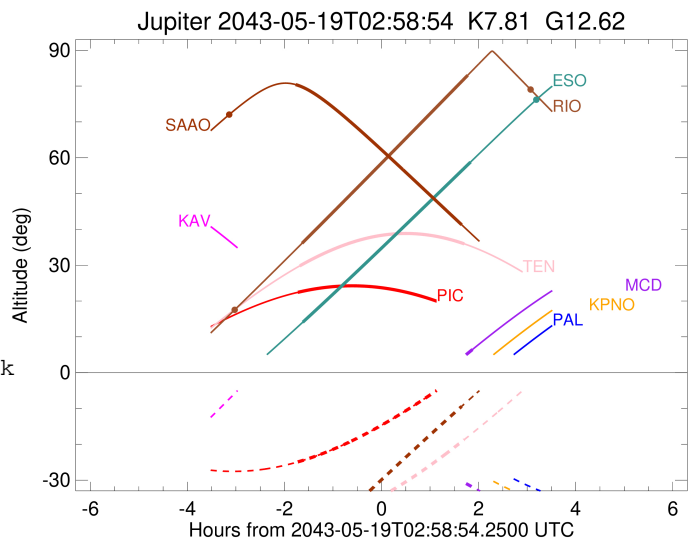
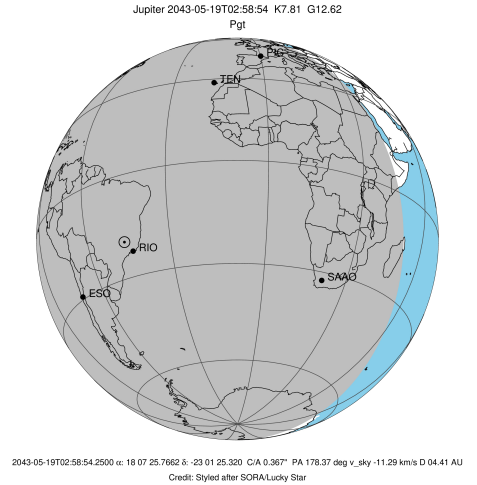


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-05-19T01:20:44.833	36.12	-69.16	71492.0	0.24	0.28
Jupiter	E	2043-05-19T04:45:29.546	83.02	-62.81	71492.0	0.99	1.13

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch            : 2043-05-19T03:06:06.960
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       : 4066596776759572352
2Mass ID (if available) : 18072577-2301254
ICRS Star Coord at Epoch: 18h 07m 25.76622s -23:01:25.31979s
RUWE (>1.4 is poor) : 1.01
K magnitude          : 7.812
G magnitude          : 12.621
RP magnitude         : 11.375
BP magnitude         : 14.294
DUPflag             : 0
Distance (au)        : 4.410
f0 (km)              : 0.00
g0 (km)              : 0.00
skyplane vel. (km/s) : -11.29
Sun-Target sep (deg) : 145.76
Sun-Moon sep (deg)   : 87.69
B (ring opening deg) : -2.43
PA of pole (deg)     : -1.64
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation ("): 0.123
C/A sky separation (km): 394.2
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
    
```

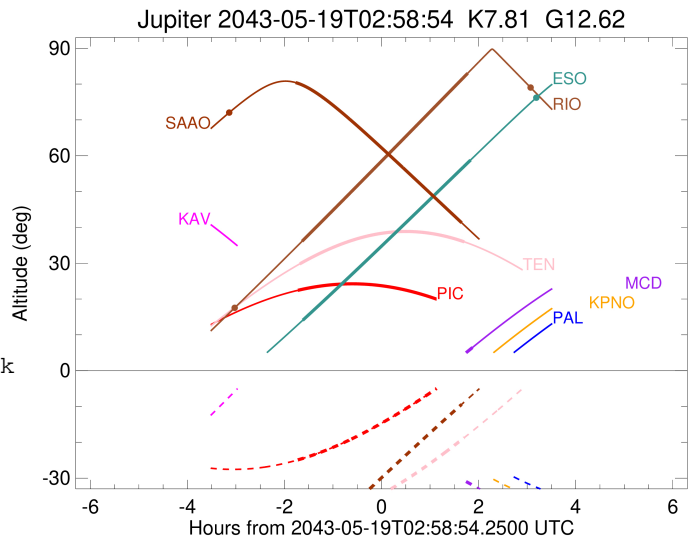
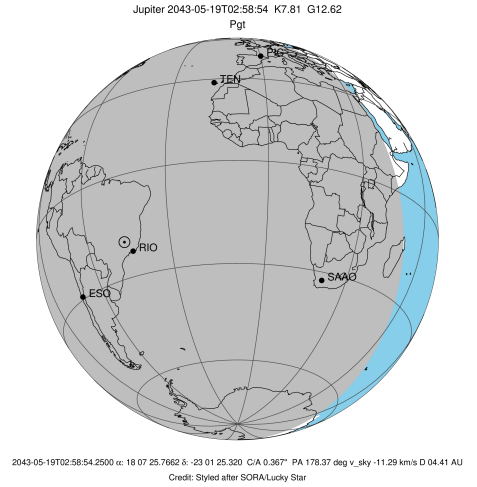


x: target alt < 5.0 deg or sun > -5.0 deg

Target	I/E	UTC	alt	alt-sun	radius	lat-geo	lat-geodetic
Jupiter	I	2043-05-19T01:21:37.119	14.09	-44.35	71492.0	-1.04	-1.19
Jupiter	E	2043-05-19T04:49:01.765	58.80	-80.39	71492.0	0.20	0.23

```

target                : Jupiter
target radius (km)   : 71492.00
C/A epoch             : 2043-05-19T02:55:07.950
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        : 4066596776759572352
2Mass ID (if available) : 18072577-2301254
ICRS Star Coord at Epoch: 18h 07m 25.76622s -23:01:25.31979s
RUWE (>1.4 is poor) : 1.01
K magnitude           : 7.812
G magnitude           : 12.621
RP magnitude          : 11.375
BP magnitude          : 14.294
DUPflag              : 0
Distance (au)         : 4.411
f0 (km)               : 0.00
g0 (km)               : 0.00
skyplane vel. (km/s) : -11.29
Sun-Target sep (deg)  : 145.76
Sun-Moon sep (deg)    : 88.02
B (ring opening deg) : -2.43
PA of pole (deg)     : -1.64
Pole direction: RA (deg): 268.05667
Dec (deg): 64.49732
C/A sky separation (") : 0.048
C/A sky separation (km) : 153.2
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	2043-05-19T01:12:51.839	80.40	-52.25	71492.0	0.15	0.17
Jupiter	E	2043-05-19T04:37:58.688	41.28	-9.41	71492.0	-0.68	-0.78