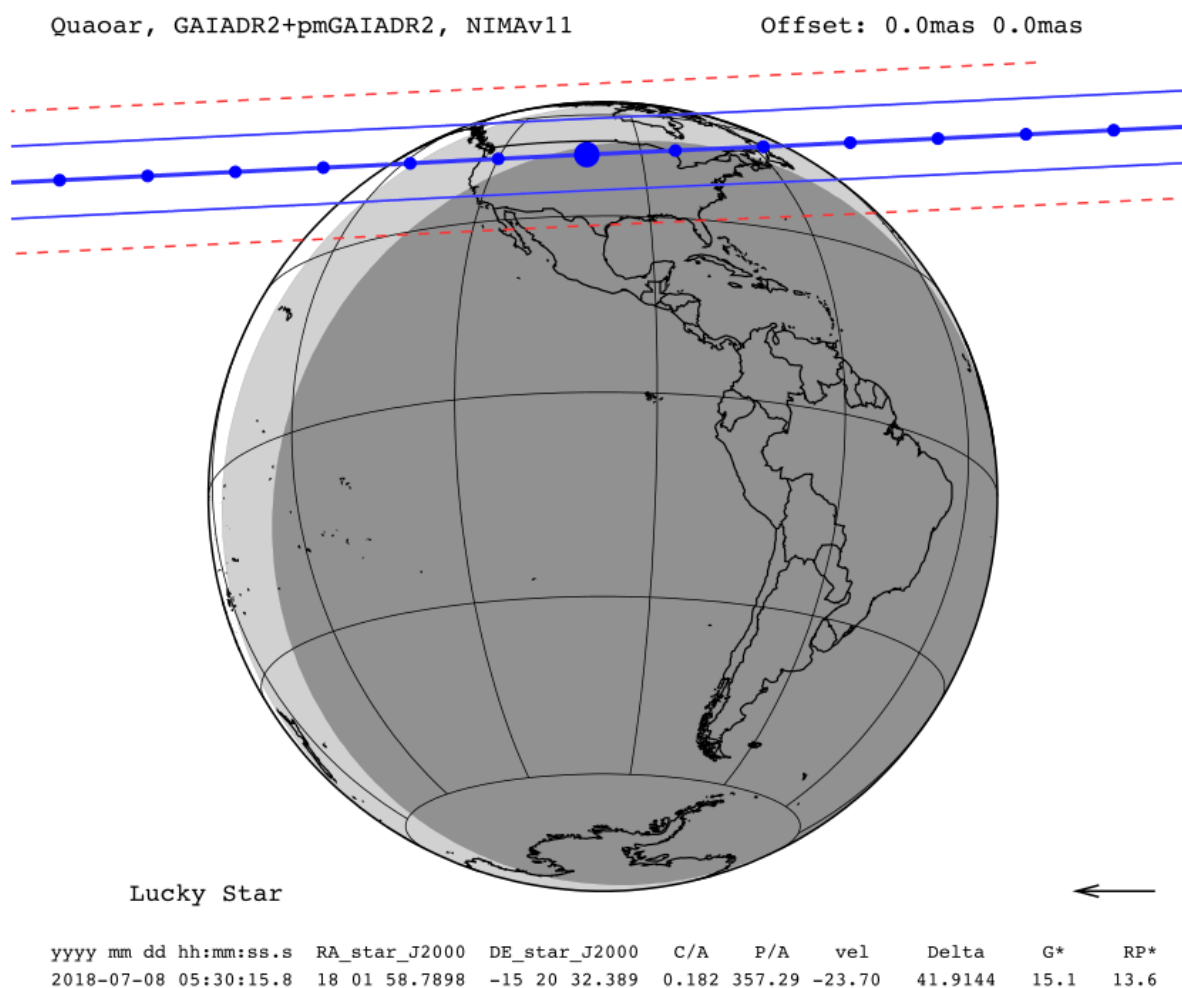


Occultation by Quaoar (2018-07-08)

Occultation map



[Download map](#)

Information about the map:

- The straight and continue lines are the shadow limits considering the estimated radius; when the shadow crosses the Earth's surface, the path is projected on the Earth;
- Each blue dot is spaced by one minute and the big blue dot corresponds to the nominal occultation time (which is the geocentric closest approach);
- The arrow shows the direction of the shadow motion;
- The 1- σ precision along the path is represented by the red dotted line;
- The star G* and RP* are the G (from Gaia) and RP (red photometer from GaiaDR2) magnitudes, *normalized to a body moving at 20km/s* in order to enhance very slow events;
- The body offset is at the upper right corner, if JPL ephemeris is used;
- Areas in dark grey correspond to full night (Sun elevation below -18 degrees) and areas in light grey correspond to twilight (Sun elevation between -18 and 0 degrees) while daytime is in white;
- Be careful, the dates are from the moment of the event in Universal Time, the night of the event may begin at the date before.

Occultation circumstances

Date	Sun. 8 Jul. 2018 05:30:15
<u>Star position (ICRF)</u>	18 01 58.7898 -15 20 32.389
<u>C/A</u>	0.182 arcsec
<u>P/A</u>	357.29 °
<u>velocity</u>	-23.70 km/s
Geocentric distance Δ	41.9144 au
<u>G mag*</u>	15.1
<u>RP mag*</u>	13.6
Magnitude drop	4.0
Uncertainty in time	21.5 sec
<u>Uncertainty in C/A</u>	18.6 mas
Uncertainty in projected distance	566.5 km
Probability of occultation on centrality	69.8%
Maximum duration	49.4 sec
Moon distance to the object	128.9°
Fraction of illuminated Moon	30.4 %
Solar elongation	162.6°

Occulted star

Star source ID	4145272125153646720
Stellar catalogue	GAIADR2
Star astrometric position in catalogue (ICRF)	18 01 58.7904 -15 20 32.368
Star astrometric position with proper motion (ICRF)	18 01 58.7898 -15 20 32.389
Star apparent position (date)	18 03 02.9256 -15 20 21.570
Proper motion	$\mu\text{RA}^* = (-2.7 \pm 0.1)\text{mas}$; $\mu\text{DEC} = (-7.2 \pm 0.1)\text{mas}$
Source of proper motion	GAIADR2
Uncertainty in the star position	$\text{RA}^* = 0.5\text{ mas}$; $\text{DEC} = 0.4\text{ mas}$
G magnitude	14.9
RP magnitude (GaiaDR2)	13.5

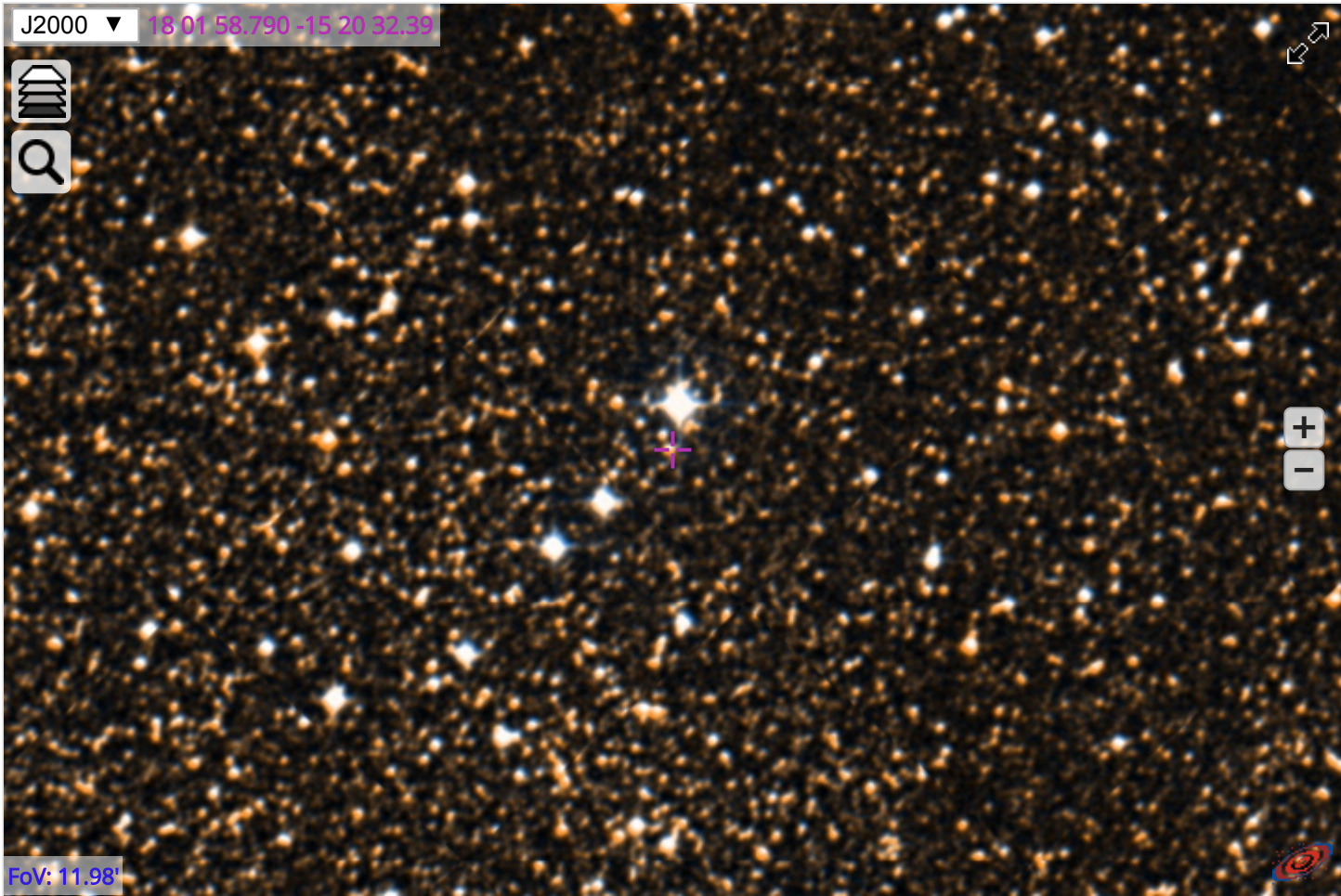
Objet

Object	(50000) Quaoar
Diameter	1170.0 km
Apparent diameter	38.5 mas
Object astrometric position (ICRF)	18 01 58.7892 -15 20 32.208
Object apparent position (date)	18 03 02.9250 -15 20 21.389

Uncertainty in position	RA* = 16.8mas DEC = 18.6mas
Apparent magnitude	18.8
Ephemeris	NIMAv11
Dynamic class ⁽¹⁾	cubewano
Semi major axis ⁽¹⁾	43.6 au
Eccentricity ⁽¹⁾	0.037
Inclination ⁽¹⁾	8.0°
Perihelion ⁽¹⁾	42.0 au
Aphelion ⁽¹⁾	45.2 au

⁽¹⁾ Data from the [johnston archive list](#).

Sky map (Aladin)



[link to sky-map](#)

Previous updates

- [2017-Dec-16 19:12](#) : NIMAv8, GAIADR1, no
- [2018-Mar-09 14:19](#) : NIMAv9, GAIADR1, no
- [2018-Apr-30 17:27](#) : NIMAv9, GAIADR2, GAIADR2
- [2018-May-23 11:30](#) : NIMAv10, GAIADR2, GAIADR2

