

## Quaoar Predicted to Occult 17<sup>th</sup> Magnitude Star in Serpens Tue 31<sup>st</sup> July at 1:43am.

Background:

(50000) Quaoar is a trans-Neptunian object of approximately 1100km diameter presently about 43 AU (5.7 light hours) away from the sun in an almost circular orbit (cf Pluto at 35 AU, 4.6 light hours). It has been seen in occultation just once (2011) with two effective chords, from which its present size has been derived. It also has a satellite (Weywot) of about 75km diameter whose orbit is not well described.

[https://en.wikipedia.org/wiki/50000\\_Quaoar](https://en.wikipedia.org/wiki/50000_Quaoar)

Prediction:-

The Lucky Star prediction for Quaoar's occultation of Tue 31<sup>st</sup> July can be found here:-

<http://lesia.obspm.fr/lucky-star/predictions/single.php?p=8765>

There have been four prediction updates for this occultation, which implies that it is receiving regular attention.

50000 Quaoar was predicted to occult a mag 15 star on 8<sup>th</sup> Jul 2018, visible from North America (as shown here):

[http://lesia.obspm.fr/lucky-star/campaigns/2018-07-08-05.504\\_DR2\\_NIMAJun18\\_Quaoar.jpg](http://lesia.obspm.fr/lucky-star/campaigns/2018-07-08-05.504_DR2_NIMAJun18_Quaoar.jpg)

There were a good number of stations registered for Quaoar, including the RECON team.

It seems as though there were no positive sightings of Quaoar in occultation at this time, which raises the interesting possibility that the TNO was not where it was supposed to be.

The 31<sup>st</sup> Jul occultation has some good points and some bad points.

It is at 31° altitude in the west, with the gibbous moon 69° away and a max duration of 62 seconds. The mag. combined is 17.0 and the prediction confidence is a whopping 73%. This confidence, of course, is independent of the unsuccessful prediction result from the 8<sup>th</sup> July. The uncertainty appears to be about one radius of Quaoar (~600 km) so even if we are out by that much we may be in with a scrape.

This is a Monday evening / Tuesday morning run. We have not had a run like this before (our previous TNO occ have been months apart). There are four registered stations, including Bill Hanna's insane twenty inch Planewave CDK on a Paramount, down at Yass.

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(RASNZ, WSAAG)