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Title:

Stellar Occultations By Large TNOs On 2012: The February 3rd By (208996) 2003 AZ84, And The February 17th By (50000) Quaoar.

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Abstract:

On February 2012, two stellar occultation's by large Trans-neptunian Objects (TNO's) were observed by our group. On the 3rd, an event by (208996) 2003 AZ84 was recorded from Mont Abu Observatory and IUCAA Girawali Observatory in India and from Weizmann Observatory in Israel. On the 17th, a stellar occultation by (50000) Quaoar was observed from south France and Switzerland. Both occultations are the second observed by our group for each object, and will be used to improve the results obtained on the previous events.

The occultation by 2003 AZ84 is the first multi-chord event recorded for this object. From the single chord event on January 8th 2011, Braga-Ribas et al. 2011 obtained a lower limit of 573 +/- 21 km. From the 2012 occultation the longest chord has a size of 662 +/- 50 km. The other chords will permit to determine the size and shape of the TNO, and derive other physical parameters, such as the geometric albedo.

The Quaoar occultation was observed from south of France (Observatoire de la Côte d'Azur, TAROT telescope and Valensole) and from Gnosca, Switzerland. Unfortunately, all three sites in France are almost at the same Quaoar's latitude, so in practice, we have two chords that can be used to fit Quaoar's limb. The resulting fit will be compared with the results obtained by Braga-Ribas et al. 2011.

Braga-Ribas F., Sicardy B., et al. 2011, EPSC-DPS2011, 1060. Ribas F., Sicardy B., et al. 2011, EPSC-DPS2011, 1060.

Category:

Centaur and trans-neptunian Objects

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