[IOTAoccultations] Occultations by Neptune (Oct. 9th) and Uranus (Nov. 12) August 24, 2024 4:02 AM

From:

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Cc: "Wolfgang Beisker" <wbeisker@iota-es.de>

Hello everyone,

You probably saw a discussion a few weeks ago about Uranus occultation opportunities.

I would like here to send you the info about the upcoming events

- Neptune (Oct. 9th UT) https://lesia.obspm.fr/lucky-star/occ.php?p=130728
- Uranus (Nov. 12th UT) https://lesia.obspm.fr/lucky-star/occ.php?p=131499

Although the scientific outcomes will be nearly inexistent if observations are made with a filter, I encourage you to try these events for fun. Indeed, no occultation by the rings will be detected in the visible range.

We will have to use infrared telescopes, and to go to the K band at 2.2µm and there are only a handful of large telescopes on Earth that can achieve both the desired SNR and time resolution and accuracy.

That being said, optical data could be useful in case a new satellite or a new clump of material is detected for example. Anyhow, you must use a CH4 (890nm) filter. You will have to make your own tests, with you own instrumental setup to assess what SNR you can achieve.

Another piece of information that you might find useful is that in 2021 we attempted this Neptune occultation (https://lesia.obspm.fr/lucky-star/occ.php?p=80854) event from a 2m telescope using a methane filter. While we clearly saw the occultation by the atmosphere,

this set of data was not scientifically useful and didn't allow us to extract any new atmospheric constraints.

One non-negligible difference between the Oct 2021 Neptune event and the upcoming one is that the star is much brighter this time (11.4 in G. mag *vs*. 14.9 in 2021).

Wolfgang Beisker presented this opportunity at the recent ESOP meeting in Stuttgart.

I will be sending a reminder as we get closer to these events for those of you who want to attempt them.

Cheers,

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