

Dear all,

We are starting a campaign for the observation of a very rare event: a stellar occultation by the Uranian satellite (U5) Miranda. It will occur on **January 20th, 2024** (around 21:50hs UTC), and will be observable in Europe and the Middle East (see map attached). Prediction was carried out by Altair Ramos Gomes Júnior by the Lucky Star.

The occultation is scientifically worthwhile. It brings the opportunity to probe the unknown but probably also very irregular satellite's limb from the northern point of view - Voyager 2 observations did that from the opposite side during its flyby in 1986.

The observation of the event is somewhat challenging. The magnitude of the occultation star is 15 and that of Miranda is 16. The apparent distance between the satellite and the center of Uranus will be about 8 arcseconds, and the Moon will be about 15 degrees distant in the sky.

Fortunately, we can use digital coronagraphy to mitigate the intruding flux of Uranus and enhance the satellite's profile in the images. Also, the shadow speed is quite slow (about 9 km/s). Ideally, exposures around 0.1 - 0.5 s will give 1 - 5 km resolution, rivaling with Voyager 2 measurements. Larger instruments and more sensitive cameras are especially welcome to join in the campaign. Observations without filters are recommended to improve the signal-noise ratio.

Due to ephemeris uncertainties, observers distant up to about 250 km from the shadow edges are welcome to try the event.

For those willing to participate in this very interesting campaign, we kindly ask to register now in our Occultation Portal:

<https://occultation.tug.tubitak.gov.tr/>

Once you register to the Portal and log in, you can search for the Miranda event on "Predictions", and register for this event, indicating that you are planning to observe it. After observing the event, please upload your observations in the Portal as soon as possible, so that our team can start working on the data.

We will alert you again about this very promising occultation, as the date of the event approaches.

For more information, contact Marcelo or Felipe.

Many thanks in advance, sincerely

Marcelo Assafin  
Felipe Braga Ribas

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