

# ASTRO MONTHLY

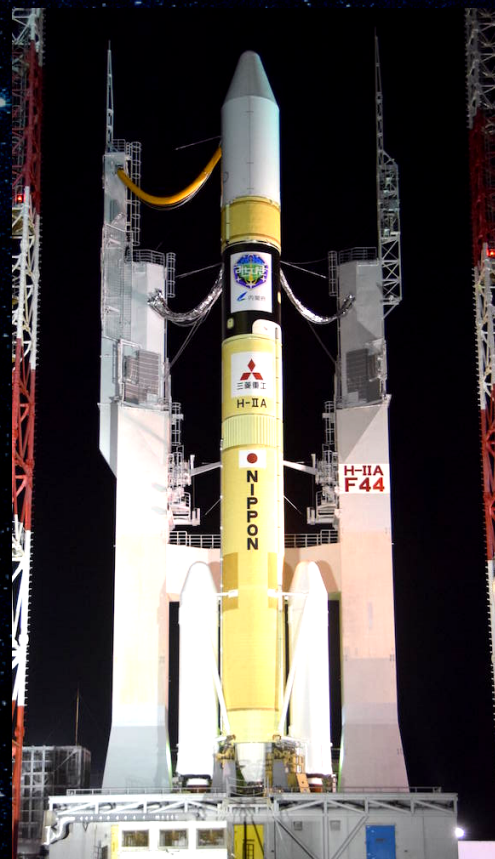
The Newsletter of the Astronomy Club, IITK

## Japanese H-IIA Rocket Launch

25th Oct

H-IIA (H-2A) is an active expendable launch system operated by Mitsubishi Heavy Industries (MHI) for the Japan Aerospace Exploration Agency. It is set to deploy the new satellite, named QZS 1R or Michibiki 1R. It is a replacement satellite for the navigation Michibiki spacecraft that has been in space since 2010, augmenting the U.S. military's GPS network to provide more precise positioning and timing services over the Asia-Pacific region. The payload mass is about 4100 kg. The rocket was launched from Yoshinobu Launch Complex at Tanegashima.

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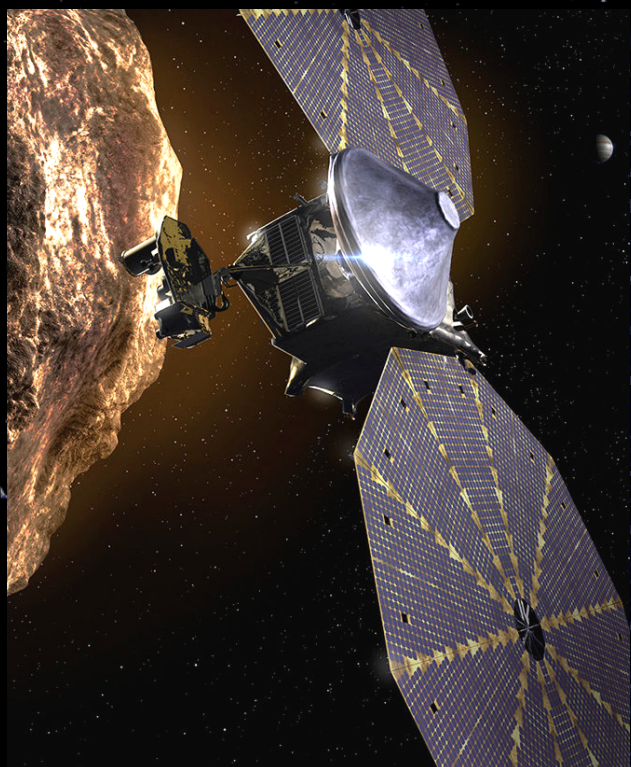


## Lucy mission

16th Oct

It was launched from Cape Canaveral, Florida, on Oct 16th. It was launched aboard a "United Launch Alliance Atlas V rocket." Lucy is a NASA space probe on a 12-year journey to eight different asteroids, visiting the main-belt asteroid and 7 Jupiter trojans, which share Jupiter's orbit around the Sun. All target encounters will be flyby encounters.

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# Statistical Analysis of Geological Effects caused by the Chaotic Orbital Motion

25th Oct

Milutin & Milankovi proposed that the Earth's climate changes also have their origin from the orbital and rotational motion of the planet. Since then, many studies have followed which successfully calculated geological records with precession. However, the calculations stay valid for up to a maximum of 50 million years (Myr). After this limit, the chaotic dynamics of orbital motions of the solar system prevents determinism. N. H. Hoang et al., in a recent publication, statistically modeled the orbital motion of the Solar System by taking 120 000 orbital solutions of the secular model of the Solar System, ranging from 500 Myr to 5 Gyr. The study produced probability density functions that can be used as priors in Bayesian analyses of Geological problems. The model was also applied to two geological datasets, and it accurately predicted results.

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Uranus at opposition

**4th Nov**

Leonid meteor shower

**16th-17th Nov**

SpaceX to launch the 2nd  
COSMO-SkyMed Second  
Generation (CSG-2)

**18th Nov**

The Full Moon (known as  
Full beaver Moon) occurs  
at 2:30 pm IST

**19th Nov**

Russia to launch a new  
module to the  
International Space  
Station.

**24 Nov**

## International Observe the Moon Night

16th Oct

Saturday (Oct. 16) marks International Observe the Moon Night, an annual event that "provides opportunities to learn about lunar science and exploration, observe celestial bodies and honor personal and cultural connections to the moon," according to NASA. This event has been held annually since 2010. The event is scheduled when the Moon is near the first quarter phase. About 500 different events are organized every year by various Universities, observatories, museums from 40 countries.

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