

Kamo`oalewa

November 16, 2021

In news– Recently, astronomers have observed that a quasi-satellite – a near-Earth object that orbits the Sun and yet remains close to the Earth and spotted by the PanSTARRS telescope in Hawaii may be a piece of the moon.

About Kamo`oalewa–

- **It was discovered in 2016 by the PanSTARRS telescope** at Haleakala Observatory, Hawaii, that is operated by the University of Hawaii's Institute for Astronomy and funded by NASA's Planetary Defense Coordination Office.
- The near-Earth asteroid **Kamo`oalewa was named Kamo`oalewa, a Hawaiian word that refers to an oscillating celestial object.**
- It can be observed only every few weeks in April.
- It is **known as a quasi-satellite, meaning it orbits the sun but gets close to Earth.**
- The asteroid **is roughly the size of a Ferris wheel – between 150 and 190 feet in diameter** – and gets as close as about 9 million miles from Earth.
- Because of its small size (about 50 metres wide), this quasi-satellite has been **difficult for scientists to study, and little was known about it so far.**
- Now, **a new study** has suggested **that Kamo`oalewa was a part of the Earth's Moon.**
- It **could have broken away from the Moon due to a possible impact**, and gone on to orbit the Sun rather than the Earth-like its parent does.
- When scientists compared its spectrum with a lunar sample that was brought back to Earth during the Apollo 14 mission, they found striking similarities between the two.
- **Another possibility is** that Kamo`oalewa was **captured in its Earth-like orbit from the general population of Near**

Earth Objects.

- A third possibility could be that it **originated from an as-yet-undiscovered quasi-stable population of Earth's Trojan asteroids** (Trojans are a group of asteroids that share an orbit with a larger planet).
- A mission to collect Kamo'oalewa's samples has been scheduled for a launch in 2025.