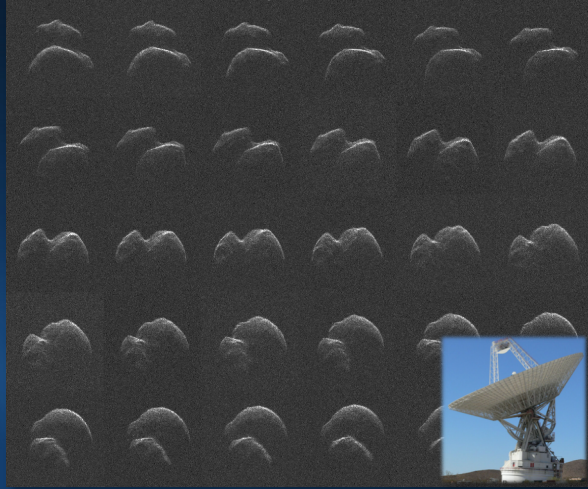


Kilometer-sized Asteroid 2014 JO25 Makes a Close Approach to Earth

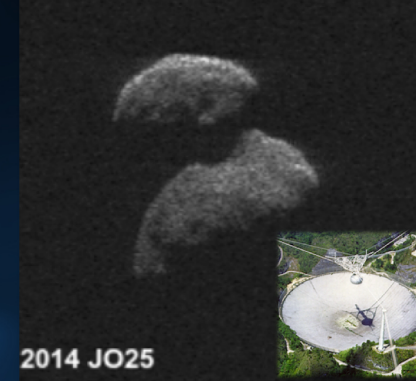
Goldstone Solar System Radar



On April 19, 2017 the potentially hazardous asteroid 2014 JO25 approached Earth at less than 4.6 times the distance to the Moon (1.8 million km). Discovered in 2014 by the Catalina Sky Survey, it was studied by other projects in the Near-Earth Object Observations program of the Planetary Defense Coordination Office during the approach.

Goldstone* and Arecibo radars measured it to be ~950 meters long. Its asymmetric, two-lobed structure might indicate a contact binary and is reminiscent of the target of ESA's Rosetta mission, comet 67P/Churyumov-Gerasimenko.

Arecibo Obs./NASA/NSF



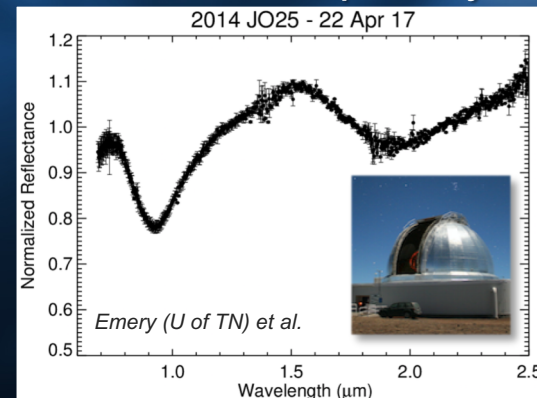
JO25's elongated orbit tilted below the plane of solar system is also not unlike a comet's orbit. However, initial results from ground-based observations at NASA's Infrared Telescope Facility reveal a spectrum similar to that of Ordinary Chondrites, the most common group of meteorites found on Earth.

This type of near-Earth object is difficult for our current ground-based optical surveys to detect and observe:

- Highly elliptical orbit with high velocity through the inner solar system
- Approaches Earth from the direction of the Sun, so ground-based telescopes cannot see it until after it crosses the Earth's orbit

If an object of this size (~1 km) and velocity (33 km/s) were to impact Earth, it could result in a crater 10 km or more in size, with a much wider area of devastation and possible global effects on climate.

NASA Infrared Telescope Facility



*Goldstone image featured on the April 20th Astronomy Picture of the Day at <https://apod.nasa.gov/apod/ap170420.html>