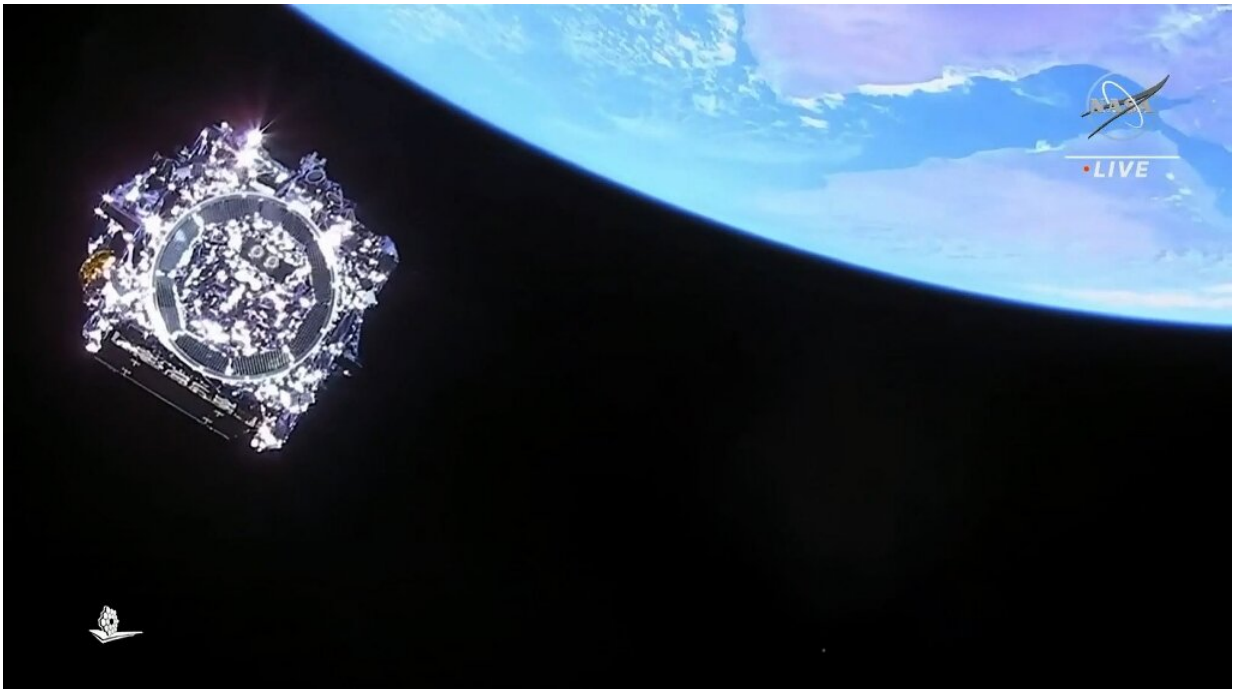


Small asteroid 'serendipitously' detected using James Webb telescope

February 11 2023



In this still picture from a NASA TV broadcast, the James Webb Space Telescope separates from Arianespace's Ariane 5 rocket after its 2021 launch.

European astronomers using the James Webb Space Telescope have detected a previously unknown asteroid about the size of Rome's Colosseum in the main asteroid belt between Mars and Jupiter.

The asteroid measuring between 300 and 650 feet (100 to 200 meters) in

length is the smallest object observed to date using the telescope, the US space agency NASA said Monday.

The European astronomers "serendipitously detected" the asteroid, NASA said in a statement, adding that more observations would be needed to better characterize its nature and properties.

"We—completely unexpectedly—detected a small asteroid," said Thomas Muller, an astronomer at the Max Planck Institute for Extraterrestrial Physics in Germany.

It was detected during calibration of the telescope's Mid-Infrared Instrument (MIRI), which operates in mid-infrared wavelengths.

"Webb's incredible sensitivity made it possible to see this roughly 100-meter object at a distance of more than 100 million kilometers," Muller said.

Webb, which has been operational since July, is the most powerful space telescope ever built and has unleashed a raft of unprecedented data as well as stunning images.

One of the main goals for the \$10 billion [telescope](#) is to study the life cycle of stars. Another main research focus is on exoplanets, planets outside Earth's [solar system](#).

Webb was not designed to look for small objects such as the newly-discovered asteroid, but Muller said its discovery "suggests that many new objects will be detected with this instrument."

More information: T. G. Müller et al, Asteroids seen by JWST-MIRI: Radiometric size, distance, and orbit constraints, *Astronomy & Astrophysics* (2022). [DOI: 10.1051/0004-6361/202245304](https://doi.org/10.1051/0004-6361/202245304)

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