

Lucy spacecraft captures images of Earth, Moon ahead of gravity assist

October 25 2022, by Jessica Merzdorf



NASA's Lucy spacecraft captured this image (which has been cropped) of the Earth on Oct 15, 2022, as a part of an instrument calibration sequence at a distance of 380,000 miles (620,000 km). The upper left of the image includes a view of Hadar, Ethiopia, home to the 3.2 million-year-old human ancestor fossil for which the spacecraft was named. Credit: NASA/Goddard/SwRI

NASA's Lucy spacecraft captured an image of the Earth on Oct 15, 2022, and an image of the Earth and the Moon on Oct. 13 as a part of an instrument calibration sequence.

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Lucy is the first mission to explore the Jupiter Trojan asteroids, an ancient population of [asteroid](#) "fossils" that orbit around the Sun at the same distance as Jupiter. To reach these distant asteroids, the Lucy spacecraft's trajectory includes three Earth gravity assists to boost it on its journey to these enigmatic asteroids.

The image was taken with Lucy's Terminal Tracking Camera (T2CAM) system, a pair of identical cameras that are responsible for tracking the asteroids during Lucy's high-speed encounters. The T2CAM system was designed, built and tested by Malin Space Science Systems; Lockheed Martin Integrated the T2CAMs onto the Lucy spacecraft and operates them.



On October 13, 2022, NASA's Lucy spacecraft captured this image of the Earth and the Moon from a distance of 890,000 miles (1.4 million km). The image was taken as part of an instrument calibration sequence as the spacecraft approached Earth for its first of three Earth gravity assists. These Earth flybys provide Lucy with the speed required to reach the Trojan asteroids — small bodies that orbit the Sun at the same distance as Jupiter. Credit: NASA/Goddard/SwRI

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These Earth flybys provide Lucy with the speed required to reach the Trojan asteroids—small bodies that orbit the Sun at the same distance as Jupiter. On its 12 year journey, Lucy will fly by a record breaking number of asteroids and survey their diversity, looking for clues to better understand the formation of the solar system.

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Provided by NASA's Goddard Space Flight Center

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