NASA CUBESAT BEAMS BACK IMAGE OF MARS

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One of NASA's twin MarCO spacecraft took this image of Mars on October 2 | Photo Credit: NASA/JPL-Caltech

NASA's first CubeSats to travel into deep space have beamed back an image of Mars — visible as a tiny red dot against the dark sky. The twin, low-cost MarCO CubeSats, called MarCO-A and MarCO-B, which are sharing a ride with InSight Mars lander, were designed to find out if they could survive the journey to deep space.

The image of Mars was taken on October 3 from a distance of roughly 12.8 million kilometres. A wide-angle camera on top of MarCO-B produced the image as a test of exposure settings. The MarCO mission, led by NASA's Jet Propulsion Laboratory in Pasadena, California, hopes to produce more images as the CubeSats approach Mars. On November 26, they'll demonstrate their communications capabilities while NASA's InSight spacecraft attempts to land on the red planet.

The MarCOs are "chasing" Mars, which is a moving target as it orbits the Sun. In order to be in place for InSight's landing, the CubeSats have to travel roughly 85 million kilometres. They have already travelled 399 million kilometres.

First-ever image of Mars from a CubeSat! On Oct. 2, one of our twin <u>#MarCO</u> satellites took this image. The pair has about 53 million miles left to reach Mars. They'll demo communications during <u>@NASAInSight</u>'s Nov. 26 landing on the Red Planet. Look closer: <u>https://t.co/6FfMBOnrDC pic.twitter.com/RajKnGaM1m</u>

MarCO-B's wide-angle camera looks straight out from the deck of the CubeSat. Parts related to the spacecraft's high-gain antenna are visible on either side of the image. Mars appears as a small red dot in the image. To take the image, the MarCO team had to programme the CubeSat to rotate in space so that the deck of its boxy "body" was pointing at Mars. After several test images, they were excited to see that clear, red pinprick.

"We've been waiting six months to get to Mars," said Cody Colley, MarCO's mission manager at JPL. "The cruise phase of the mission is always difficult, so you take all the small wins when they come. Finally seeing the planet is definitely a big win for the team."

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BepiColombo spacecraft's two probes — Bepi will operate in Mercury's inner orbit, and Mio will be in the outer orbit

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