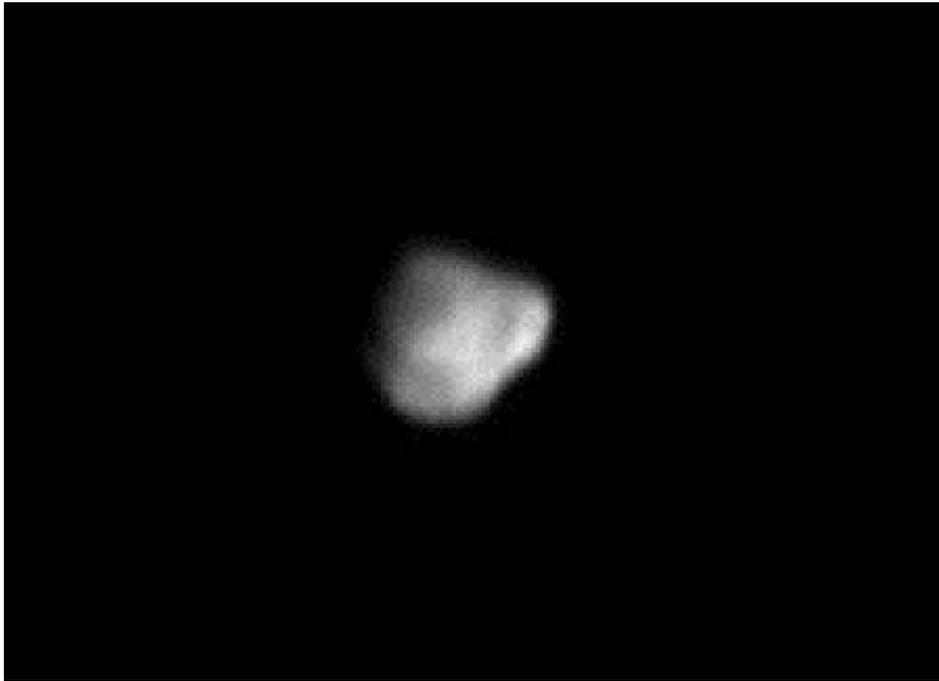


NASA probe sends back pictures of its comet encounter

Stardust-NExT successfully zips past Comet Tempel 1 in encore performance



NASA / JPL-Caltech / Cornell

One of the first pictures sent back by NASA's Stardust-NExT probe after its successful flyby of Comet Tempel 1 shows the irregular icy object as the spacecraft approached on Monday.

By Mike Wall

Space.com 
February 15, 2011

NASA has released the first photos of Comet Tempel 1 taken by its Stardust probe, showing the icy wanderer in the distance as the spacecraft drew nearer for a closer look.

The Stardust probe flew to within 112 miles (181 kilometers) of Comet Tempel 1 at 11:39 p.m. ET Monday, and the spacecraft began beaming home the first of its 72 high-resolution images from the close encounter about four hours later.

Mission scientists hoped the spacecraft would send the five photos bracketing its closest approach first, but a minor glitch prevented that from happening. The first pictures to be beamed back to Earth were the earliest ones taken by Stardust as it approached Tempel 1 from about 1,600 miles (2,575 kilometers) away.

From such a distance, Tempel 1 has an angular appearance that gives it a triangular or diamondlike look in Stardust's initial flyby photos. NASA plans to release the close-up views as soon as they are received and ready, officials said.

Stardust's photos of Comet Tempel 1 are the first close-up views of the comet in nearly six years. In July 2005, NASA's Deep Impact spacecraft visited the comet and crashed a small probe into its icy surface to determine the composition of Tempel 1.

At the time of its closest approach to Tempel 1, the Stardust spacecraft was about 209 million miles (336 million kilometers) from Earth, NASA officials say.

NASA will hold a press conference later Tuesday to discuss the latest results from the Comet Tempel 1 flyby. The Stardust spacecraft took 122 photos of Comet Tempel 1 during its Valentine's Day rendezvous on Monday night. Of those, about 72 are expected to be high-resolution close-ups of the comet, NASA officials say.

The 3.7-mile-wide (6-kilometer-wide) Tempel 1 orbits the sun once every five and a half years, so it has made one trip around the sun since Deep Impact's visit. Stardust's visit to Tempel 1, called the Stardust-NExT mission, is aimed at helping scientists learn how much the comet has changed during this time.

Researchers also wanted Stardust-NExT to map more of Tempel 1's surface, and they hoped to see the crater that Deep Impact created. The huge debris plume raised by the impact obscured the feature during that mission, preventing Deep Impact from getting a good look.

Stardust-NExT has logged just over 3.5 billion miles (5.7 billion kilometers) during its 12 years in space. But this comet encounter will likely be the probe's last mission, since it burned up almost all of its remaining fuel chasing down Tempel 1.

The Stardust spacecraft was originally launched to visit Comet Wild 2 (pronounced "Vilt Two"), which it did in 2004. The spacecraft also collected samples of Wild 2 in a small container, which returned to Earth in 2006.

After the Wild 2 comet encounter, NASA repurposed the Stardust probe to visit Tempel 1 and rechristened it Stardust-NExT (for "New Exploration of Tempel").

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