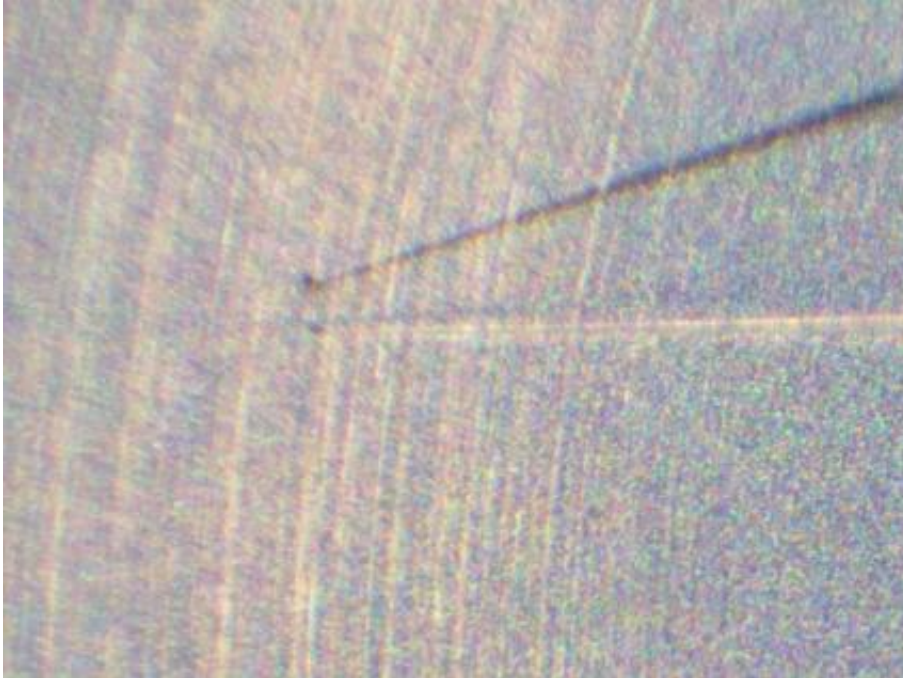


Hayabusa Contains a Hint of Dust

July 7 2010



Magnified view of a dust particle in the Hayabusa canister. Credit: JAXA

The sample return canister from the Hayabusa spacecraft has been opened, and does contain a small amount of dust, possibly from the asteroid Itokawa. Studying samples from an asteroid can help astrobiologists determine if impacts delivered materials important to the origins of life on the early Earth.

The sample return canister from the Hayabusa spacecraft has been opened, and does contain a small amount of [dust particles](#), according to

the [JAXA](#) website. This is very encouraging news! However, it is not yet known if the dust is from the [asteroid](#) Itokawa, where Hayabusa briefly touched down, or if it could be from Earth — left in the container from before launch, or it possibly could have made its way in there during the landing, or during post-landing handling.

"Material on the planet or asteroid or particulate matter is at this stage is unknown, we will consider in detail," is the Google translate version of the [JAXA press release](#).

According to Emily Lakdawalla at the Planetary Society, the dust grains are extremely small, about 0.01-millimeter in size, and there are about a dozen of them inside the container.

It likely will take several weeks to confirm whether the particles are from the asteroid, but if so, would be the first-ever asteroid sample return.



Hayabusa's sample return canister was opened to reveal a small particle inside.
Credit: JAXA

Launched in 2003, the Hayabusa spacecraft rendezvoused with asteroid Itokawa in September 2005. Over the next two-and-a-half months, the spacecraft made up-close and personal scientific observations of the asteroid's shape, terrain, surface altitude distribution, mineral composition, gravity, and the way it reflected the Sun's rays. On Nov. 25 of that year, Hayabusa briefly touched down on the surface of Itokawa, and supposedly shot "bullets" into the asteroid in order to stir up dust for the container to capture

That was only the second time in history a spacecraft descended to the surface of an asteroid. NASA's Near Earth Asteroid Rendezvous-Shoemaker [spacecraft](#) landed on asteroid Eros on Feb. 12, 2001.

Hayabusa left asteroid Itokawa in 2007 for its long journey back to Earth. The sample return capsule was ejected from the [Hayabusa spacecraft](#) and landed in the Australian Outback on June 13, 2010.

If the dust is indeed from Itokawa, the samples could provide insight into the composition of the space rock. Such information can help astrobiologists understand the role of asteroid impacts in delivering materials to the early Earth that could have been important in the origin of life.

Provided by Astrobio.net

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