Five things about NASA's EPOXI mission

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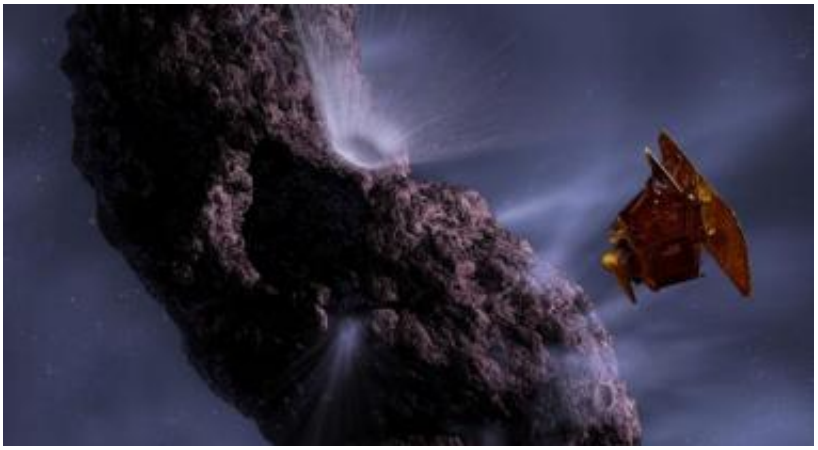

This artist's concept shows us the first time Deep Impact encountered a comet - Tempel 1 in July 2005. Deep Impact, now in an extended mission called EPOXI, will fly by its next comet, Hartley 2, on Nov. 4, 2010. Image Credit: NASA/JPL-Caltech/UMD

(PhysOrg.com) -- Here are five quick facts about the EPOXI mission, scheduled to fly by comet Hartley 2 on Nov. 4, 2010.

1. High Fives - This is the fifth time humans will see a comet close-up, and the Deep Impact spacecraft flew by Earth for its fifth time on Sunday, June 27, 2010.

2. Eco-friendly Spacecraft: Recycle, Reuse, Record - The EPOXI mission is recycling the Deep Impact spacecraft, whose probe intentionally collided with comet Tempel 1 on July 4, 2005, revealing,

for the first time, the inner material of a comet. The spacecraft is now approaching a second comet rendezvous, a close encounter with Hartley 2 on Nov. 4. The spacecraft is reusing the same trio of instruments used during Deep Impact: two telescopes with digital imagers to record the encounter, and an infrared spectrometer.

3. Small, Mighty and Square-Dancing in Space - Although comet Hartley 2 is smaller than Tempel 1, the previous comet visited by Deep Impact, it is much more active. In fact, amateur skywatchers may be able to see Hartley 2 in a dark sky with binoculars or a small telescope. Engineers specifically designed the mighty Deep Impact spacecraft to point a camera at Tempel 1 while its antenna was directed at Earth. This flyby of comet Hartley 2 does not provide the same luxury. It cannot both photograph the comet and talk with mission controllers on Earth. Engineers have instead programmed Deep Impact to dance the do-si-do. The spacecraft will spend the week leading up to closest approach swinging back and forth between imaging the comet and beaming images back to Earth.

4. Storytelling Comets - Comets are an important aspect of studying how the solar system formed and Earth evolved. Comets are leftover building blocks of solar system formation, and are believed to have seeded an early Earth with water and organic compounds. The more we know about these celestial bodies, the more we can learn about Earth and the solar system.

5. What's in a Name? - EPOXI is a hybrid acronym binding two science investigations: the Extrasolar Planet Observation and Characterization (EPOCh) and Deep Impact eXtended Investigation (DIXI). The spacecraft keeps its original name of Deep Impact, while the mission is called EPOXI.

Provided by JPL/NASA