

NASA space probe to slam into comet July 4

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NASA's Deep Impact probe is scheduled to lob a big copper "bullet" into a comet on July 4 to look into the heart of this remnant from the formation of our solar system, scientists said on Thursday.

Impact is expected at 1:52 a.m. EDT (0552 GMT) on U.S. Independence Day.

About a day before the collision, the Deep Impact craft will send a 317-pound (144 kg) copper-fortified impactor toward comet Tempel 1, which will be about 83 million miles from Earth.

The impactor will steer itself toward the comet and the Deep Impact craft will pass about 310 miles away from it and watch the smash-up, the scientists said at a briefing.

Rick Grammier, the project manager for the mission, called this maneuver "extremely challenging."

"It's a bullet trying to hit a second bullet with a third bullet, in the right place at the right time, watching the first two bullets and gathering the scientific data from that impact," Grammier said.

The Deep Impact mission is designed to offer a look under the surface of a comet, where material from the solar system's formation remains relatively unchanged.

Astronomers do not know what kind of impact they will see when the impactor hits: the crater produced on the comet could range in size from a large house to the size of a football stadium. Either way, it will not appreciably change the comet's path.

The crash is expected to eject a spray of ice and dust from the comet's surface and reveal the material beneath it on this Manhattan-sized space rock. At that point, the Deep Impact craft will have about 13 minutes to capture images and data before it weathers what astronomers expect will be a blizzard of particles thrown out of the nucleus of the comet.

There are cameras aboard the impactor and the main craft, and the crash will also be observed by the Hubble, Spitzer and Chandra space telescopes in addition to telescopes on Earth.

Because scientists do not know how bright the impact will be, they can't say whether backyard astronomers will be able to see it. But those with the best chance are those in the western United States and possibly New Zealand.

More information and images are available online at <http://www.nasa.gov/deepimpact>.

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