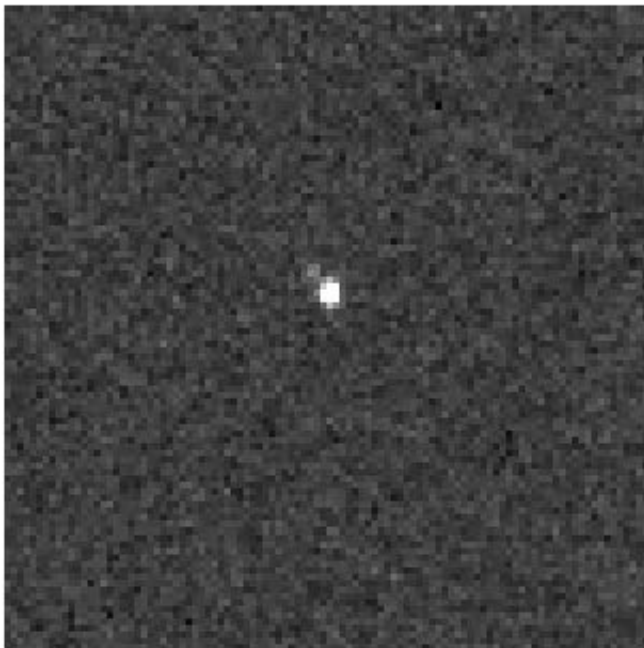


Charon revealed: New Horizons camera spots Pluto's largest moon

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New Horizons LOnG Range Reconnaissance Imager (LORRI) composite image showing the detection of Pluto's largest moon, Charon, cleanly separated from Pluto itself. The frame on the left is an average of six different LORRI images, each taken with an exposure time of 0.1 second. The frame to the right is the same composite image but with Pluto and Charon circled; Pluto is the brighter object near the center and Charon is the fainter object near its 11 o'clock position. The circles also denote the predicted locations of the objects, showing that Charon is where the team expects it to be, relative to Pluto. No other Pluto system objects are seen in these images. When these images were taken on July 1 and July 3, 2013, the New Horizons spacecraft was still about 550 million miles (880 million kilometers) from Pluto. On July 14, 2015, the spacecraft is

scheduled to pass just 7,750 miles (12,500 kilometers) above Pluto's surface, where LORRI will be able to spot features about the size of a football field.

Credit: NASA/Johns Hopkins University Applied Physics Laboratory/Southwest Research Institute

(Phys.org) —NASA's Pluto-bound New Horizons spacecraft, using its highest-resolution telescopic camera, has spotted Pluto's Texas-sized, ice-covered moon Charon for the first time. This represents a major milestone on the spacecraft's 9.5-year journey to conduct the initial reconnaissance of the Pluto system and the Kuiper Belt and, in a sense, begins the mission's long-range study of the Pluto system.

The largest of Pluto's five known moons, Charon orbits about 12,000 miles (more than 19,000 kilometers) away from Pluto itself. As seen from New Horizons, that's only about 0.01 degree away.

"The image itself might not look very impressive to the untrained eye, but compared to the discovery images of Charon from Earth, these 'discovery' images from New Horizons look great!" says New Horizons Project Scientist Hal Weaver, of the Johns Hopkins University Applied Physics Laboratory, Laurel, Md. "We're very excited to see Pluto and Charon as separate objects for the first time from New Horizons."

The spacecraft was still 550 million miles from Pluto—farther than the distance from Earth to Jupiter—when its LOng Range Reconnaissance Imager (LORRI) snapped a total of six images: three on July 1 and three more on July 3. LORRI's excellent sensitivity and spatial resolution revealed Charon at exactly the predicted offset from Pluto, 35 years after the announcement of Charon's discovery in 1978 by James Christy of the Naval Observatory.

"In addition to being a nice technical achievement, these new LORRI [images](#) of Charon and Pluto should provide some interesting science too," says New Horizons Principal Investigator Alan Stern, of the Southwest Research Institute. New Horizons is viewing Pluto and Charon at solar phase angles (the angles between the Sun, Pluto and spacecraft) much larger than can be achieved from observatories located on or near the Earth, potentially yielding important information about the surface properties of Charon and Pluto—perhaps the existence of an overlying layer of fine particles, for example.

"We're excited to have our first pixel on Charon," Stern continues, "but two years from now, near closest approach, we'll have almost a million pixels on Charon—and I expect we'll be about a million times happier too!"

Provided by NASA

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