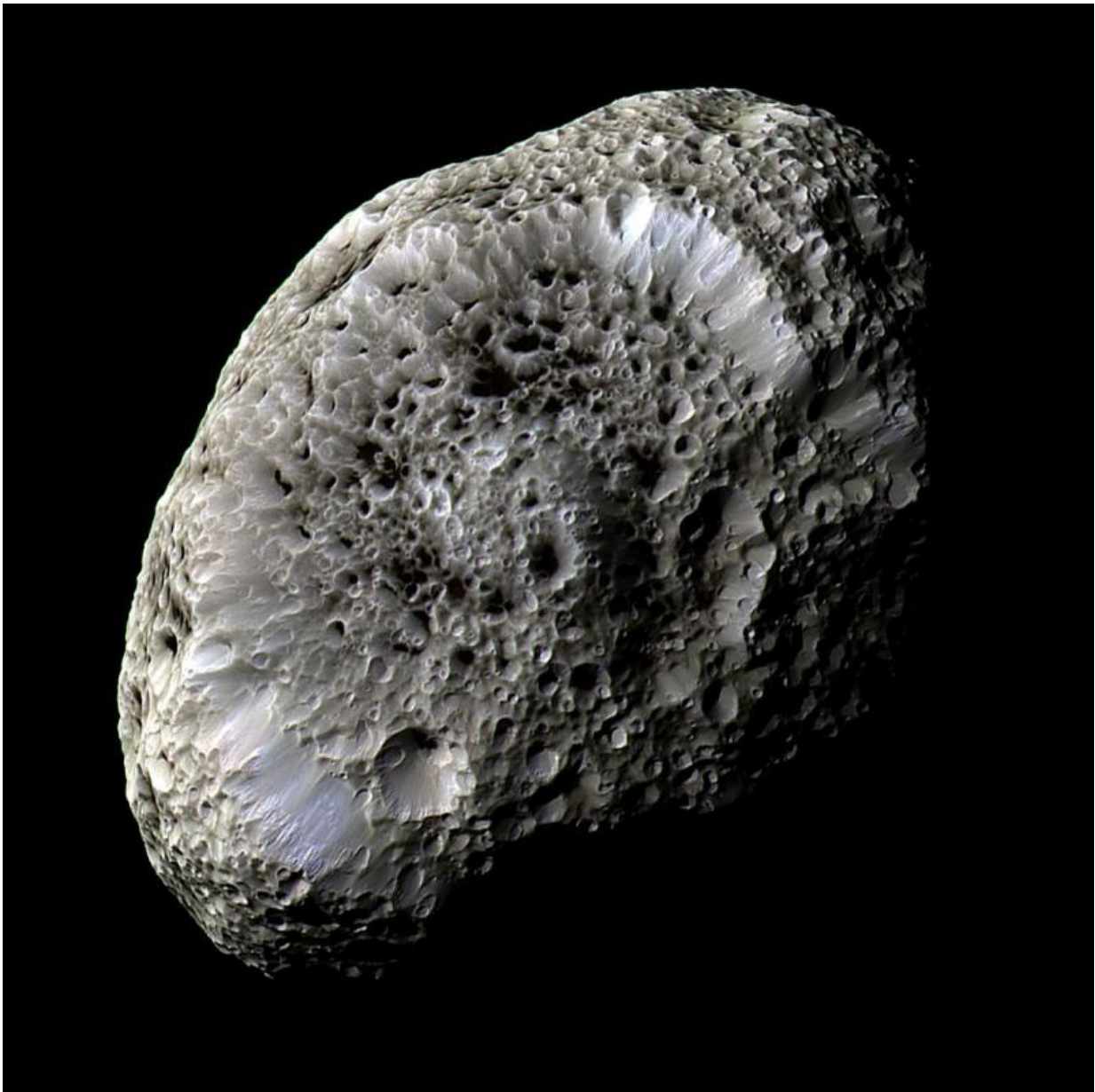


Cassini prepares for last up-close look at Hyperion

May 29 2015, by Preston Dyches



This stunning false-color view of Saturn's moon Hyperion reveals crisp details across the strange, tumbling moon's surface. Differences in color could represent differences in the composition of surface materials. The view was obtained during Cassini's close flyby on Sept. 26, 2005. Credit: NASA/JPL/Space Science Institute

NASA's Cassini spacecraft will make its final close approach to Saturn's large, irregularly shaped moon Hyperion on Sunday, May 31.

The Saturn-orbiting [spacecraft](#) will pass Hyperion at a distance of about 21,000 miles (34,000 kilometers) at approximately 6:36 a.m. PDT (9:36 a.m. EDT). Mission controllers expect images from the encounter to arrive on Earth within 24 to 48 hours.

Mission scientists have hopes of seeing different terrain on Hyperion than the mission has previously explored in detail during the encounter, but this is not guaranteed. Hyperion (168 miles, 270 kilometers across) rotates chaotically, essentially tumbling unpredictably through space as it orbits Saturn. Because of this, it's challenging to target a specific region of the moon's surface, and most of Cassini's previous close approaches have encountered more or less the same familiar side of the craggy moon.

Cassini scientists attribute Hyperion's unusual, sponge-like appearance to the fact that it has an unusually low density for such a large object—about half that of water. Its [low density](#) makes Hyperion quite porous, with weak surface gravity. These characteristics mean impactors tend to compress the surface, rather than excavating it, and most material that is blown off the surface never returns.

Cassini's closest-ever Hyperion flyby took place on September 26, 2005,

at a distance of 314 miles (505 kilometers).

Cassini's next notable flyby after May 31 is slated for June 16, when the spacecraft will pass 321 miles (516 kilometers) above icy Dione. That flyby will represent the mission's penultimate close approach to that moon. In October, Cassini will make two close flybys of the active moon Enceladus, with its jets of icy spray, coming as close as 30 miles (48 kilometers) in the final pass. In late 2015, the spacecraft will again depart Saturn's equatorial plane—where [moon](#) flybys occur most frequently—to begin a year-long setup of the mission's daring final year. For its grand finale, Cassini will repeatedly dive through the space between Saturn and its rings.

More information: For more information about Cassini, visit: www.nasa.gov/cassini

Provided by Jet Propulsion Laboratory

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