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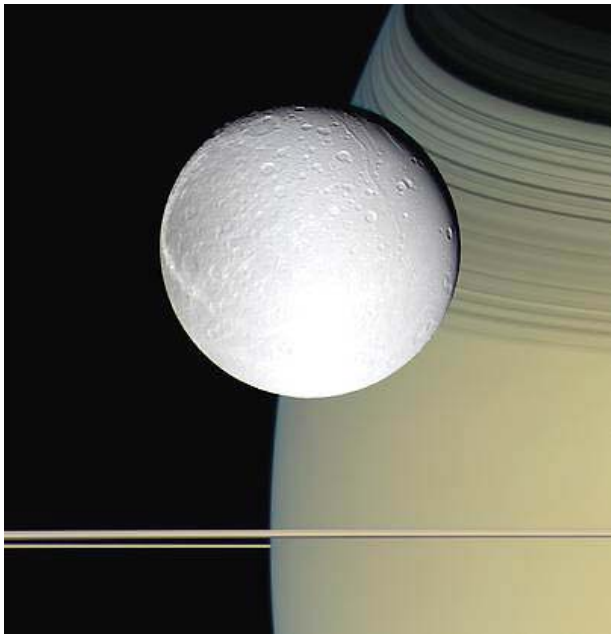
Saturn's Icy Moon, Dione, Up Close

Dione reveals a wonderful variety of surface features that are simultaneously familiar and unlike any other place in the solar system."- NASA/JPL/Space Science Institute.



October 11, 2005, image of Saturn's icy moon, Dione, above the planet's thin rings. Behind Dione are the shadows of Saturn's B and C rings. Image from the Cassini spacecraft at 24,200 miles (39,000 kilometers) distance. Image courtesy NASA/JPL/Space Science Institute.

October 19, 2005 Pasadena, California - NASA reports that "speeding toward pale, icy Dione, Cassini's view is enriched by the tranquil gold and blue hues of Saturn in the distance. The horizontal stripes near the bottom of the image are Saturn's rings. The spacecraft was nearly in the plane of the rings when the images were taken, thinning them by perspective and masking their awesome scale. The thin, curving shadows of the C ring and part of the B ring adorn the northern latitudes visible here, a reminder of the rings' grandeur."

It is notable that Dione, like most of the other icy Saturnian satellites, appears in grey tones no differently in natural color than in monochrome images.

This new Cassini image was taken on October 11, 2005, with blue, green and infrared (centered at 752 nanometers) spectral filters were used to create this color view, which approximates the scene as it would appear to the human eye. The image was obtained with the Cassini spacecraft wide-angle camera at a distance of approximately 39,000 kilometers (24,200 miles) from Dione and at a Sun-Dione-spacecraft, or phase, angle of 22 degrees. The image scale is about 2 kilometers (1 mile) per pixel.

Close-up view of surface terrain of Saturn's moon, Dione, within a 37-miles wide (60 kilometers) crater along a feature called Padua Linea. Image courtesy NASA/JPL/Space Science Institute.

NASA: "The Cassini spacecraft continues to prove that the closer the view of the myriad worlds constituting the Saturn system, the more interesting and varied the views become. This close-up view of icy Dione reveals a wonderful variety of surface features that are simultaneously familiar and unlike any other place in the solar system.

"The terrain in this image is located within a 60-kilometer-wide (37-mile) impact crater along the feature called Padua Linea. The western rim of the encompassing crater runs from the middle left to the upper right. The crater's central peak can be seen at the lower right.

"Multiple generations of fractures are visible here. Numerous fine, roughly parallel linear grooves run across the terrain from top to bottom and are interrupted by the larger, irregular bright fractures. In several places, fractures postdate some deposits in the bottoms of craters that are not badly degraded by time. Such a fracture, for example, runs from the center toward the upper right.

"Most of the craters seen here have bright walls and dark deposits of material on their floors. As on other Saturnian moons, rock slides on Dione may reveal cleaner ice, while the darker materials accumulate in areas of lower topography and lower slope (e.g. crater floors and the bases of scarps).

"This clear-filter image was taken using the Cassini spacecraft narrow-angle camera on October 11, 2005, during Cassini's close targeted flyby of Dione. The image was acquired from a distance of 4,486 kilometers (2,787 miles) from Dione and at a Sun-Dione-spacecraft, or phase, angle of 10 degrees. The image scale is 23 meters (75 feet) per pixel. This view is centered on terrain near 11 degrees south latitude, 238 degrees west longitude.

"The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. The Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, manages the mission for NASA's Science Mission Directorate, Washington, D.C. The Cassini orbiter and its two onboard cameras were designed, developed and assembled at JPL. The imaging operations center is based at the Space Science Institute in Boulder, Colorado."

Websites:

http://saturn.jpl.nasa.gov

http://ciclops.org

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