

Cassini returns images of bright jets at Enceladus

December 2 2010, By Jia-Rui Cook



NASA's Cassini spacecraft obtained this raw image of the south polar region of Saturn's moon Enceladus on Nov. 30, 2010. The spacecraft was about 89,000 kilometers (55,000 miles) away from the moon's surface. Image Credit: NASA/JPL/SSI

(PhysOrg.com) -- NASA's Cassini spacecraft successfully dipped near the surface of Saturn's moon Enceladus on Nov. 30.

NASA's [Cassini spacecraft](#) successfully dipped near the surface of Saturn's [moon Enceladus](#) on Nov. 30. Though Cassini's closest approach took it to within about 48 kilometers (30 miles) of the moon's northern

hemisphere, the spacecraft also captured shadowy images of the tortured south polar terrain and the brilliant jets that spray out from it.

Many of the raw images feature darkened terrain because winter has descended upon the southern hemisphere of Enceladus. But sunlight behind the moon backlights the jets of water vapor and icy particles. In some images, the jets line up in rows, forming curtains of spray.



NASA's Cassini spacecraft obtained this raw image of the Saturnian moon Hyperion on Nov. 28, 2010. The spacecraft was about 73,000 kilometers (45,000 miles) away from the moon's surface. Image Credit: NASA/JPL/SSI

The Enceladus [flyby](#) was the 12th of Cassini's mission, with the spacecraft swooping down around 61 degrees north latitude. This encounter and its twin three weeks later at the same altitude and latitude, are the closest Cassini will come to the northern hemisphere surface of Enceladus during the extended Solstice mission. (Cassini's closest-ever approach to Enceladus occurred in October 2008, when the spacecraft

dipped to an altitude of 25 kilometers, or 16 miles.)

Among the observations Cassini made during this Enceladus flyby, the radio science subsystem collected gravity measurements to understand the moon's interior structure, and the fields and particles instruments sampled the charged particle environment around the moon.

About two days before the Enceladus flyby, Cassini also passed the sponge-like moon Hyperion, beaming back intriguing images of the craters on its surface. The flyby, at 72,000 kilometers (45,000 miles) in altitude, was one of the closest approaches to Hyperion that Cassini has made.

Scientists are still working to analyze the data and images collected during the flybys.

More information: The new raw images can be seen at saturn.jpl.nasa.gov/photos/raw/ .

Provided by JPL/NASA

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