

# Successful Flight Through Enceladus Plume (w/ Video)

November 4 2009

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Cassini's camera captured this image of the misty plume spewing from the south polar region of Saturn's moon Enceladus on its Nov. 2, 2009, flyby. Image credit: NASA/JPL/Space Science Institute

(PhysOrg.com) -- Cassini has started sending data back from its Nov. 2 flyby of Saturn's moon Enceladus.

The Cassini [spacecraft](#) has weathered the Monday, Nov. 2, flyby of Saturn's moon Enceladus in good health and has been sending images and data of the encounter back to Earth. Cassini had approached Enceladus more closely before, but this passage took the spacecraft on its deepest plunge yet through the heart of the plume shooting out from the south polar region. Scientists are eagerly sifting through the results.

In the unprocessed image above (top left), sunlight brightens a crescent curve along the edge of Enceladus and highlights the moon's misty

plume. The image was captured by Cassini's narrow-angle camera as the spacecraft passed about 190,000 kilometers (120,000 miles) over the moon.

Another raw image (top right) appears to show separate jets spewing from the [moon](#). This image was taken from approximately 330,000 kilometers (200,000 miles) away.

At its closest point on Nov. 2, Cassini flew about 100 kilometers (60 miles) above the surface of Enceladus.

Since the discovery of the plume in 2005, scientists have been captivated by the enigmatic jets. Previous flybys detected [water vapor](#), sodium and organic molecules, but scientists need to know more about the plume's composition and density to characterize the source, possibly a liquid ocean under the moon's icy surface. It would also help them determine whether Enceladus has the conditions necessary for life.

Mission managers did extensive studies to make sure the spacecraft could fly safely through the plumes and not use an excessive amount of propellant.

To see one scientist's preview of the [flyby](#), [click here](#).

Provided by JPL/[NASA](#) ([news](#) : [web](#))

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