



(Courtesy NASA/JPL/University of Colorado)

The Cassini spacecraft orbited the Saturn system to help us understand the planet, its rings, and its many diverse moons.

## Frequently Asked Questions

### What was the purpose of the UVIS instrument?

UVIS was a remote sensing instrument and one of 12 instruments on the Cassini orbiter. It includes a set of telescopes used to measure ultraviolet light reflected off the surfaces, rings, and atmospheres of the Saturn system. The UVIS instrument also observed the fluctuations of light around Saturn, its moons, and its rings as they passed in front of the Sun and stars (an event called an occultation). UVIS data helped scientists determine the composition, distribution, aerosol particle content, and temperatures of the atmospheres, rings, and surfaces of the Saturn system.

### What did Cassini/UVIS discover?

Cassini/UVIS discovered an icy plume of salt-rich organic chemicals shooting from the moon Enceladus. With tidal heat and liquid water, Enceladus could be a place where primitive life forms might evolve. Cassini also found Saturn's rings to be bumpy, made of ice crystals and dust from the size of a grain of sand to that of a house. Particles constantly jostle and collide, causing clumps, waves, and small moons. This recycling could mean the rings have been around as long as the Solar System and may last forever.

## Quick Facts

**Launch date:** October 15, 1997

**Launch location:** Kennedy Space Center, Cape Canaveral, FL

**Launch vehicle:** Titan IV-B/Centaur

**Mission target:** Saturn system

**Primary duration:** Entered orbit around Saturn July 1, 2004.

Primary mission was four years, second extended mission through September 2017, when Cassini was deorbited.

**Project description:** To study the atmospheric composition and photochemistry of Saturn, its moons, and the nature and history of Saturn's rings.

**LASP provided:** The Ultraviolet Imaging Spectrograph (UVIS); UVIS Principal Investigator, Larry W. Esposito

**Other organizations involved with UVIS:**

- Jet Propulsion Laboratory
- Max Planck Institute for Solar System Research

### What did UVIS study during the extended mission?

Cassini's extended mission focused on Saturn's moons Titan and Enceladus, and other icy moons like Dione and Rhea. Just before the end of the mission, Cassini was able to perform up-close observations of Saturn and its rings for the first time ever, during a period called the "Grand Finale."

To read more about Cassini/UVIS, visit: <http://lasp.colorado.edu/home/missions-projects/quick-facts-cassini-uvvis>.

The Laboratory for Atmospheric and Space Physics (LASP) combines all aspects of space exploration through our expertise in science, engineering, mission operations, and data management. As an institute at the University of Colorado Boulder, LASP includes students throughout our activities. Learn more at <http://lasp.colorado.edu>.