

Cassini's Cameras View the Saturn System

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The Cassini spacecraft, carrying the Huygens probe, entered Saturn orbit 1 July 2004 (UT). Since February 1, 2004, when routine Saturn science operations began, the Cassini imaging science team has been conducting detailed observations of the entire Saturn system, in coordination with the other Cassini orbiter investigations and the Huygens Titan probe investigations. The observations obtained so far in the mission include: 1. High resolution ring images and the detection of new satellites and features within the ring system, 2. Saturn atmospheric observations which have identified large scale storm systems that are the sources of the Saturn Electrostatic Discharge phenomena, 3. Coverage of the icy satellites at resolutions equal to or greatly exceeding Voyager's, including the first high resolution views of distant Phoebe and spectacular views of tectonic structures on Dione and Iapetus, 4. Regional coverage of Titan's surface showing features with scales of a few kilometers or smaller, revealing a general paucity of impact structures and features that may be related to fluvial, tectonic and aeolian processes, 5. Images of Titan's atmosphere and clouds showing multiple high altitude haze layers and tropospheric super-rotation. The presentation will cover the scientific highlights of the imaging experiment and the latest data from the Saturn system. A portion of this work was performed at the Jet Propulsion Laboratory, California Institute of Technology under a contract from NASA.