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Movie of Titan's surface

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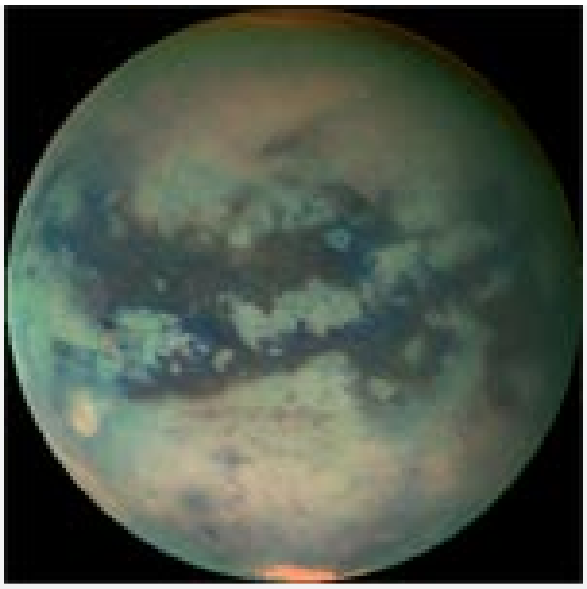
/specials/titanrotating/titanroting_400.swf

This movie of Titan shows data taken with Cassini spacecraft's Visual and Infrared Mapping Spectrometer (VIMS) during the last three fly-bys of Titan.



Saturn moon Titan

The viewing geometry of the December fly-by is roughly on the opposite hemispheres of the fly-bys in October and January. There are several important features shown by this movie. First, the globe of Titan exhibits two major types of terrain. One is very bright, and a darker one seems to be concentrated near the equator. Titan also has two very bright regions, the large one known as Tui Reggio, and the other as Hotei Arcus.

These regions are thought to be surface deposits, probably of volcanic origin, and may be water and/or carbon dioxide frozen from the vapour.

The December fly-by data show that the western margins of Tui Reggio have a complex flow-like structure consistent with eruptive phenomena. The reddish feature at the south pole is Titan's south polar cloud system, which was very bright during the December fly-by.

The Visible and Infrared Mapping Spectrometer conducts spectral mapping of the chemical composition and structure of the surfaces, atmospheres and rings of Saturn and its moons. VIMS receives signals both in visible light wavelengths (0.35 to 1.07 micrometres) and in infrared wavelengths (0.85 to 5.1 micrometres). VIMS can obtain representations of the Saturnian ring and satellite surfaces, the Saturnian atmosphere and the atmosphere of Titan in 352 separate wavelengths within the above-mentioned spectral ranges; due to differing physical characteristics of surfaces and chemical substances, these can be recognized in the appropriate wavelengths. In addition, VIMS can look

through Titan's thick cloud cover to 'see' the moon's surface. Dr. Ralf Jaumann from the DLR Institute for Planetary Research and his colleagues on the VIMS Science Team manage the calibration of the instrument, the planning of imaging sequences as well as the scientific evaluation of spectrometer data.

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