Route 66: Cassini's Next Look at Titan

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Artist concept of Titan 66 Flyby A long look at Titan. Image credit: NASA/JPL

(PhysOrg.com) -- Sixteen days after last visiting Saturn's largest moon, NASA's Cassini spacecraft returns for another look-see of the cloud-shrouded moon - this time from on high. The flyby on Thursday, Jan. 28, referred to as "T-66" in the hollowed halls of Cassini operations, will place the spacecraft within 7,490 kilometers (4,654 miles) above the surface during time of closest approach.

While this latest close approach places Cassini more than 6,400 kilometers (3,970 miles) higher above Titan's surface than the Jan. 12 flyby, it should not considered of lesser scientific value. Instead, this high-altitude encounter will provide an opportunity for some of the spacecraft's instruments to gain another unique perspective on this crepuscular world.

During T-66, the Imaging Science Subsystem is set to acquire high-

resolution observations during and after closest-approach, covering territory from the trailing hemisphere at high southern latitudes northeast to near-equatorial Adiri. On the inbound leg, the Visual and Infrared Mapping Spectrometer will have the opportunity to do one stellar occultation. (A stellar occultation occurs when an intervening body -- in this case Titan -- blocks the light from a star). Thursday's stellar occultation should allow the Cassini science team to further constrain the composition and the spectral properties of Titan's atmosphere.

Although this latest flyby is dubbed "T66," planning changes early in the orbital tour made this the 67th targeted flyby of Titan. T66 is the 22nd Titan encounter in Cassini's Solstice Mission.

Provided by JPL/NASA