

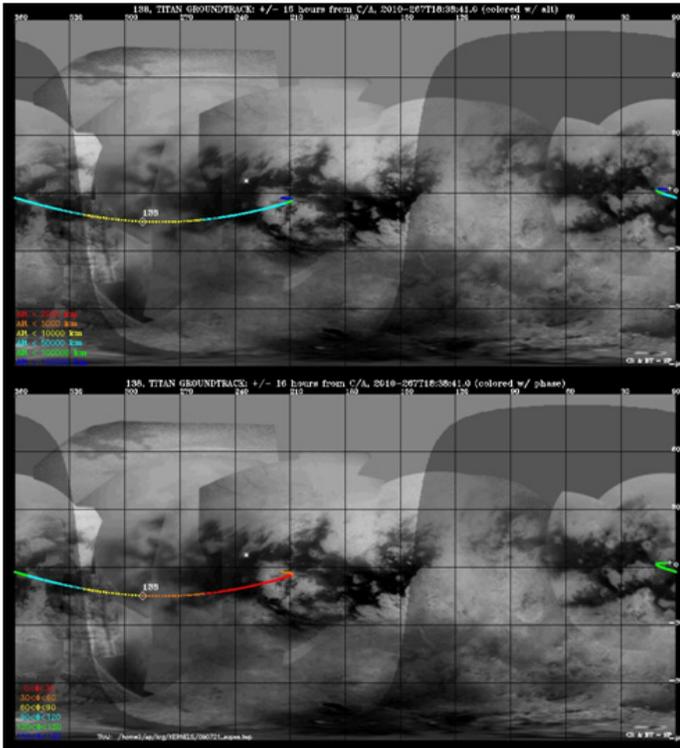
Cassini Solstice Mission Quick-Look Flyby Facts

Titan T72 Encounter (Orbit 138)

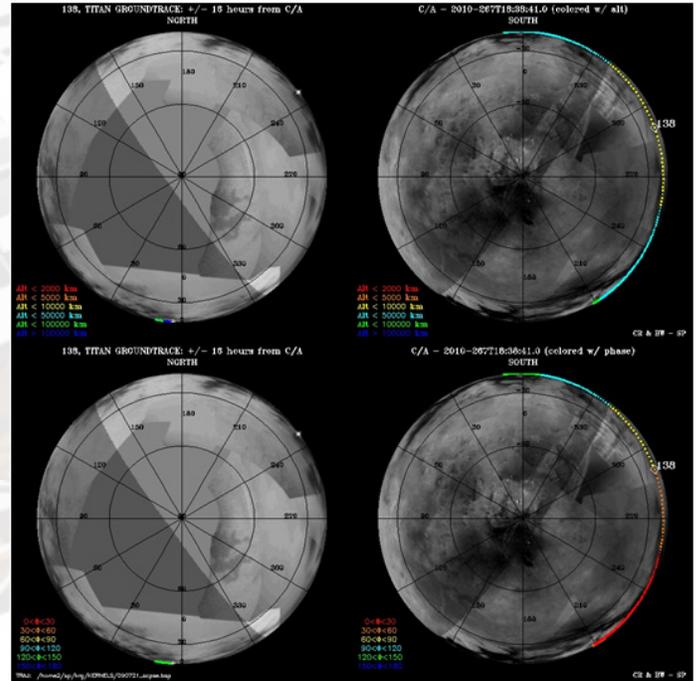


The T72 flyby occurs with local time coverage moving from the dayside to the dusk side.

Cassini Groundtrack: Global Plot



Cassini Groundtrack: Polar Plot



Quick Facts

Closest Approach at 2010-267T18:38:41
 Sept. 24, 2010
 Altitude: 8,175 km (~5,080 miles)
 Speed: 5.7 km/sec (~12,800 mph)
 Closest Approach latitude: 14.7° S
 One-way light time: 1 hour, 28 minutes

Flyby Setup Maneuver Schedule:

Apoapsis maneuver on Wednesday, Sept. 15
 UTC 258T20:47:00
 Titan approach maneuver on Tuesday, Sept.
 21 UTC 264T06:47:00

- Closest Approach occurs ~ 2 days after Periapse
- Second Titan encounter in the Solstice Mission

Closest Approach/Unique Observations

- **CIRS**: CIRS performs medium-range and close limb sounding of Titan's stratosphere to probe the vertical structure near 60 degrees N. This is part of our campaign to monitor seasonal change during the early northern summer, as we expect to observe the break-up of the northern winter polar vortex and dissipation of the interior region of enhanced gas tracer species.
- **VIMS**: During this high altitude flyby VIMS will map an equatorial region of the trailing hemisphere known as Belet at a resolution of 5 km/pixel. The phase angle is high (60 degrees at C/A) but VIMS has shown that it can acquire good quality mosaics at 2 microns. This mosaic will complement the mosaics that were obtained during T66 and T67 when VIMS rode along with ISS.

Significance of This Flyby

Inbound/Outbound Wings

ISS: ISS will make observations of Titan's anti-Saturnian hemisphere outbound, including tracking clouds that may be present.

UVIS: UVIS will obtain an image cube of Titan's atmosphere at EUV and FUV wavelengths by sweeping its slit across the disk. These cubes provide spectral and spatial information on nitrogen emissions, H emission and absorption, absorption by simple hydrocarbons, and the scattering properties of haze aerosols. This is one of many such cubes gathered over the course of the mission to provide latitude and seasonal coverage of Titan's middle atmosphere and stratosphere..

RPWS: Measure thermal plasmas in Titan's ionosphere and surrounding environment; search for lightning in Titan's atmosphere; investigate the interaction of Titan with Saturn's magnetosphere.

VIMS: will perform a global mapping of Titan looking for clouds at northern mid-latitudes and near the poles.