

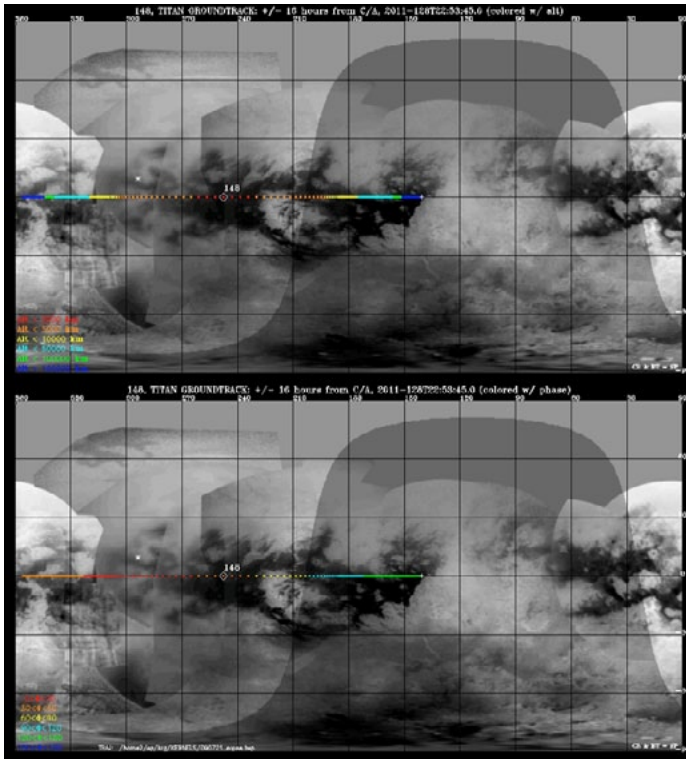
Cassini Solstice Mission Quick-Look Flyby Facts

Titan T-77 Encounter (Orbit 149)

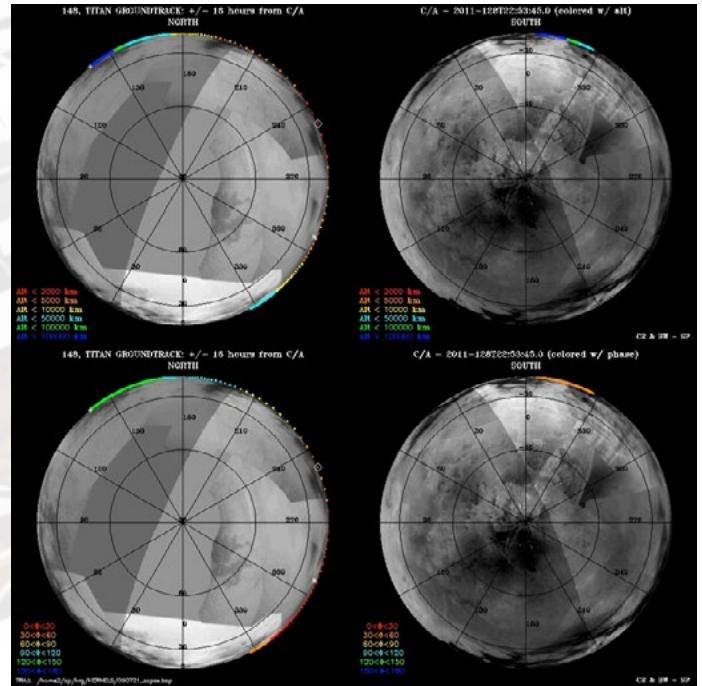


The T-77 flyby occurs with local time coverage moving from the dayside to the dusk side.

Cassini Groundtrack: Global Plot



Cassini Groundtrack: Polar Plot



* Start  Closest Approach + End

Quick Facts

Closest Approach at 2011-171T18:32:01

June 20, 2011

Altitude: 1,359 km (~844 miles)

Speed: 5.6 km/sec (~13,000 mph)

Closest Approach latitude: 0.1° N

Flyby Setup Maneuver Schedule

Apoapsis maneuver on Wednesday,
May 11 UTC 131T23:32:00

Titan approach maneuver on Thursday, June 16
UTC 167T20:57:00

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

Science Highlights

Closest Approach/Unique Observations
RADAR: During this flyby, RADAR is prime at closest approach and will conduct long altimetry over Shangri-La/Xanadu boundary for global shape and Xanadu characterization. SAR of Northern Xanadu (possible stereo with T-17 on Ksa impact crater). Inbound and outbound scatterometry/radiometry, HiSAR and altimetry.

Time Ordered Listing

<u>Event</u>	<u>Time (PDT)</u>	<u>Event</u>	<u>Time (PDT)</u>
Turn Cameras to Titan	Mon Jun 20 12:03 AM	CIRS	Mon Jun 20 03:23 PM
Deadtime	Mon Jun 20 12:43 AM	VIMS	Mon Jun 20 09:53 PM
CIRS	Mon Jun 20 12:48 AM	CIRS	Tue Jun 21 02:53 AM
VIMS	Mon Jun 20 10:23 AM	Deadtime	Tue Jun 21 12:38 PM
Closest Approach	Mon Jun 20 12:53 PM	Downlink	Tue Jun 21 03:03 PM

Science Highlights Inbound/Outbound Wings

ISS: ISS will ride along with VIMS to image Titan's anti-saturnian hemisphere at low phase angles and with CIRS over ~10 hours to monitor clouds.

VIMS: During this flyby, VIMS will stare at Titan during its prime observation in order to continue its mapping of the cloud coverage to detect any seasonal change in the cloud distribution before and after the equinox.

CIRS: CIRS is performing hemisphere temperature mapping in the stratosphere to monitor seasonal change, especially of the north polar winter vortex.

UVIS: UVIS will obtain an image cube of Titan's atmosphere at extended ultraviolet and far ultraviolet 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.

MAG: T-77 is a noon, equatorial flyby across Titan's wake at a short distance (1,382 kilometers altitude). This geometry is suitable to continue the characterization of the magnetic tail close to Titan and the spatial distribution of escaping particles downstream from the moon combining MAG and RPWS and CAPS data.