

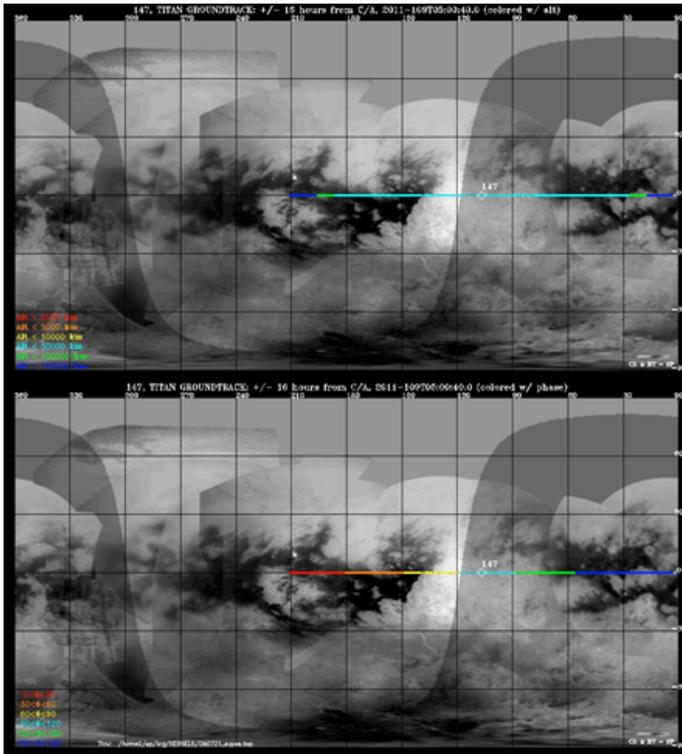
# Cassini Solstice Mission Quick-Look Flyby Facts

## Titan T-75 Encounter (Orbit 147)

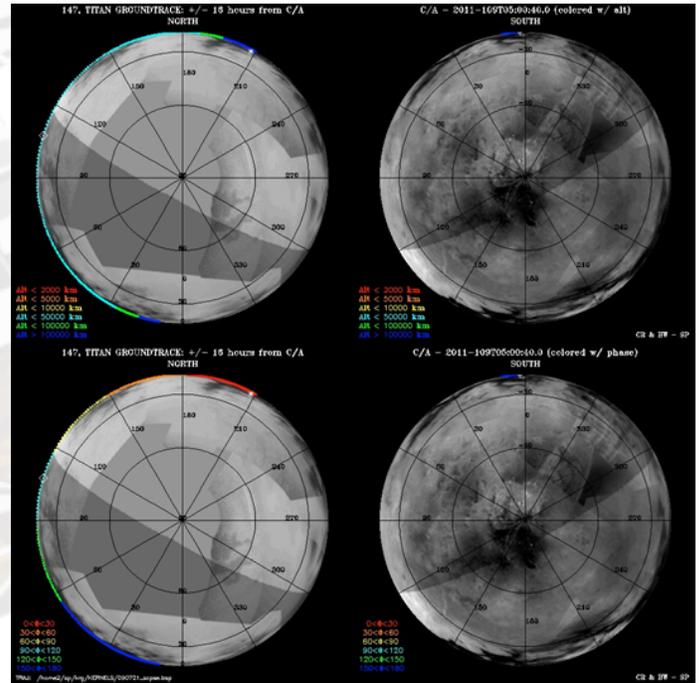


The T-75 flyby occurs with local time coverage moving from the dayside to the dusk side.

### Cassini Groundtrack: Global Plot



### Cassini Groundtrack: Polar Plot



### Quick Facts

Closest Approach at 2011-109T05:00:39  
April 19, 2011  
Altitude: 10,053 km (~6,247 miles)  
Speed: 5.6 km/sec (~13,000 mph)  
Closest Approach latitude: 0.1° N

### Flyby Setup Maneuver Schedule

Apoapsis maneuver on Wednesday,  
March 2 UTC 061T10:17:00  
Titan approach maneuver on Friday, April 15  
UTC 105T23:48:00

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

### Science Highlights

Closest Approach/Unique Observations  
**CAPS** and **MAG**: For parts of this flyby, the spacecraft pointing is optimized for CAPS by keeping the expected plasma flow direction within the instrument's field of view. This allows Cassini scientists to accurately measure plasma parameters such as ion density and flow speed. This downstream encounter crosses Titan's plasma wake approximately 10,000 kilometers downstream of Titan. This allows studies of Titan's magnetotail and ions lost from Titan's atmosphere. It is a similar geometry to the Cassini **T-9**, **T-63** and **T-78** encounters and the Voyager encounter, allowing comparisons and studies of long-term and seasonal variability.

## Titan T75 Encounter

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### Time Ordered Listing

<u>Event</u>	<u>Time (PDT)</u>	<u>Event</u>	<u>Time (PDT-SCET)</u>
Turn Cameras to Titan	Mon Apr 18 04:39 AM	Downlink	Tue Apr 19 07:24 PM
Deadtime	Mon Apr 18 05:19 AM	ISS	Wed Apr 20 05:04 AM
CAPS	Mon Apr 18 05:34 AM	RADAR	Wed Apr 20 10:04 AM
Closest Approach	Mon Apr 18 11:21 PM	ISS	Wed Apr 20 12:04 PM
UVIS	Tue Apr 19 01:51 AM	Downlink	Wed Apr 20 07:24 PM
Deadtime	Tue Apr 19 04:59 AM		

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### Science Highlights

#### Inbound/Outbound Wings

ISS: Cloud monitoring campaign.

VIMS: Detection of clouds to monitor climatic changes after the equinox.

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.