

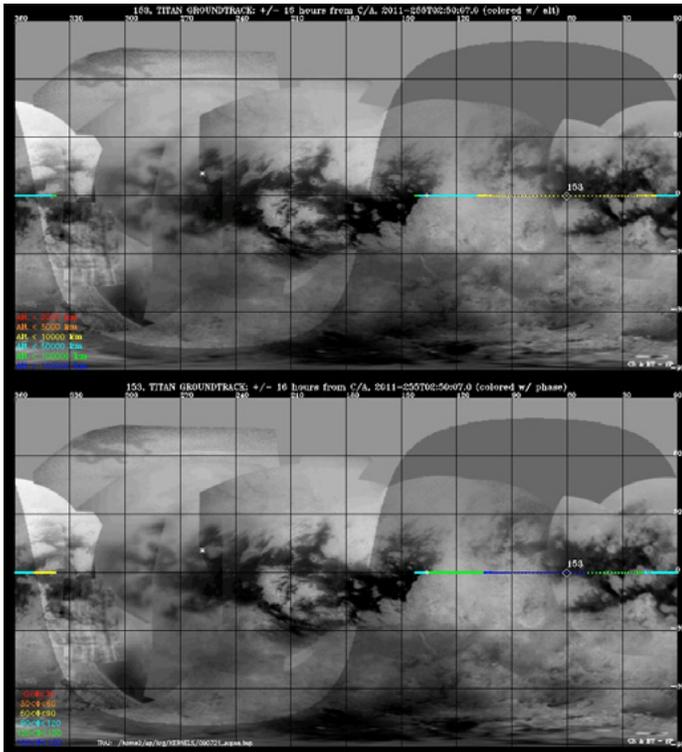
Cassini Solstice Mission Quick-Look Flyby Facts

Titan T-78 Encounter (Orbit 153)

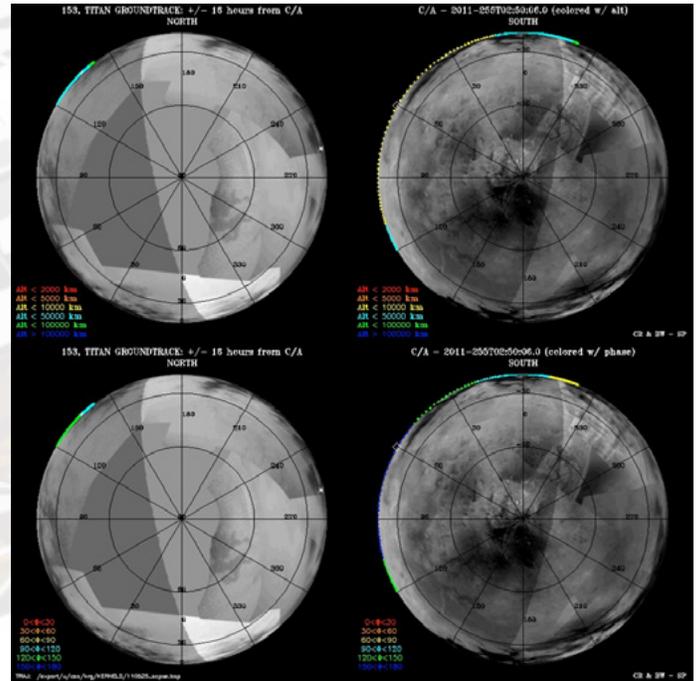


The T-78 flyby occurs with local time coverage moving from the dayside to the dusk side.

Cassini Groundtrack: Global Plot



Cassini Groundtrack: Polar Plot



* Start  Closest Approach + End

Quick Facts

Closest Approach at 2011-255T02:50:05
Sept. 12, 2011

Altitude: 5,821 km (~3,617 miles)

Speed: 5.8 km/sec (~13,000 mph)

Closest Approach latitude: 0.2° S

Flyby Setup Maneuver Schedule

Apoapsis maneuver on Thursday,
September 1 UTC 244T16:03:00

Titan approach maneuver on Friday, September
9 UTC 251T21:48:00

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

Science Highlights

Closest Approach/Unique Observations
UVIS, VIMS: During this flyby, UVIS has a solar occultation and VIMS has a stellar occultation of R-Aqr, which allow us to constrain the composition and the spectral properties of Titan's atmosphere.

CIRS: CIRS performs limb sounding at high latitudes (~ 70 degrees North and South). These are particularly important because there are limited opportunities to obtain these measurements, and they cannot be repeated at later flybys.

Titan T78 Encounter

Time Ordered Listing

<u>Event</u>	<u>Time (PDT)</u>	<u>Event</u>	<u>Time (PDT)</u>
Turn Cameras to Titan	Sun Sep 11 01:15 AM	UVIS	Mon Sep 12 01:18 AM
Deadtime	Sun Sep 11 01:55 AM	Deadtime	Mon Sep 12 07:28 AM
CIRS	Sun Sep 11 02:10 AM	Downlink	Tue Sep 12 09:28 AM
VIMS	Sun Sep 11 08:35 PM		
UVIS	Sun Sep 11 08:51 PM		
Closest Approach	Sun Sep 11 09:18 PM		

Science Highlights Inbound/Outbound Wings

ISS: ISS will ride along with CIRS' inbound observations over Titan's anti-Saturnian hemisphere to image the surface and atmosphere and with UVIS' observations at closest approach and outbound over the sub-Saturnian hemisphere.

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.

MAG: T-78 is a dusk, equatorial flyby across Titan's mid range magnetic tail (5,941 kilometers altitude). During this flyby, Cassini will have another opportunity to observe the structure of the magnetic tail, formed by draped fields, this time in the dusk region of Saturn's magnetosphere.