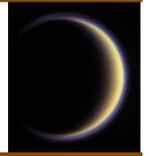


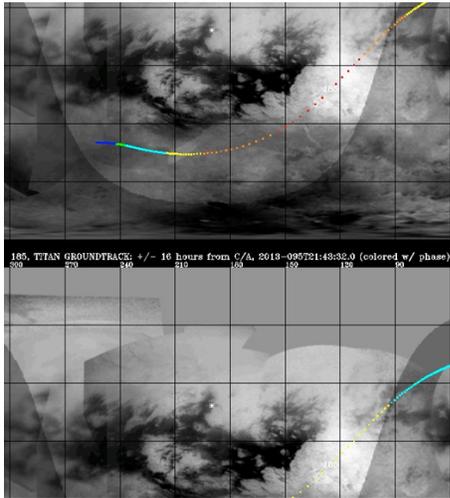
Cassini Solstice Mission Quick-Look Flyby Facts

Titan T-90 Encounter (Orbit 185)

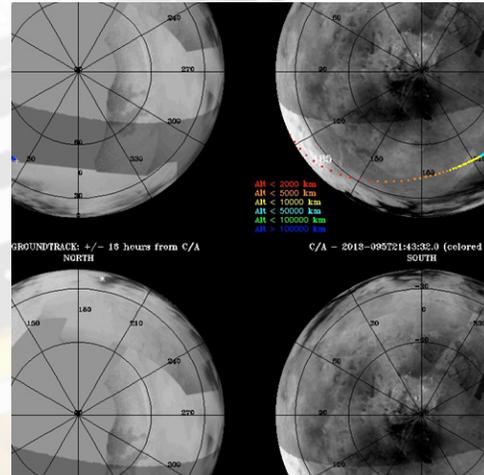


The T-90 flyby occurs with local time coverage moving from the dayside to the nightside.

Cassini Groundtrack: Global Plot



Cassini Groundtrack: Polar Plot



* Start ◇ Closest Approach + End

Quick Facts

Closest Approach at 2013-095T21:43:31
April 5, 2013

Altitude: 1,400 km (~870 miles)
Speed: 5.8 km/sec (~13,000 mph)
Closest Approach latitude: 16.8° S

Flyby Setup Maneuver Schedule:
Titan approach maneuver on Sunday,
March 31 UTC 091T10:16:00
Closest Approach occurs ~ 3 days after Peri-
apse

20th Titan encounter in the Solstice Mission

Science Highlights

Closest Approach/Unique Observations

CIRS: CIRS will perform complementary, high spectral resolution, limb integrations with both the mid and far infrared arrays. Both observations will be situated at low northern latitudes, filling an important gap in recent spatial coverage. Limb aerosol and temperature radial at the same location will also be performed. In addition, CIRS will make a northern scan to determine surface temperature variations with location and local time, and several far-infrared surface integrations including coverage of the enigmatic Xanadu region.

VIMS: VIMS will image Menrva (20.1, 87.2 W) the western part of Xanadu, including Tui Regio, with resolution of at least 5 km/pixel. Then a challenging observation of Ontario Lacus will be made before capturing a medium resolution (10 km/pixel) mosaic centered at southern mid-latitude south of Adiri looking for surface and cloud evolution. The VIMS instrument will also be looking at clouds at northern mid-latitudes that are expected to form during Titan's spring season according to Global Circulation Models.

Titan T-90 Encounter

Time Ordered Listing

<u>Event</u>	<u>Time (PST)</u>	<u>Event</u>	<u>Time (PST)</u>
Turn Cameras to Titan	Thu Apr 04 11:15 PM	Flyby	Fri Apr 05 03:57
Deadtime	Thu Apr 04 11:56 PM	CIRS	Sat Apr 06 12:57 AM
CIRS	Fri Apr 05 12:09 AM	Deadtime	Sat Apr 06 11:49 AM
VIMS	Fri Apr 05 3:42 PM	Downlink	Sat Apr 06 02:15 PM

Science Highlights Inbound/Outbound Wings

ISS: The ISS outbound leg includes the region where extensive surface changes were observed in Fall 2010 and an area at mid-southern latitudes on the trailing hemisphere that has only been imaged at lower resolution.

VIMS: On the inbound, VIMS will ride along with CIRS and will be able to image the Northern Pole area of Titan and monitor the evolution of the large mare.

MAG: T-90 is another high inclination (1,302 kilometers) flyby in the post noon sector of Saturn's magnetosphere. With closest approach in the nightside, Cassini will be able to study the diffusion of the external magnetic field at low altitudes and high solar zenith angles. A comparison with T-83, T-84, T-85, T-86, T-87, T-88 and T-89 will be very useful.