Geophysical Research Abstracts, Vol. 11, EGU2009-6150-1, 2009 EGU General Assembly 2009 © Author(s) 2009



Titan: Topography Results from Cassini RADAR

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In addition to mapping with SAR imaging, the Cassini RADAR instrument provides a number of other quantitative datasets that are yielding new insights into Titan and the processes that shape it.

New topographic results include the recent altimetry profile across Ontario Lacus, a hydrocarbon lake, showing that it is in a topographic low, very flat and very reflective, consistent with a very smooth liquid surface. Another emerging result is an estimate of the global shape from combined altimetry and SARtopo, indicating that the polar radius is smaller than the equatorial, perhaps a factor in the prevalence of lakes at high latitudes. On the smaller scale, topographic measurements are allowing the quantification of the shape of the few observed craters and their ejecta, and of the relationship between topographic and albedo features and the deflection of duneforming winds.

This invited talk summarizes some of these new results.