



Gravity Science at Titan

Luciano Iess (1), Nicole J. Rappaport (2), Robert A. Jacobson (2), Paolo Racioppa (1), David J. Stevenson (3), Paolo Tortora (4), John W. Armstrong (2), and Sami W. Asmar (2)

(1) Universita' La Sapienza, DIAA, Roma, Italy (luciano.iess@uniroma1.it, +39 0644585670), (2) Jet Propulsion Laboratory, Pasadena (CA), USA, (3) California Institute of Technology, Pasadena (CA), USA, (4) Universita' di Bologna, DIEM-II, Forli, Italy

Doppler data from four Cassini flybys have provided a determination of the degree 3, order 3 gravity field of Titan. Thanks to the good quality of the data and the favourable geometry of the encounters, the unconstrained estimation of the harmonic coefficients has shown that Radau-Darwin equation can be used to infer the moment of inertia of the satellite. We present the results of the data analysis and outline their implications for the interior structure.