

## **The Saturnian satellites: gravity science**

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The Cassini Radio Science Team has acquired and analyzed radio tracking data of Enceladus, Dione, Rhea, Hyperion, and Iapetus, and determined the masses of these satellites as well as the gravity quadrupole moments of Rhea. At the time of the COSPAR meeting we will also have acquired data during the first of the four Titan flybys of the nominal mission devoted to the study of its gravity. The determination of Enceladus' quadrupole field has been proposed for the extended mission.

The talk will discuss our gravity results as well as their geophysical interpretation. Non-differentiated and differentiated models consistent with the observations will be presented. All models either predict or are consistent with the quadrupole moments of the gravity field of the body considered.