



Cassini cosmic dust analyser: composition of Saturnian ring particles

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The Cassini-Huygens spacecraft entered orbit around Saturn in July 2004 and began collecting data on the Saturnian system. The Cosmic Dust Analyser (CDA) on Cassini is an instrument capable of measuring impacting dust properties: trajectories, charges, masses and composition. Compositional information is collected by the Chemical Analyser (CA) subsystem, which uses a strong electric field to separate the impact plasma and accelerate the positive ions towards an electron multiplier, creating a time of flight mass spectrum (TOFMS). During the descending ring plane crossing in October 2004 CDA produced nearly 300 TOFMS of E ring dust particles at a distance of ~ 8 RS from Saturn. This paper presents the initial results on the composition of these dust particles, together with information on their masses and velocities.