

Space Studies of the Earth-Moon System, Planets, and Small Bodies of the Solar System (B)
Highlights in Solar System Space Research (B10)

OBSERVATIONS OF SATURN'S RINGS FROM THE CASSINI SPACECRAFT

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The Cassini spacecraft has been returning data on Saturn's ring system for over six years. Discoveries to date include the detection of self-gravity wakes, the observed effect of embedded moonlets and resonances, the detection of 'propellor' structures in the A ring, evidence for a population of small (1-10km) objects perturbing and colliding with the F ring, and observations of vertical corrugations in the D and C rings caused by an event in 1984. The low solar elevation angles around the time of the equinox in August 2009 provided a unique opportunity to observe the vertical structure in the rings and this has led to several new discoveries. The talk will give an overview of our understanding of Saturn's rings in the Cassini era and will look forward to the observing opportunities available during the Cassini Solstice Mission between 2010 and 2017.