

**Thursday, March 13, 2008**  
**POSTER SESSION II: ICY DWARF SATELLITES**  
**6:30 p.m. Fitness Center**

Pitman K. M. Buratti B. J. Mosher J. A. Bauer J. M. Momary T. W. Brown R. H. Nicholson P. D.  
Hedman M. Cassini VIMS Team

*First High Solar Phase Angle Observations of Rhea Using Cassini VIMS: Upper Limits on  
Geologic Activity* [#1387]

In this work, we use Cassini's Visual and Infrared Mapping Spectrometer (VIMS) solar phase angle data for Rhea (extended to phase angles up to 160°) to yield information on whether or not Rhea shows any evidence for plume activity.

Barr A. C. Canup R. M.

*Constraints on Gas Giant Satellite Formation from the Interior States of Partially Differentiated Satellites* [#2201]

We model thermal evolution of Callisto and Rhea to constrain the timing and duration of their formation, and by extension, the timetable for gas giant planet formation in our solar system.

Stephan K. Jaumann R. Wagner R. J. Roatsch T. Clark R. N. Cruikshank D. P. Hibbitts C. A.  
Hansen G. B. Buratti B. J. Filacchione G. McCord T. B. Baines K. H. Nicholson P. D.  
Nelson R. M. Brown R. H.

*Relationships of Dione's Spectral Properties to Geological Surface Units* [#1717]

Based on high-resolution observations of Saturn's satellite Dione acquired by the VIMS- and ISS-instrument during Cassini's orbit 16 we analyzed the varying abundance of water ice and rocky non-ice material with respect to the geologic surface units.

Singer K. N. McKinnon W. B.

*A Search for Despinning Fractures on Iapetus* [#2415]

This work looks at the possible tectonic patterns on Iapetus and interprets the principal stress direction. Initial results (dark side only) show meridional stress is more compressive than azimuthal, a pattern opposite of despinning models.

Hodyss R. Goguen J. D. Johnson P. V. Campbell C. F. Kanik I.

*The Sublimation of Water Ice and Enceladus' Plume* [#1335]

We describe an experimental study of the sublimation of H<sub>2</sub>O:CO<sub>2</sub>:CH<sub>4</sub>:N<sub>2</sub> ice mixtures. These processes are almost certainly occurring on Enceladus, and should be considered in any model of the processes leading to the formation of the plume.

Hansen C. J. Esposito L. Colwell J. Hendrix A. Meinke B. Stewart I.

*New Occultation Observation of Enceladus' Plume* [#2014]

The new Cassini UVIS observation of zeta Orionis by Enceladus' plume gives us new data on the horizontal structure and column density of the water vapor plume.

Karpes B. A. Stoddard P. R.

*Cataloging Craters on Saturn's Moon, Enceladus* [#2100]

Using the most recently available images of Saturn's moon, Enceladus, we catalog craters of that moon, and perform some preliminary analyses.

Goff-Pochat N. di Cicco H. B. Michaud R. L. Collins G. C.

*Searching for Strained Craters on Enceladus* [#1773]

After mapping craters and fractures in ArcGIS we analyzed fracture orientation and crater elongation; graphing these results allowed us to quantify the amount of surface strain on Enceladus.

Hurford T. A. Bills B. G. Greenberg R. Hoppa G. V. Helfenstein P.

*How Libration Affects Strike-Slip Displacement on Enceladus* [#1826]

Diurnal tidal stress is affected by a physical libration of Enceladus, changing the sense of strike-slip displacement driven by tidal walking.

Barkin Yu. V.

*Cassini's Motions and Resonant Librations of Synchronous Satellites in Solar System* [#1207]

On the base theory of resonant rotation of the rigid satellite on precessing elliptical orbit (Barkin, 1978) parameters of Cassini's motions and periods of free librations have been determined for the large group of synchronous satellites of Jupiter, Saturn, Uranus, and Neptune.

Stryk T. Stooke P. J.

*Voyager 2 Images of Uranian Satellites: Reprocessing and New Interpretations* [#1362]

New processing methods are applied to Voyager 2 images of the uranian satellites to reveal features on their northern hemispheres, illuminated only by light reflected off Uranus. Ariel gives the most interesting results, allowing impact and tectonic features to be mapped.

Hammel H. B. Hansen C. J. Spilker L. J. Spilker T. R. Strange N. Stansberry J. Khurana K.

*A Fresh Look at Exploring the Neptune System and Beyond* [#1117]

Exploration of Neptune has been stymied by a perception that major scientific progress requires an orbiter. We describe here a mission that yields new ice-giant system science during a Neptune flyby, and then continues on to a Kuiper belt object.