Thursday, March 4, 2010
SEVERAL SPECIES OF VARIOUSLY SIZED ICY CHUNKS
GATHERED TOGETHER AROUND GIANT PLANETS AND EVOLVING OVER TIME
1:30 p.m.  Waterway Ballroom 5

Chairs:  Karly Pitman
         Gerald Patterson

1:30 p.m. Lorenz R. D.  Newman C.  Lunine J. I.  Cassini RADAR Team
         Why Titan’s Lakes Have Been Smooth So Far — and May Be About to Get Rough  [#1112]
         No waves seen so far. Could Titan Lakes be viscous or just calm season?

1:45 p.m. Estrada P. R. *  Durisen R. H.
         An Improved Model for Modeling the Coupled Structural and Compositional Evolution of Saturn’s
         Rings Due to Meteoroid Bombardment  [#2686]
         We report on the development of a new code for modeling the structural and pollution evolution of
         Saturn’s rings, in tandem, due to the ballistic transport of micrometeorite impact ejecta.

2:00 p.m. Chen E. M. A. *  Glatzmaier G. A.  Nimmo F.
         Modeling the Dynamics of Icy Satellite Subsurface Oceans with Focus on Implications for
         Spacecraft Observables  [#1454]
         We present numerical simulations of the behavior of subsurface oceans on multiple icy
         satellites. Spacecraft observables such as the magnetic field likely contain signals associated with
         ocean circulation.

2:15 p.m. Shirley J. H. *  Dalton J. B.  Prockter L. M.  Kamp L. W.
         Signatures of the Radiolytic Sulfur Cycle on Europa: A New Tool for Integrated Compositional and
         Stratigraphic Investigations  [#2395]
         A spatial gradient of H2SO4 hydrate abundance is evident on the anti-jovian hemisphere of Europa.
         Locations that depart significantly from the regional trend may represent surfaces where radiolytic
         processing has not reached equilibrium.

2:30 p.m. Loeffler M. J. *  Hudson R. L.  Moore M. H.
         Ion Irradiation of Sulfuric Acid: Implication for Its Stability on Europa  [#1240]
         The Galileo NIMS detected regions on Europa’s surface that may contain sulfuric acid mixed in water
         ice. We studied the radiation stability of sulfuric acid.

         A Search for Activity on Mimas, Tethys, and Dione with the Cassini Visual and Infrared
         Mapping Spectrometer  [#1389]
         Observations of the forward-scattered component of the solar phase curves of Mimas, Tethys, and
         Dione places a limit on plume activity of less than 1% that of Enceladus.

3:00 p.m. Ciarniello M. *  Capaccioni F.  Filacchione G.  Coradini A.  Cerroni P.  Tosi F.  Stephan K.
         Spectrophotometric Analysis of Rhea Surface Scattering Properties  [#1643]
         We did spectrophotometric analysis of VIMS data for Rhea, the second largest satellite of Saturn,
         applying the Hapke model to retrieve informations about the surface characteristics of the planet:
         presence of contaminants, grain size and roughness.

3:15 p.m. Hansen G. B. *  Romain J.
         Water Ice Grain Sizes and CO2 on the Tiger Stripes of Enceladus from
         Cassini/VIMS Observations  [#2646]
         We are modeling the grain size of water snow on Enceladus, particularly in the tiger stripe region, and
         looking for CO2 and other materials in VIMS spectra.
3:30 p.m. McKinnon W. B. *  
Argon-40 Degassing from Titan and Enceladus: A Tale of Two Satellites [#2718]  
Titan and Enceladus are very different worlds in terms of $^{36}$Ar degassing efficiency, but not necessarily the way one might think.

3:45 p.m. Wood C. A. * Radebaugh J. D. Stofan E. Zebker H.  
Titan’s Xanadu: Ancient and Young [#2221]  
Xanadu is the largest and most anomalous region of Titan. It has the highest concentration of impact craters, but they are all concentrated in the eastern quarter. Xanadu contains both the oldest terrain on Titan and very young surfaces.

The Earthlike Shoreline Morphology of Titan’s Ontario Lacus [#1466]  
Ontario Lacus’ shoreline features include Earth-like rivers, deltas and flooded topography. Ontario is a dynamic lake, similar in many ways to terrestrial lakes, with active shoreline processes.

Valley Formation from Methane Convective Storms on Titan [#1709]  
Precipitation in the form of episodic thunderstorms is suspected to cause fluvial erosion at the surface of Titan. Valley morphology provides hints to verify whether episodic storm events accounts for the presence of valleys.

4:30 p.m. Moore J. M. * Howard A. D. Schenk P. M. Pappalardo R. T.  
Titan: Can Fluvial Erosion Patterns Tell Us Anything About Initial Landforms and Regional Landscapes? [#1167]  
We report on our effort to recognize initial (e.g., endogenic) landforms subjected to Titan’s weather. Our model results indicate that drainage patterns were initiated when Titan had substantially more regional relief than the icy Galilean satellites.