Wednesday, March 15, 2006
SATURN'S COMPANIONS: SATELLITES AND RINGS
1:30 p.m. Crystal Ballroom B

Chairs: T. V. Johnson
C. Sotin

1:30 p.m. Dougherty M. K. * Khurana K. K. Neubauer F. M. Russell C. T. Saur J. Leisner J. S. Burton M. E.
Discovery of a Dynamic Atmosphere at Enceladus from Cassini Magnetometer Observations **[#1585]**
This paper describes Cassini magnetometer observations which identified a dynamic atmosphere at Enceladus.

1:45 p.m. Helfenstein P. * Thomas P. C. Veverka J. Rathbun J. Perry J. Turtle E. Denk T. Neukum G. Roatsch T. Wagner R. Giese B. Squyres S. Burns J. McEwen A. Porco C. Johnson T. V. Cassini Imaging Team
Patterns of Fracture and Tectonic Convergence near the South Pole of Enceladus **[#2182]**
We use recent Cassini ISS coverage of Enceladus to investigate the extent to which the morphology, placement, and orientations of recent tectonic patterns are consistent with a global change in Enceladus' rotational figure.

2:00 p.m. Spencer J. R. * Pearl J. C. Segura M. Flasar F. M. Mamoutkine A. Romani P.
The South Polar Hot Spot on Enceladus **[#2252]**
In July 2005, Cassini's Composite Infrared Spectrometer (CIRS) detected 3–7 GW of thermal emission emanating from troughs in the south polar region of Enceladus, at temperatures up to 145 K or higher. These warm troughs are presumably the source of the plume seen by multiple Cassini instruments.

2:15 p.m. Matson D. L. * Castillo J. C. Sotin C. Johnson T. V. Lunine J. I. Davies A. G. McCord T. B. Thomas P. C. Turtle E. P.
Enceladus' Interior and Geysers — Possibility for Hydrothermal Geochemistry and N_2 Production **[#2219]**
Enceladus' thermal evolution modeling and associated hydrothermal activity and geochemistry.

2:30 p.m. Pappalardo R. T. * Nimmo F.
Diapir-Induced Reorientation of Enceladus **[#2113]**
The pole-centered location of the warm, active area of Enceladus can be explained by reorientation induced by a large, low-density diapir within a relatively thick ice mantle.

2:45 p.m. Wagner R. * Neukum G. Giese B. Roatsch T. Wolf U. Denk T. Cassini ISS Team
Geology, Ages and Topography of Saturn's Satellite Dione Observed by the Cassini ISS Camera **[#1805]**
Geologic units and topographic features of the surface of Saturn's satellite Dione are examined. Ages of geologic units are obtained from crater size-frequency measurements.

3:00 p.m. Castillo J. C. * Matson D. L. Johnson T. V.
Can There be Dissipation Without Heat? Constraints on Tidal Dissipation in the Medium-sized Saturnian Satellites **[#2351]**
Constraints on tidal dissipation in the saturnian medium-sized satellites.

3:15 p.m. Thomas P. C. * Veverka J. Helfenstein P. Porco C. Burns J. Denk T. Turtle E. Jacobson R. A.
Shapes of the Saturnian Icy Satellites **[#1639]**
Shapes of six icy saturnian satellites have been measured from Cassini ISS images. Possible interior models are evaluated on the basis of observed shapes and mean densities.

3:30 p.m. Porco C. C. * Weiss J. W. Thomas P. C. Richardson D. C. Jacobson R. A. Spitale J.
Physical Characteristics and Possible Accretionary Origins for Saturn's Small Satellites **[#2289]**
From high quality Cassini images yielding the physical characteristics of Saturn's small satellites, as well as numerical simulations of accretion around a monolithic small "core" in a planetary ring, we have found that the small saturnian satellites have likely formed by accretion.

3:45 p.m. Colwell J. E. * Esposito L. W. Stewart G. R.
Density Waves Observed by Cassini Stellar Occultations as Probes of Saturn's Rings **[#1221]**
Observations of stellar occultations by Saturn's rings from the Cassini spacecraft provide a high resolution view of density waves. We report on analysis of these waves to determine the ring surface mass density and vertical thickness.

4:00 p.m. Spitale J. N. * Porco C. C.
Kinematic Models of Non-Circular Features in Saturn's Rings **[#2242]**
Using high-resolution movie frames and azimuthal imaging scans with radial scales as fine as a few km and longitudinal resolutions as fine as a fraction of a degree, we examine the shapes and kinematics of the B-ring outer edge and the Huygens ringlet.

4:15 p.m. Spilker L. J. * Pilorz S. H. Ferrari C. Leyrat C. Wallis B. D. Brooks S. M. Edgington S. G. Altobelli N. Flasar F. M. Pearl J. C. Showalter M. R. Achterberg R. K. Nixon C. A. Romani P. N. Cassini CIRS Investigation Team
Cassini CIRS Observations of Thermal Differences in Saturn's Main Rings with Increasing Phase Angle **[#2299]**
Cassini CIRS obtained spatially resolved thermal scans of Saturn's main rings that show temperatures decreasing with increasing solar phase angle. These temperature differences indicate that Saturn's rings contain slowly rotating ring particles.

4:30 p.m. Hapke B. W. * Nelson R. M. Brown R. H. Spilker L. J. Smythe W. D. Kamp L. Boryta M. Leader F. Matson D. L. Edgington S. Nicholson P. D. Filacchione G. Clark R. N. Bibring J.-P. Baines K. H. Buratti B. Bellucci G. Capaccioni F. Cerroni P. Combes M. Coradini A. Cruikshank D. P. Drossart P. Formisano V. Jaumann R. Langevin Y. McCord T. B. Mennella V. Sicardy B. Sotin C.
Cassini Observations of the Opposition Effect of Saturn's Rings 2. Interpretation: Plaster of Paris as an Analog of Ring Particles **[#1466]**
Cassini VIMS data of the opposition effect of Saturn's rings finds that ring particles are porous aggregates of interlocking grains ~10 μm in size of water frost plus impurities.