Thursday, March 13, 2008
ENCELADUS
1:30 p.m. Amphitheater

Chairs: **T. A. Hurford**
A. C. Barr

1:30 p.m. Halevy I. * Stewart S. T.
A Non-Equilibrium Clathrate Hydrate Dissociation Model and Application to Enceladus' Plume **[#1174]**
A dynamical clathrate dissociation model explains observations of Enceladus' plume, predicts its characteristics during upcoming encounters and allows observational distinction between dissociating clathrate and boiling liquid as the plume's source.

1:45 p.m. Michaud R. L. * Pappalardo R. T. Collins G. C.
Pit Chains on Enceladus: A Discussion of Their Origin **[#1678]**
The surface of Enceladus displays a collection of pit-chains. We discuss various potential causes to their origin, including the drainage of unconsolidated surface material into dilational-fault-induced voids, which we believe to be the most likely explanation.

2:00 p.m. Schenk P. M. * McKinnon W. B.
The Lumpy Shape of Enceladus and Implications for the Interior **[#2523]**
Enceladus is a lumpy object. Deep fissures and large bowl-shaped depressions >1 km deep mar its otherwise flat surface. Find out how so and why!

2:15 p.m. McKinnon W. B. * Barr A. C.
On the Stability of an Ocean Within Enceladus **[#2517]**
In the presence of ice convection, an ocean-bearing Enceladus can adjust its oceanic thickness and composition so that satellite heat flows are steady state on average.

2:30 p.m. Barr A. C. * McKinnon W. B.
Interaction Between Convection and Shear Heating in Enceladus' South Polar Region **[#2229]**
We model convection beneath Enceladus' south polar region including a heat source from strike-slip motion along the tiger stripes to investigate the effect of the interaction between ridges and convection on the surface heat flux.

2:45 p.m. Roberts J. H. * Nimmo F.
Near-Surface Heating on Enceladus and the South Polar Thermal Anomaly **[#1481]**
Shear heating along the tiger stripes on Enceladus can enhance convective upwelling in the underlying ice. Near-surface heating promotes melting of deep ice, causing regional subsidence, which may drive TPW, placing the heated region at the pole.

3:00 p.m. Nimmo F. *
Shear Heating and the Orbital Evolution of Enceladus **[#1311]**
Volumetric viscoelastic dissipation depends on eccentricity e^2 and mean motion n^5. Shear heating, by contrast, depends on e^3 and n^7 and results in longer eccentricity damping timescales.