

Tuesday, March 20, 2012
POSTER SESSION I: ICY SATELLITES:
HEATING, FAULTING, RHEOLOGY, AND WEATHERING
6:00 p.m. Town Center Exhibit Area

Patterson G. W. Paranicas C. Prockter L. M.

[*Characterizing Electron Bombardment of Europa's Surface by Location and Depth*](#) [#2447]

We characterize the bombardment of energetic electrons onto Europa's surface, thereby isolating and quantifying a major contributor to exogenic processes that influence the surface albedo, chemistry, and astrobiological potential of the satellite.

Rathbun J. A. Spencer J. R. Howett C. J. A.

[*Galileo PPR Observations of Europa: Correlations of Thermophysical Properties with Surface Features*](#) [#2610]

We will compare Galileo Photopolarimeter-Radiometer (PPR) temperature data to thermal models and a geologic map to determine if there are correlations between thermophysical properties and surface features.

Walker M. E. Mitchell J. L.

[*A Model for the Elastic Libration of Europa's Ice Shell*](#) [#1099]

Decoupled from its synchronously rotating interior, Europa's ice shell experiences oscillations. Using tidal potential theory and the resulting stresses we evaluate the elastic restoring torque and the shell's librational amplitude and frequency.

Cameron M. E. Nahm A. L. Smith-Konter B. R. Pappalardo R. T.

[*Tidally Driven Coulomb Failure Along Europa's Agenor Linea*](#) [#1718]

We investigate the relationship between shear and normal stresses at Agenor Linea to better understand the role of tidal (diurnal + NSR) stress sources and implications for shear failure of fractures on Europa.

Quick L. C. Marsh B. D.

[*Dynamics of European Volcanism: Constraints from Heat Transfer and Phase Equilibria*](#) [#2549]

Using initial melt volume, melt chemistry, cryomagma ascent rate, and potential ascent mechanisms as constraints, we explore conditions under which cryomagma transfer in Europa's interior may lead to cryovolcanism at the surface.

Johnston S. A. Montési L. G.

[*The Role of Dike Intrusions in Ridge Formation on Europa*](#) [#2538]

Deformation of the European crust around a crystallizing intrusion produces a ridge at the surface. We show in numerical models that the cross section of the intrusion controls the morphology of the ridge (single or double ridge).

Beddingfield C. B. Burr D. M. Emery J. P.

[*Evidence for a Listric Extensional Fault System Bounding Arden Corona on Uranus' Moon Miranda*](#) [#1366]

We use multiple lines of evidence to test the hypothesis that the boundary of Arden Corona on Uranus' moon Miranda consists of a listric fault geometry. Our results support this hypothesis and may indicate a subsurface detachment.

Gao P. Stevenson D. J.

[*How Does Nonhydrostaticity Affect the Determination of Icy Satellites' Moment of Inertia?*](#) [#1701]

The effects of degree-2 nonhydrostatic structures on the accuracy of the Radau Darwin method of moment of inertia estimation is investigated for large icy satellites.