

Tuesday, March 20, 2012  
POSTER SESSION I: ICY SATELLITES: CLAYS AND CHEMISTRY  
6:00 p.m. Town Center Exhibit Area

Hibbitts C. A. Hagaman S. Greenspon A.

[\*The Adsorption of Gases onto Refractory Materials: CO<sub>2</sub> onto Clays and Their Relevance to the Icy Galilean Satellites\*](#) [#2400]

We explore the spectral nature and thermal stability of CO<sub>2</sub> adsorbed onto cryogenic clays as an analog to processes potentially occurring on the Galilean satellites.

Hibbitts C. A. McAdam M. M. Greenspon A.

[\*The Effects of Vacuum Desiccation and Temperature on the Near-Infrared Spectra of Clays\*](#) [#1704]

We investigate the spectral characteristics of carbon dioxide adsorbed by clays at low temperatures to better understand the mechanism responsible for the carbon dioxide on the Galilean and saturnian satellites.

Fortes A. D. Wood I. G. Tucker M. G. Marshall W. G.

[\*An Empirical Equation of State for Ice-VI with Application to Planetary Modelling and Impact Simulations\*](#) [#1061]

We report a thermal equation of state for ice-VI fitted to high-pressure powder diffraction data, which will improve the accuracy of both internal structure models for icy planetary bodies and simulations of the impact cratering process.

Maynard-Casely H. E. Brand H. E. A. Wallwork K. S.

[\*Sulfuric Acid Octahydrate Formation from a Water Rich Environment: A Powder Diffraction Study\*](#) [#1363]

This study has shown that a water-rich sulfuric acid hydrate will form from a “drowned” solution and persist over a large range of temperatures, making it likely to be an important stable phase applicable to the subsurface region of Europa.

Dougherty A. J. Avidon J. A. Hogenboom D. L. Kargel J. S.

[\*Eutectic Temperatures for Low and High Pressure Phases of Sodium Sulfate Hydrates with Applications to Europa\*](#) [#2321]

We use optical images of crystallization in the Na<sub>2</sub>SO<sub>4</sub>-H<sub>2</sub>O system, coupled with measurements of pressure, temperature, and volume changes, to report eutectic transitions for pressures up to 375 MPa, with implications for modeling Europa’s ocean.

Bollengier O. Choukroun M. Grasset O. Le Menn E. Tobie G. Bellino G. Bezacier L. Morizet Y. Oancea A. Taffin C.

[\*The H<sub>2</sub>O-CO<sub>2</sub> System up to 1.7 GPa: Implications for Large Icy Moons\*](#) [#2162]

New experiments have been carried out in the H<sub>2</sub>O-CO<sub>2</sub> system over the 0–1.7 GPa and 255–330 K ranges to constrain the CO<sub>2</sub> hydrates stability and CO<sub>2</sub> solubility. Implications for the large outer solar system icy bodies (e.g., Ganymede) are discussed.