

Tuesday, March 11, 2008
POSTER SESSION I: GALILEAN SATELLITES
6:30 p.m. Fitness Center

Leone G. Wilson L. Davies A. G. Giunta G. Cataldo V.

Links Between Volcanism and Tectonism on Io: A Comparative Study of Monan Patera, Amirani and Prometheus [#2310]

A comparative study of Monan Patera, Amirani, and Prometheus shows the links between volcanism and tectonics on Io.

Jessup K.-L. Spencer J. R.

Detailed Analysis of the Tvashtar Plume Spectral Behavior [#2064]

We present a detailed analysis of Hubble Space Telescope images of Io's Tvashtar plume obtained in the spectral region extending from 2300 to 4200 Å. From this analysis the density of SO₂ and S₂ gas present in the plume will be reported.

Rathbun J. A. Spencer J. R.

Io Eclipse Observations: Does Loki Dominate Io's Infrared Flux? [#1903]

Observations of Io's thermal infrared emission made from NASA's IRTF will be presented. We will determine whether Loki dominates Io's infrared flux and attempt to separate Loki's flux in order to compare it to a quantitative model of its eruption.

Ramirez R. M. Williams D. A. Greeley R.

An Assessment of Near-Surface Conditions Conducive to Ionian Sulfur Flows [#1002]

This work assesses under what conditions primary or secondary sulfur volcanism could have formed bright flows at Sobo Fluctus, Io.

Davies A. G. Keszthelyi L. Matson D. L. Johnson T. V. Veeder G. J. Blaney D. L.

Validation of Volcanic Thermal Emission Models Using Ground-Truthed Data of the Erebus Volcano (Antarctica) Lava Lake: Implications for Io [#1896]

We show that thermal emission models used to determine eruption parameters for volcanos on Io work extremely well in interpreting ground-truth data of a terrestrial lava lake.

Williams D. A. Keszthelyi L. Crown D. A. Geissler P. E. Schenk P. M. Yff J.

Jaeger W. L. Rathbun J. A.

Global Geologic Mapping of Io: Preliminary Results [#1003]

We report the initial results from our global geologic mapping of Jupiter's moon Io, including distribution of material units.

Bunte M. K. Williams D. A. Greeley R.

Geologic Mapping of the Zal Region of Io [#1075]

We have produced a geologic map of the Zal region of Io based on a Galileo Solid State Imager regional mosaic. We discuss geologic features and structures and give conclusions about volcanic, tectonic, and gradational processes in the region.

Madison M. P. Stoddard P. R.

European Cycloidal Rift Densities and Io Volcano Distribution: Implications for Tidal Activity [#1266]

In this study, cycloidal rift densities on Europa are compared to volcano distributions on Io using GIS software. The data seem to correlate well, with the maximum and minimum values on both moons occurring in the same coordinate range.

Zolotov M. Yu.

Oceanic Composition on Europa: Constraints from Mineral Solubilities [#2349]

Equilibrium water-rock type calculations show that Mg, Na and Cl solutes could be major constituents in a sulfate-rich ocean. Goethite, pyrite, phyllosilicates, silica, gypsum and carbonates could be present in suboceanic rocks/sediments.

Jones S. M. Patterson G. W. Dombard A. J. Prockter L. M.

Characterizing Flanking Fractures to Investigate Ridge Formation on Europa [#2230]

We are measuring the distance of flanking fractures to double ridges on Europa, to constrain models of the thickness of the mechanical lithosphere and potential underlying thermal anomalies.

Bader C. E. Kattenhorn S. A.

Formation Mechanisms of European Ridges with Apparent Lateral Offsets [#2036]

Evidence for both lateral shearing and orthogonal motion along European ridges indicates that apparent lateral offsets are not purely the result of strike-slip motions. We present an analysis of a band and ridge to determine their displacement ratios.

Collins G. C.

Driving Mechanisms for Grooved Terrain Formation on Ganymede: Comparison of Theory to Global Groove Database [#2254]

Results will be presented from a comparison of theoretical models for grooved terrain formation on Ganymede to the strain history represented by the grooves.

Alzate N. Barlow N. G.

Characteristics and Distribution of Central Pit Craters on Ganymede: Implications for Pit Formation Models [#1714]

We discuss the distributions and morphologic characteristics of 432 central pit craters on Ganymede. Our results are providing some preliminary constraints on the viability of the different models for central pit formation.

Hendrix A. R. Johnson R. E.

Callisto and Ganymede: New Results from the Galileo UVS [#2035]

We investigate effects of exogenic processes on composition of these icy moons using ultraviolet spectroscopy. Callisto shows evidence of a high-latitude absorption feature, interpreted as being due to an organic species that is weathered away at lower latitudes.

Rivera-Valentin E. G. Kirchoff M. R. Schenk P. M.

An Analysis of the Geologic Histories of Ganymede's Dark Terrain and Callisto Through Impact Cratering Distributions [#2370]

To further understand the geologic histories of Ganymede and Callisto, we have analyzed the cratering distributions on Ganymede's dark terrain and Callisto.

Senske D. A. Prockter L. M. Kwok J. JSO Science Definition and Technical Teams

The Jupiter System Observer: A Mission to Probe the Foundations of Planetary Systems [#1113]

The JSO mission is a long-term science platform for studying the jovian system that addresses nearly 50 unique science objectives. It will advance the understanding of fundamental processes of planetary systems, their formation, and evolution.