

Tuesday, March 24, 2009  
**POSTER SESSION I: JUPITER AND INSCRUTABLE IO**  
 6:30 p.m. Town Center Exhibit Area

Visscher C. Sperier A. D. Moses J. I. Keane T. C.

[\*Phosphine and Ammonia Photochemistry in Jupiter's Troposphere\*](#) [#1201]

A photochemical model is developed for Jupiter's troposphere using updated constraints. The results suggest that diphosphine is an important aerosol component and that coupled ammonia-acetylene photochemistry is inhibited in Jupiter's atmosphere.

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

[\*Volcanism on Io: Insights from Global Geologic Mapping\*](#) [#1403]

We discuss latest insights into the volcano-tectonic evolution of Io based on global geologic mapping.

Bunte M. K. Williams D. A. Greeley R. Jaeger W. L.

[\*Geologic Mapping of the Hi'iaka and Shamshu Regions of Io\*](#) [#1468]

We present regional geomorphologic maps of the Hi'iaka and Shamshu regions of Io. The regions are characterized by varied volcanic and tectonic activity as well as progressional degradation. Volcano-tectonic interactions formed the Hi'iaka complex.

Barth B. Radebaugh J. Christiansen E. H.

[\*Classification of Io's Paterae: Active vs Inactive\*](#) [#2397]

On Io, the proportion of paterae with active volcanism, as judged from the presence of dark deposits within their margins, correlates with the total number of paterae in a longitudinal band and is highest in the sub-jovian and anti-jovian regions.

Allen D. Radebaugh J.

[\*Ionian Volcanoes Reveal Their Temperatures\*](#) [#1475]

Color temperature analyses were conducted on three hotspots using Cassini ISS data of the surface of Io in eclipse by Jupiter. The data for Pillan, Loki, and Wayland will be presented.

Keszthelyi L. P. Davies A. G. McEwen A. S.

[\*Optimal Wavelengths for Studying Thermal Emission from Active Volcanoes on Io\*](#) [#1943]

Eruption temperature of Io lavas can be constrained by new observations at ~0.8 and ~1 microns. Eruption style and heat flow are best studied at 2, 3, 4, 6, 8, 15, and 20 microns with 2, 5, and 8 microns being the most essential.

Rathbun J. A. Spencer J. R.

[\*Ground-based Observations of Io in Support of the New Horizons Flyby\*](#) [#2177]

We observed Io on 21 nights in 2006–2007 in support of the February, 2007 New Horizons flyby. We found that Tvashtar had been volcanically active for at least a month prior to the flyby and that at least four volcanoes were active on the Jupiter-facing hemisphere.

Borer N. Chen E. M. A. Choi D. S. Craft K. L. Fortenberry R. Harben J. Issacson P. Johnson A. Jones I. Mabry J. McDunn T. Millham R. A. Pankine A. Prater A. Cowardin H. M. Smith D. J. Snowden D.

[\*Argus: A New Frontiers Mission to Observe Io\*](#) [#1062]

A proposal to study Io, the most volcanically active solar system body. Study of volcanic activity, composition, tidal heating, atmospheric composition, mass wasting and magnetosphere interactions furthers understanding of dynamic planetary process.

McDoniel W. J. Goldstein D. Varghese P. Trafton L. Stewart B.

[\*DSMC Modeling of 3D Vent Geometries for Ionian Plumes\*](#) [#2223]

We study the effects of vent asymmetry on Io's volcanic plumes, with a focus on the difference between a disk source and a half annulus source, and show how the half annulus source can still lead to a fairly symmetric deposition ring.