

Tuesday, March 19, 2013

[T624]

**POSTER SESSION: VOLCANISM ON MARS:
FROM ANALOGUES TO FLOW MORPHOLOGIES TO MAPPING
6:00 p.m. Town Center Exhibit Area**

Wall K. T. Rowe M. C. Ellis B. S.

POSTER LOCATION #319[*Differentiating Basaltic Eruption Style with X-Ray Diffraction Analysis*](#) [#2547]

A new method of quantifying crystallinity through X-ray diffraction may provide a useful technique for determining sources of volatiles in eruptions on Mars.

Fawdon P. Balme M. R. Vye-Brown C. L. Rothery D. A. Jordan C. J.

POSTER LOCATION #320[*The Evolution of Volcanism in Syrtis Major Planum \(Mars\): Drawing Insight from Terrestrial Analogues*](#) [#2232]

Using two rheological models we calculate eruption parameters and rheological properties for lava flows on Syrtis Major Planum.

Harvey R. P. Karner J. M.

POSTER LOCATION #321[*"Blueberries", "Newberries" and Accretionary Lapilli; Lessons from the Antarctic Prebble Formation on Diagnosing the Origins of Dark Lustrous Spherical Things*](#) [#2064]

The spheres that we call "lapilli," pretend like they're Milli Vanilli. They are not "blueberries," or even "new berries," but comparing them isn't too silly.

Bleacher J. E. Orr T. Garry W. B. Hamilton C. W. Zimbelman J. R. et al.

POSTER LOCATION #322[*Sinuuous Ridges and Plateaus as Evidence for Lava Flow Inflation in the Tharsis Plains of Mars: Insights from Analogous Features on the Coastal Plain of Kilauea Volcano, HI*](#) [#2090]

A volcanic origin for sinuous ridges and plateaus in the plains east of the Tharsis Montes is discussed and compared with Hawaiian volcanic features.

Zimbelman J. R. Garry W. B. Bleacher J. E. Crumpler L. S. Self S. et al.

POSTER LOCATION #323[*Inflation Processes at the McCarty's Lava Flow Field, New Mexico, with Application to Identifying Inflated Lava Flows on Planetary Surfaces*](#) [#2120]

The McCarty's lava flow has abundant inflation plateaus, lava-rise pits, flow textures, and terraced margins, all helpful for identifying inflated flows on planetary surfaces.

Glaze L. S. Baloga S. M.

POSTER LOCATION #324[*Simulation of Inflated Pahoehoe Lava Flows*](#) [#1230]

A completely new modeling approach is developed that provides a framework for exploring effects of random and ambient influences on pahoehoe lava emplacement.

Crown D. A. Anderson S. W. Finnegan D. C. LeWinter A. L. Ramsey M. S.

POSTER LOCATION #325[*Topographic and Thermal Investigations of Active Pahoehoe Lava Flows: Implications for Planetary Volcanic Processes from Terrestrial Analogue Studies*](#) [#2184]

This study uses LiDAR and FLIR data to document the topographic and thermal characteristics of active pahoehoe lava flows.

Diniega S. Smrekar S. E. Anderson S. Stofan E.

POSTER LOCATION #326[*From Form, Function: Deriving Planetary Lava Flow Characteristics from Flow Morphometrics*](#) [#1660]

We model a generic dynamic-instability of lava flow that forms channels and tubes, and estimate flow parameters on Venus and Mars based on flow morphometrics.

Sangha S. S. Diniega S. D. Smrekar S. S.

POSTER LOCATION #327[*Interfield Analysis of Tumuli on Martian Inflated Lava Flows*](#) [#1634]

By studying tumuli metrics within martian flows that contain discernible margins, we aim to identify tumuli morphometrics associated with specific flow regimes.

Hamilton C. W. **POSTER LOCATION #328**
[*Flood Lavas Associated with the Cerberus Fossae 2 unit in Elysium Planitia, Mars*](#) [#3070]

Reexamination of the Cerberus Fossae 2 unit using new MRO imagery reveals a previously undocumented lava flow extending ~1300 km northeast from Grjótá Valles.

Keszthelyi L. P. **POSTER LOCATION #329**
[*A Facies Model for Primary Mafic Volcanic Deposits*](#) [#2567]

A framework to assist the interpretation of the vast array of basaltic landforms on Earth, the Moon, Mars, and beyond is presented.

Ramsey M. S. Gillespie A. R. **POSTER LOCATION #330**
[*The Failure of the Immutable Emissivity Assumption*](#) [#2101]

Infrared emissivity is assumed constant and a fundamental property used to identify planetary surfaces. We describe scenarios where this assumption fails.

Morgan G. A. Campbell B. A. Carter L. M. Plaut J. J. **POSTER LOCATION #331**
[*3D Visualization of the Internal Structure of the Youngest Volcanic Plain on Mars*](#) [#2640]

We have used SHARAD to derive estimates of the volume of Late Amazonian volcanic flows and reconstruct paleolandscapes buried in Elysium Planitia.

Pozzobon R. Bistacchi A. Massironi M. Marinangeli L. Cremonese G. **POSTER LOCATION #332**
[*FEM Modeling and Fractal Analysis of Concentric and Radial Structures on Ascraeus Mons: Implications for Magma Chamber Depth*](#) [#2105]

Spatial distribution and orientation of dykes propagating from a magma chamber are key elements to verify its depth through fractal analysis and FEM modeling.

Wyrick D. Y. Morris A. P. Todt M. K. **POSTER LOCATION #333**
[*Physical Analog Modeling of Martian Dike Geometries and Subsurface Deformation*](#) [#2603]

Physical analog models show that distinct deformation styles, mainly contractional, are associated with igneous intrusions.

Carter L. M. Campbell B. A. Plaut J. J. Orosei R. Morgan G. A. et al. **POSTER LOCATION #334**
[*Re-Assessing the Volume and Stratigraphy of the Eastern Medusae Fossae Formation*](#) [#2386]

Sounding radar data reveal new details of the interfaces beneath the eastern Medusae Fossae Formation hills and lead to revised estimates of volume.

Jodlowski P. Platz T. Michael G. G. **POSTER LOCATION #335**
[*Eruption History of the Syrtis Major Volcanic Province, Mars*](#) [#2322]

We present an eruption frequency record based on crater populations on exposed lava flows.

Jozwiak L. M. Head J. W. **POSTER LOCATION #336**
[*Glacial Loading and Unloading at Arsia Mons, Mars: Potential Influence on Intrusions, Eruptions, Locations and Orientations*](#) [#2207]

We use terrestrial analogs of modeled growth and decline of regional ice sheets to predict orientation of candidate dikes on Arsia Mons.

Leverington D. W. **POSTER LOCATION #337**
[*Development of Kasei Valles Through Mechanical and Thermal Erosion by Voluminous Low-Viscosity Lava Flows*](#) [#1355]

The basic properties of the Kasei Valles outflow channel are consistent with volcanic origins.

Plescia J. B. **POSTER LOCATION #338**
[*Olympica Fossae Valles — Newly Recognized Fluvial-Volcanic System*](#) [#2478]

Olympica Fossae and areas southwest (near Jovis Tholus) are formed by a combination of tectonic, fluvial, and volcanic processes in the latest Amazonian.

Kerber L. Michalski J. R. Bleacher J. E. Forget F.

POSTER LOCATION #339

[Ash Sources in Arabia Terra? Implications for the Arabia Deposits](#) [#2290]

A model is presented of the potential ash distribution from a newly proposed volcanic source region in Arabia Terra.

Mustard J. F. Herd C. D. K. Skok J. R. Cannon K. M.

POSTER LOCATION #340

[Visible-Infrared Reflectance of the Tissint Meteorite: Impact Melt, Maskelynite and Implications for Mars Remote Sensing](#) [#2771]

Abundant impact melt in the Tissint meteorite make it important for understanding remotely sensed data of Mars. We compare lab data and remote observations.