

Tuesday, March 20, 2012
VENUS VOLCANISM VIEWPOINTS: VAGUE OR VIABLE?
8:30 a.m. Montgomery Ballroom

Chairs: Virgil Sharpton
 Mark Bullock

- 8:30 a.m. Saunders R. S. *
[*Venus Resurfacing — Its Not Just About the Craters*](#) [#1961]
 Complicated analyses of the venusian plains crater population are largely irrelevant to the issue of resurfacing. Resurfacing occurred prior to plains emplacement in a global tectonic event.
- 8:45 a.m. Hansen V. L. *
[*Constraints A–Z for the Surface Evolution of Venus, and Proposed History*](#) [#1877]
 This contribution summarizes constraints A through Z for surface evolution of Venus, as derived from geologic mapping and analysis from a wide range of studies. All viable resurfacing models must be able to accommodate each of these constraints.
- 9:00 a.m. Ivanov M. A. * Head J. W. III
[*Evolution of Volcanism on Venus*](#) [#1037]
 Spatial and temporal distributions of main volcanic units show that the types and intensity of internal activity on Venus were strongly time-dependent.
- 9:15 a.m. Sharpton V. L. *
[*Resolving the Volcanic History of Venus: Data Needs and Current Limitations*](#) [#1246]
 Long-standing debate over the volcanic history of Venus suggests that current data are inadequate for resolving this important issue. I present SAR image resolution requirements for volcanic centers to be detected and characterized adequately.
- 9:30 a.m. Campbell B. A. * Campbell D. B. Carter L. M. Nolan M.
[*Long-Term Monitoring of Venus Volcanism Using Earth-Based Radar*](#) [#2027]
 Radar mapping using the Arecibo telescope in 1988 provided a 1–2-km-resolution image of Venus. At the close approach in June 2012, we have a 24-year baseline to search for surface changes due to volcanism.
- 9:45 a.m. Kohler E. * Gavin P. Chevrier V. F. Johnson N.
[*Experimental Investigation into the Radar Anomalies on the Surface of Venus*](#) [#2749]
 Preliminary results from experiments constraining the origins of the radar anomalies in the venusian highlands are presented.
- 10:00 a.m. Smrekar S. E. * Sotin C.
[*Implications of Recent Hotspot Volcanism on Venus for the Interior, Surface, and Atmosphere*](#) [#2830]
 The presence of ~9 active mantle plumes implies that the mantle of Venus is relatively hot and possibly heating up. These plumes could provide observed atmospheric water vapor, and may also imply a transition from more widespread plains volcanism.
- 10:15 a.m. Piskorz D. * Elkins-Tanton L. T. Smrekar S. E.
[*Corona Formation on Venus via Extension and Lithospheric Instability*](#) [#1982]
 We demonstrate that a mantle plume associated with a rift can create melt that intrudes the lower lithosphere and causes dripping into the upper mantle, extension, surface stresses, and the creation of off-rift coronae at Parga Chasma on Venus.

- 10:30 a.m. Basilevsky A. T. * Shalygin E. V. Titov D. V. Markiewicz W. J. Scho9lten F. Roatsch Th. Kreslavsky M. A. Moroz L. V. Ignatiev N. I. Fiethe B. Osterloh B. Michalchik H. Mironov N. L.. Head J. W. III
[Possible Felsic Summit of Tuulikki Mons, Venus: Evidence from 1-Micron Surface Emissivity and Magellan-Viewed Morphology](#) [#1092]
Based on the data taken by the Venus Monitoring Camera it was found that the summit of Tuulikki Mons volcano shows the 1- μm emissivity lower than that of the main body of the volcano. This suggests that the volcano summit material may be close to felsic.
- 10:45 a.m. Glaze L. S. * Baloga S. M. Stofan E. R.
[Emplacement Scenarios for Volcanic Domes on Venus](#) [#1074]
Effects of different boundary conditions on solutions for pressure-driven flow are explored. Results indicate a lava viscosity of 10^{12} – 10^{13} Pa-s and dome emplacement times of ~2–16 years, both significantly less than prior estimates.
- 11:00 a.m. Santos A. R. * Agee C. B. McCubbin F. M.
[The Effect of CO₂ on Melt Density and its Relevance to Magmatism on Venus](#) [#1592]
The densities of anhydrous melts with different amounts of CO₂ (0–12 wt%) were determined experimentally over a range of pressures up to 9 GPa. The results were then applied to magmatic activity on Venus.
- 11:15 a.m. Miller D. M. * Gregg T. K. P.
[Geologic Characteristics and Stratigraphic Relationships of Shield Fields Versus Shield Plains on Venus](#) [#2311]
This study examines the stratigraphic relationships and characteristics between the two types of shield volcano clusters on Venus: shield fields and shield plains.
- 11:30 a.m. Davey S. C. * Ernst R. E. Samson C. Grosfils E. B.
[Pit Crater Chain Clustering in Ganiki Planitia, Venus: Observations and Implications](#) [#1681]
Clusters of pit crater chains in Ganiki Planitia, Venus, are examined and compared to lithology, structure, and volcanic features.