

Monday, May 19, 2014
POSTER SESSION: FROM ORBIT
4:00–6:00 p.m. Great Room

Singh U. N. Limaye S. Emmitt G. D. Kavaya M. J. Yu J. Petros M.
[*Coherent Doppler Lidar for Wind and Cloud Measurements on Venus from an Orbiting or Floating/Flying Platform*](#) [#6001]

This paper describes a study, concept and technology development plan for a coherent Doppler lidar for wind and cloud measurements on Venus from an orbiting or floating/flying platform.

Mouginis-Mark P. J.
[*Is Venus Volcanically Active Today?*](#) [#6002]

A new orbital imaging radar mission is proposed as a way to determine if Venus is volcanically active today.

Carter L. M. Campbell D. B. Campbell B. A.
[*Orbital Reconnaissance of Pyroclastic Deposits on Venus*](#) [#6003]

A survey of volcanoes using high-resolution radar polarimetry would enable a global search for pyroclastic deposits. Identifying the locations, extents, and relative ages of these deposits is important for multiple Venus science goals.

Cochrane C. G. Ghail R. C.
[*The Highlands of Venus*](#) [#6004]

The Poisson-type hypsometry of Venus implies many independent events raise(d) highlands incrementally and their concentration into various forms make these interesting targets for an Interferometric SAR mission, for which key parameters are given.

Helbert J. Müller N. Ferrari S. Dyar D. Smrekar S. Head J. W. Elkins-Tanton L.
[*Mapping the Surface Composition of Venus in the Near Infrared*](#) [#6007]

Observing the surface of Venus in the near-infrared from orbit or from an aerial platform in combination with radar derived geological information will allow further conclusions on the evolution of Venus to be drawn.

Glaze L. S. Baloga S. M. Garvin J. B. Quick L. C.
[*Importance of Geodetically Controlled Topography to Constrain Rates of Volcanism and Internal Magma Plumbing Systems*](#) [#6009]

Lava flows and flow fields on Venus lack sufficient topographic data for any type of quantitative modeling to estimate eruption rates and durations. Such modeling can constrain rates of resurfacing and provide insights into magma plumbing systems.

Kiefer W. S.
[*Rift System Architecture on Venus and Implications for Lithospheric Structure*](#) [#6013]

Terrestrial continental rifts are half graben, with a master boundary fault on only one side of the rift basin. Devana Chasma on Venus has long segments with full graben morphologies (two boundary faults), indicating differences in lithosphere structure.

Quick L. C. Glaze L. S. Baloga S. M.
[*Venusian Steep-Sided Domes: Essential Exploration Targets for Constraining the Range of Volcanic Emplacement Conditions*](#) [#6014]

We suggest steep-sided domes as essential targets for Venus exploration. Placing firm constraints on volumetric eruption rates and composition would shed light on processes in subsurface magmatic plumbing systems and the history of the venusian crust.

Ferrari S. Helbert J. Maturilli A. Dyar D. M. Mueller N. Elkins-Tanton L. T.
[*The Surface of Venus After VIRTIS on Venus Express: Laboratory Analogs and the Venus Emissivity Mapper*](#) [#6016]

A combination of laboratory work and remote sensing will be able to determine the large-scale compositional variations of the surface of Venus and will provide valuable input for any landing site selections for future Venus lander missions.

Kreslavsky M. A. Bondarenko N. V. Head J. W. Basilevsky A. T. Ivanov M. A.
[*Venus' Surface Layer: A Neglected Class of Venus Exploration Targets*](#) [#6023]

We propose a large number of surface targets for high-resolution radar imaging for understanding the nature of the surface layer, aeolian transport, and other aspects of “Quaternary geology” of Venus.

Ghail R. C. EnVision Science Team
[*EnVision: Design Options for the M4 Call*](#) [#6024]

EnVision is an ESA M-class proposal to understand the differences between Venus and Earth, by identifying and characterizing change and activity in the Venus interior, surface, and atmosphere, and the relationships between them.

Piskorz D. Elkins-Tanton L. T. Smrekar S. E.
[*Constraining Corona Formation on Venus*](#) [#6026]

We model the formation of off-rift coronae at Parga Chasma in order to understand how Venus loses its heat. We find the data required to make proper comparisons between models and observations is lacking.

Smrekar S. E. Addis D. Phillips R. J.
[*Craters, Resurfacing, and Surface Age*](#) [#6035]

What processes resurfaced Venus at what rate? Although some craters are clearly modified, for most craters high-resolution altimetry and imaging are needed to definitively determine if craters have been modified, and if so, by what processes.

Sharpton V. L.
[*Targeting the Plains of Venus from Orbit*](#) [#6036]

Lowland plains house a spectacular array of poorly understood volcanic, tectonic, and impact features that are key to settling the continuing global stratigraphy debate and resolving how the only other accessible Earth-sized planet has evolved.

Gilmore M. S.
[*Which Tesserae are the Best Tesserae to Measure Tessera Composition?*](#) [#6038]

An analysis of multiple factors that may modify tessera terrain from its original composition. Identification of tesserae that should be the most unadulterated.

McGovern P. J.
[*Large Volcanic Edifices and Rises on Venus: The Benefits of Improved Topography and Gravity Data*](#) [#6039]

Venus is a volcanological laboratory, replete with edifices and rises that offer potentially deep insights into its evolution. However, this potential can only be realized with improved topography and gravity data, requiring a new orbital mission.