Thursday, March 23, 2017 **[R609]**
POSTER SESSION II: VENUS EXPLORATION AND SCIENCE
6:00 p.m. Town Center Exhibit Area

Kremic T. Hunter G. W. Neudeck P. G. Spry D. J. Ponchak G. E. et al. ***POSTER LOCATION #172***
Long-Life In-Situ Solar System Explorer (LLISSE) Probe Concept and Enabling High Temperature Electronics **[#2986]**
This poster describes a long-lived probe designed to acquire simple but high-value science data from the Venus surface for a long period of time (>60 days).

DeCroix D. S. Peterson C. G. Newell R. T. Okhuysen B. S.
Wiens R. C. et al. ***POSTER LOCATION #173***
LIBS Laser Propagation Through the Venus Atmosphere **[#2929]**
The paper computationally characterizes the propagation of a LIBS laser through the Venus atmosphere and generates a plasma.

Paul M. Rattner A. Greer C. ***POSTER LOCATION #174***
A Combustion-Driven Power Plant for Venus Surface Exploration **[#2887]**
Multiple NASA grants are enabling Penn State to adapt a TRL 9 underwater, combustion-driven power system to enable in situ planetary exploration.

Anderson K. R. McNamara C. M. Gatti A. Guerrero J. ***POSTER LOCATION #175***
Actively Cooled Venus Lander Instrument Payload Using a Multi-Cascade Refrigeration Cycle **[#1015]**
This paper describes a payload instrument configuration for use in Venus lander missions. The active thermal control via refrigeration affords payload longevity.

Wendler D. Helbert J. Walter I. Widemann T. Guignan G. et al. ***POSTER LOCATION #176***
The Venus Emissivity Mapper (VEM) Prototype **[#2645]**
The prototype of the Venus Emissivity Mapper (VEM) was built and tested in the laboratory at DLR Berlin within the scope of the NASA Discovery VERITAS proposal.

Izenberg N. R. Papadakis S. J. Deglau D. M. Francomacaro S. ***POSTER LOCATION #177***
FirefOx Design Reference Oxygen Sensor for Hot, Deep Atmospheres **[#1024]**
In the deep hot air / Where oxygen is most rare / We'll find it and share.

Glaze L. S. Amato M. J. Garvin J. B. Johnson N. M. ***POSTER LOCATION #178***
Exploration of Venus' Deep Atmosphere and Surface Environment **[#2288]**
Modernization of pressure vessel technologies enable in situ science operations in the high temperature and pressure near-surface/surface environment of Venus.

Esposito L. W. ***POSTER LOCATION #179***
Venus In Situ Atmospheric and Geochemical Explorer (VISAGE): A Proposed New Frontiers Mission **[#2444]**
VISAGE is a Venus lander mission to compare Earth, Mars, and Venus; to predict the future of Earth; and to develop models for extra-solar planets.

Senske D. Zasova L. Economou T. Eismont N. Esposito L. et al. ***POSTER LOCATION #180***
Venera-D, A Mission Concept for the Comprehensive Scientific Exploration of Venus **[#1155]**
To address the overarching scientific questions regarding the evolution of Venus, the Venera-D concept, consisting of an orbiter and lander, has been developed.

Ghail R. C. Wilson C. F. Widemann T. ***POSTER LOCATION #181***
VenSAR, the Revolutionary Radar for the EnVision Mission to Venus **[#2805]**
VenSAR, on the proposed EnVision mission to Venus, is highly capable and flexible, delivering 30 m differential InSAR and up to 1-m multi-polarimetric image data.

Stack K. M. Rabinovitch J. Bullock M. A. ***POSTER LOCATION #182***
Characterization of Safe Landing Sites on Venus Using Venera Panoramas and Magellan Radar Properties **[#1891]**
This study uses Venera panoramas and Magellan radar properties to characterize potential safe landing sites on Venus.

Mueller N. Tsang C. C. C. Smrekar S. Helbert J. Dyar M. D. ***POSTER LOCATION #183***
Derivation of Thermal Emission from VIRTIS on Venus Express 1000–1400 nm Spectra **[#2200]**
These spectra provides information about the deep atmosphere and surface of Venus but are difficult to interpret because of straylight from the dayside.

Widemann T. Head J. W. Helbert J. Smrekar S. ***POSTER LOCATION #184***
SO_2 Vapor Equilibrium with Oxidized Surface Rocks **[#1655]**
Weathering reactions on Venus' surface can be characterized from orbit using band ratios from thermal emissivity data in combination with radar emissivity.

Parsons A. M. Beck A. W. Lawrence D. J. Peplowski P. N. Starr R. D. ***POSTER LOCATION #185***
Importance of Venus Bulk Elemental Composition Measurements **[#2614]**
We explain how gamma ray and neutron measurements by the Bulk Elemental Composition Analyzer (BECA) can identify the classes of igneous rocks found on Venus.

Port S. T. Chevrier V. ***POSTER LOCATION #186***
The Stability of Metal Sulfides Under Venusian Surface Conditions and Their Relation to the Sulfur Cycle **[#1117]**
Where is the sulfur? Bonded to lead or iron? Mayhap mercury.

Helbert J. Maturilli A. Dyar M. D. Ferrari S. Mueller N. et al. ***POSTER LOCATION #187***
First Set of Laboratory Venus Analog Spectra for All Atmospheric Windows **[#1512]**
Work in progress at the Planetary Emissivity Laboratory is laying the groundwork for a spectral library for rocks and minerals under Venus conditions.

Dyar M. D. Helbert J. Boucher T. Wendler D. Walter I. et al. ***POSTER LOCATION #188***
Probing Rock Type, Fe Redox State, and Transition Metal Contents with Six-Window VNIR Spectroscopy Under Venus Conditions **[#3014]**
VEM-window data are shown to distinguish among key rock types on Venus, and evaluate redox state and transition metal contents of Venus surface rocks.

Nealley W. H. H. Radoman-Shaw B. G. Jacobson N. S. Harvey R. P. ***POSTER LOCATION #189***
Thermogravimetric Analysis of Key Minerals Exposed to Venus-Like Gas Mixtures **[#2498]**
Using Thermogravimetric Analysis, we are studying how Venus' crust material reacts with and contributes to its atmosphere at the surface.

Campbell B. A. Morgan G. A. Whitten J. L. Carter L. M.
Glaze L. S. et al. ***POSTER LOCATION #190***
Pyroclastic Deposits on Venus as Possible Indicators of the Youngest Volcanism **[#2643]**
Radar-bright units on Venus with diffuse margins are consistent with plume collapse emplacement, and may indicate sites of recent activity.

Harrington E. Williams-Jones G. ***POSTER LOCATION #191***
Preliminary Thermorheolgocial Modeling of Silicate Melts in Venusian Canali **[#1334]**
Tortuous fluid / Flowing forward whilst constrained / How far can you go?

Bell K. L. Kiefer W. S. Weller M. B. ***POSTER LOCATION #192***
Thermal Support of the Devana Chasma Rift, Venus **[#1400]**
Venus is quite hot / Stuff rises and breaks a lot / It sometimes bends though.

Rolf T. Steinberger B. Werner S. C. Uppalapati S. ***POSTER LOCATION #193***
Dynamic Evolution and Structure of Venus' Interior Constrained by Surface Expressions **[#1420]**
We study Venus' internal evolution with mantle convection models. By constraining such models with surface observables, we can infer feasible mantle structures.

Goossens S. Lemoine F. G. Rosenblatt P. Lebonnois S. Mazarico E. ***POSTER LOCATION #194***
Venus Gravity Field Modeling from Magellan and Venus Express Tracking Data **[#1984]**
Results of a reanalysis of Magellan data augmented with data from the Venus Express spacecraft for Venus gravity field model determination.

Karimi S. Ojha L. Lewis K. ***POSTER LOCATION #195***
Searching for Large Buried Craters on Venus **[#2831]**
Using available gravity and topography data, we attempt to identify candidate buried impact structures on Venus potentially overlain by volcanic material.

Lewis K. W. Simons F. J. Olhede S. C. Eggers G. L. ***POSTER LOCATION #196***
Maximum-Likelihood Analysis of Planetary Roughness **[#2608]**
We have developed a new computational method for the characterization of the spatial statistics of planetary data fields, including topographic roughness.

Thomson B. J. Mitchell K. L. Lang N. P. Nunes D. ***POSTER LOCATION #197***
Slope Characteristics of New SAR-Stereo Derived Topography of Venus **[#2393]**
Learning new tricks from an old dog: Contrasting roughness derived from new Magellan SAR-stereo topography on Venus with preexisting radar altimetry data.

Bondarenko N. B. Kreslavsky M. A. ***POSTER LOCATION #198***
Principal Component Analysis of Magellan Radar Altimeter Data: Evidence for Surface Properties Variability on Venus **[#2458]**
The shape of near-nadir radar backscattering function reveals information about surface structure, e.g., it discriminates parabolas with and without microdunes.

Knicely J. J. Herrick R. R. ***POSTER LOCATION #199***
Morphometry of Mid-Sized Venusian Shield Volcanoes **[#2782]**
Venus volcanoes / What secrets do their shapes hold? / How do they compare?