

Tuesday, March 22, 2016

[T348]

**POSTER SESSION I: MATERIAL ANALOGS:
AIRLESS BODIES AND OUTER SOLAR SYSTEM
6:00 p.m. Town Center Exhibit Area**

Mann P. Cloutis E. A. Durell C. *POSTER LOCATION #690*
[Temporal Variations in Spectral Reflectance of Spectralon](#) [#2335]

A change in the manufacturing process of a well known calibration target affects its overall spectral characteristics.

Chen T. Chow B. J. Qiao Y. *POSTER LOCATION #691*
[Lunar Infrastructural Materials Based on Raw Lunar Soil Simulants](#) [#1563]

By using ~96 wt% raw lunar soil simulant and ~4 wt% polymer binder, strong structural parts can be produced through a fast and energy-efficient procedure.

Mueller R. P. Kelso R. M. Romo R. Andersen C. *POSTER LOCATION #692*
[Planetary Basalt Construction Field Project of a Lunar Launch/Landing Pad — PISCES/NASA KSC Project Update](#) [#1009]

PISCES and NASA KSC have robotically-constructed a basalt launch and landing pad to demonstrate construction technologies for Moon/Mars.

Offringa M. S. Foing B. H. *POSTER LOCATION #693*
[Laboratory Spectroscopy Measurements of Moon-Mars Analogue Samples](#) [#2522]

Spectroscopy measurements of Moon-Mars analog samples, focused on calibration of UV-VIS and NIR reflectance spectrometers in support of a lunar lander mission.

Nelson R. M. Piatek J. L. Boryta M. D. Vandervoort K. Hapke B. W. et al. *POSTER LOCATION #694*
[Planetary Regolith Analogs Appropriate for Laboratory Measurements](#) [#1695]

We describe a suite of Aluminum Oxide particulates that are particularly appropriate for simulating a high albedo planetary regolith in the laboratory.

Boivin A. Hickson D. Cunje A. Ghent R. Daly M. *POSTER LOCATION #695*
[Broadband Measurements of Dielectric Permittivity of Planetary Regolith Analog Materials Using a Coaxial Transmission Line in Vacuum](#) [#2025]

Preliminary broadband measurements of dielectric permittivity of lunar and asteroid regolith analog materials in vacuum using a coaxial transmission line.

Hickson D. Sotodeh S. Daly M. Ghent R. *POSTER LOCATION #696*
[Boundary Conditions Modelling of Permittivity Measurements of Powders in Coaxial Airline](#) [#2137]

A model is developed to account for boundary condition effects in measurements of the dielectric constant of alumina using the transmission line method.

Donohue P. H. Hill E. Huss G. R. Drake M. J. *POSTER LOCATION #697*
[Experimentally Determined Metal — Olivine Element Partitioning and Diffusion in Olivine with Applications to Pallasites](#) [#1172]

Many pallasite olivines exhibit element zonation, but why? New subsolidus diffusion rates for Fe, Ni, Co, Cr, and Mn yield environmental constraints.

Mahjoub A. Poston M. Hand K. Brown M. Blacksborg J. et al. *POSTER LOCATION #698*
[Using Chemistry and Spectroscopy of Laboratory Simulants to Constrain the Origins of the Jupiter Trojan Asteroids](#) [#1757]

We explore in laboratory the hypothesis that links the color bimodality in Jupiter's Trojans to the presence of H₂S in the surface of their precursors.

Applin D. M. Cloutis E. A. Izawa M. R. M. **POSTER LOCATION #699**
[Reststrahlen Bands Near 3 Microns in Carbon-Bearing Compounds and Applications to Asteroid Spectroscopy](#) [#2557]

Some carboxylic acids and carbonates exhibit Reststrahlen bands near 3 μm . These may be consistent with features observed in spectra from Ceres.

Applin D. M. Izawa M. R. M. Cloutis E. A. **POSTER LOCATION #700**
[Ultraviolet Reflectance Spectroscopy of Condensed Carbonaceous Materials](#) [#2540]

Reflectance spectra from 0.2 to 0.5 μm of graphites, coals, bitumens, and other carbonaceous materials are measured.

Molesky M. J. Jack S. J. Clayton A. N. Strait M. M. Durda D. D. et al. **POSTER LOCATION #701**
[Investigation of the Hydration of Anhydrous Chondrite Meteorites](#) [#3007]

An investigation into hydrating anhydrous chondrites as analogs for carbonaceous chondrites.

Berisford D. F. Foster J. Poston M. J. Hand K. P. **POSTER LOCATION #702**
[Cryogenic Ices Under Vacuum: Preliminary Tests Related to Sampling Material on Europa's Surface](#) [#2998]

A low-cost experimental apparatus allows qualitative evaluation of the behavior of cutting tools applied to cryogenic ices under vacuum conditions.

Carey E. M. Peters G. H. Chu L. Zhou Y. M. Cohen B. et al. **POSTER LOCATION #703**
[Development and Characteristics of Mechanical Porous Ambient Comet Simulants \(MPACS\) as Comet Surface Analogs](#) [#2299]

Here we describe the Mechanical Porous Ambient Comet Simulants (MPACS) suite of materials currently used to test and validate the Bible Comet Sampling System.

Faure M. Quirico E. Faure A. Baklouti D. Boduch P. et al. **POSTER LOCATION #704**
[Origin of Chondritic and Cometary Refractory Organic Matter: Radiolytic or Thermal Carbonization?](#) [#2056]

We explore the formation of refractory organic matter by ion irradiation of polyethylene glycol. This formation appears challenging without high temperature.

Hillier J. K. Price M. C. Burchell M. J. Hiscock J. R. Srama R. et al. **POSTER LOCATION #705**
[Cosmic Dust Analogues for Hypervelocity Impact Research: Expanding the Library](#) [#2243]

We present progress in producing novel analogs for volatile-rich and/or low-density cosmic dust, for use in laboratory hypervelocity impact experiments.

Nuth J. A. Johnson N. M. Ferguson F. T. **POSTER LOCATION #706**
[Difficulties and Solutions in Measuring the Rates of Surface Mediated Reactions Such as the Fischer-Tropsch Type Reaction](#) [#2265]

Measuring reaction rates per unit surface area for materials whose surface area increase in proportion to the extent of the reaction presents unique challenges.

Levine W. G. Leitner M. A. Vance S. D. **POSTER LOCATION #707**
[Geochemical Constraints on Europa's Ocean Composition and Possible Signatures of Hydrothermal Activity](#) [#2500]

We assess varying accreting chondritic materials for Europa and their effects on ocean chemistry through ramifications for proposed hydrothermal chemistry.