

Tuesday, March 8, 2011

POSTER SESSION I: MATERIALS ANALOGS: LIVING IN A MATERIAL WORLD

6:00 p.m. Town Center Exhibit Area

Arivazhagan S. Anbazhagan S.

[Comparison of Lunar Analog Rock Spectra with Clementine Data](#) [#1009]

The analysis presented here is comparison of lunar multispectral data with analog rock spectra convolved to Clementine spectra.

Clegg R. N. Metzger P. T. Huff S. Roberson L. B.

[Lunar Soil Erosion Physics for Landing Rockets on the Moon](#) [#1450]

For future lunar operations, the low ejection angle and high velocity of blowing lunar soil particles by rocket exhaust are concerns for instruments deployed on the Moon and for the historic Apollo sites.

Blewett D. T. Denevi B. W. Lawrence S. J. Coman E. I.

[Spectra of Lunar Glass Simulants: New Old Data for Reflectance Modeling](#) [#1044]

We have recovered reflectance spectra for 20 synthetic lunar glasses studied by E. N. Wells that were not previously widely available. These data greatly expand the range of Fe and Ti compositions for use in spectral modeling.

Poston M. J. Aleksandrov A. B. Grieves G. A. Hibbitts C. A. Dyar M. D. Orlando T. M.

[Thermal Desorption Properties of Water Adsorbed on Micronized Lunar Surrogates JSC-1A and Albite](#) [#2189]

Temperature program desorption experiments of water adsorbed on micronized lunar regolith surrogates JSC-1A and albite.

Glotch T. D. Wright S. P. McKeeby B. E. Ferrari M. J.

[Micro-FTIR and Micro-Raman Spectroscopy of Shocked Basalts from Lona Crater, India](#) [#1566]

We present micro-FTIR and micro-Raman maps and spectra of class 2 shocked basalts from Lona Crater, India.

Rask J. C. McCrossin C. Loftus D. J.

[Chemical Reactivity in Mechanically Ground Quartz Relevant to Impact Processes](#) [#2704]

To understand how impact processes may affect the chemical reactivity and toxicity of regolith and dust, we have tested a variety of mechanical grinding methods for quartz and other planetary analog materials.

Newsom H. E. Wright S. P. Misra S. Muttik N. Beal R. A.

[Role of Impact Craters in the Origin of Phyllosilicates and Surficial Materials on Mars — New Understanding from Earth Analog Studies](#) [#1298]

Recent analog research shows how impacts produce — hydrothermal clay precipitates, mobile element enrichments in sediments, shocked basalt, formation of accretionary lapilli, and airburst heating of the surface — and all can be studied by Mars rovers.

Humphries S. D. Vaniman D. T. Sharma S. K. Bates D. E. Misra A. K. Wiens R. C.

McInroy R. E. Clegg S. M.

[Investigation of Mars Clay Analogs by Remote Laser Induced Breakdown Spectroscopy \(LIBS\)](#) [#1851]

Our goal in this study was to evaluate the operation of Laser Induced Breakdown Spectroscopy (LIBS), as carried on the ChemCam instrument for MSL, against a range of phyllosilicates to define operational parameters and possibilities for characterization.

Bost N. Westall F. Ramboz C. Foucher F. Pullan D. Fleischer I. Klingelhöfer G. Steele A. Amundsen H. Viso M. Vago J. L. Zegers T. Petit S. Meunier A.

[2018 MAX-C/ExoMars Mission: The Orleans Mars-Analogue Rock Collection for Instrument Testing](#) [#1347]

In order to reply to the exobiological goals of the 2018 MAX-C/ExoMars mission, the Orléans-OSUC analogue rock collection and database contains well characterised Mars analogue rocks and minerals for use in instrument testing and *in situ* missions.

Brusentsova T. Peale R. E. Maukonen D. Figueiredo P. Harlow G. Ebel D. Lisse C. M.
[Laboratory Far-IR Spectroscopy of Minerals: Providing the Data for IR Missions Analysis](#) [#1457]

To aid in interpreting data from far-IR missions, we are collecting mass absorption coefficient spectra in the wavelength range 15 to 250 μm of micrometer-sized powders for terrestrial analogs of astrophysically relevant minerals, represented by various mineral groups.

Sobron P. Wang A.

[Low-Temperature Raman Spectroscopy of Materials Relevant for Planetary Exploration](#) [#1580]

Raman peaks shifts and narrowing have been monitored as a function of temperature for Mars relevant minerals to help the sample identification and characterization that will be made by a flight laser Raman spectrometer during the ExoMars mission.

Rull F. Venegas G. Klingelhöfer G. Medina J. Martinez-Frias J. Sansano A.

[Characterization of Selected Minerals from Calatrava's Lavas by Micro-Raman and Mössbauer Spectroscopy and X-Ray Diffraction](#) [#1946]

In this work there's a first approach analysis to Calatrava's volcanic field as a Mars analog. Raman spectroscopy, XRD and Mössbauer spectroscopy were used for the analysis.

Adcock C. T. Simon A. C. Hausrath E. M.

[Synthesis of Phosphate Minerals for Use in Dissolution Experiments](#) [#2300]

Mineral dissolution experiments require well-characterized mineral material that is relatively free of contaminants and is available in sufficient quantities. Here we report progress synthesizing chlorapatite and whitlockite for use in dissolution experiments.

Shepard M. K. Cloutis E.

[Laboratory Measurements of Band Depth Variation with Observation Geometry](#) [#1043]

We measured the bidirectional reflectance distribution function of a sample with a spectral absorption feature to characterize how the band depth varied with lighting and viewing geometry.

Zhang H. Voss K. J.

[Light Reflection from Packed Layers of Transparent Spheres: Is Hapke's Photometric Model Accurate Enough to Make Predictions?](#) [#1594]

We demonstrate that the diffraction removal procedure outlined by Hapke et al. [Icarus, 199, 210 (2009)] contains an error. By following their intended scheme we found that the Hapke model is not anisotropic enough to describe the reflectance patterns.