

Friday, March 21, 2014

[F551]

## LUNAR HIGHLANDS AND BENEATH: COMPOSITION FROM ORBIT

1:30 p.m. Waterway Ballroom 1

**Chairs:** Kerri Donaldson Hanna  
Makiko Ohtake

- 1:30 p.m. Lawrence D. J. \* Maurice S. Peplowski P. N. Prettyman T. H.  
[Bulk Hydrogen Abundances in the Lunar Highlands: Measurements from Orbital Neutron Data](#) [#1565]  
Lunar Prospector neutron measurements have been combined with data from LRO's Diviner instrument and lunar highland hydrogen concentrations are derived.
- 1:45 p.m. Donaldson Hanna K. L. \* Thomas I. R. Greenhagen B. T. Bowles N. E. Pieters C. M.  
[Characterization of Apollo Soil Samples Under Simulated Lunar Conditions](#) [#2345]  
Spectral characterization of Apollo bulk soil samples under simulated lunar conditions across thermal infrared wavelengths.
- 2:00 p.m. Calzada-Diaz A. \* Joy K. H. Crawford I. A. Nordheim T. A.  
[Matching Regolith Breccia and Soil Compositions Using Lunar Prospector Data](#) [#1424]  
We have developed a new software application in the Python programming language that matches sample elemental composition to the 2°/pixel LP-GRS dataset.
- 2:15 p.m. Lemelin M. \* Lucey P. G. Song E.  
[Reassessment of Lunar Central Peak Mineralogy and Iron Content Using the Kaguya Multiband Imager](#) [#2343]  
Central peak compositions derived from Kaguya MI data show only weak correlation of plagioclase with proximity to the mantle derived from GRAIL data.
- 2:30 p.m. Song E. \* Lemelin M. Lucey P. G. Greenhagen B. T.  
[Lunar Crater Central Peak Mineral Maps — Near- and Thermal-Infrared Spectroscopy](#) [#2486]  
Mineral maps derived from the Kaguya Multiband Imager of lunar crater central peaks are augmented using Diviner CF maps to better represent plg/pyx/olv abundances.
- 2:45 p.m. Ohtake M. \* Kobayashi S. Takeda H. Morota T. Ishihara Y. et al.  
[Solidification of the Lunar Magma Ocean Observed by Mg Number and Thorium Abundance Correlation of the Highland Crust](#) [#1578]  
This study investigated correlation of Mg# and Th abundance on the lunar highland to understand solidification and composition of the lunar magma ocean.
- 3:00 p.m. Yamamoto S. \* Nakamura R. Matsunaga T. Ogawa Y. Ishihara Y. et al.  
[Global Distribution of High-Ca Pyroxene on the Lunar Highland Revealed by SELENE Spectral Profiler](#) [#1285]  
We report the global distribution of high-Ca pyroxene on lunar highland regions revealed by the Spectral Profiler onboard the lunar explorer SELENE (Kaguya).
- 3:15 p.m. Greenhagen B. T. \* Lucey P. G. Lemelin M. Song E. Isaacson P. J. et al.  
[High Fidelity Mineral Maps of Moscoviense Basin Integrating Thermal and Near Infrared Multispectral Imaging](#) [#2641]  
We present new mineral maps of Moscoviense Basin. The mineralogical diversity present makes MB a compelling target for future exploration and sample return.

- 3:30 p.m. Marriner C. M. Donaldson Hanna K. L. Bowles N. E. Prissel T. C. Jackson C. R. M. et al.  
[Characterisation of a Terrestrial Low-Iron Pink Spinel as an Analogue to Support Thermal Infrared Observations of the Moon](#) [#1806]  
We show terrestrial sourced spinel can be used as a lunar analog and can be measured for the first time at thermal infrared wavelengths to support Diviner data.
- 3:45 p.m. Moriarty D. P. III \* Pieters C. M.  
[Evaluation of Stratigraphy at the South Pole-Aitken Basin: From Local to Regional](#) [#2516]  
Several regions within SPA are analyzed with M<sup>3</sup> spectral parameters to evaluate stratigraphy. Systematic variations in pyroxene composition are observed.
- 4:00 p.m. Crites S. T. \* Lucey P. G. Norman J. A. Taylor G. J. Hawke B. R. et al.  
[The Mafic Component of the Lunar Crust](#) [#2126]  
We constrain the amount of mantle in the crust and the depth-diameter ratio of the largest basins using mineral mixing models and a small crater spectral survey.
- 4:15 p.m. Arnold J. A. \* Glotch T. D. Lucey P. G. Song E.  
[Comparison of M<sup>3</sup> \(VNIR\) and Diviner \(MIR\) Data of Olivine-Bearing Regions of the Moon](#) [#2470]  
We use lab and Diviner mid-IR data along with spectral mixture analysis of M<sup>3</sup> data to characterize areas of the Moon that are olivine-bearing and pyroxene-poor.
- 4:30 p.m. Sun Y. \* Li L.  
[Global Investigation of Olivine Bearing Crater Central Peaks with M<sup>3</sup> Images](#) [#1653]  
Global investigation of olivine-bearing central peaks indicates that most of the olivine originates from plutonic events and sources of olivine may vary with depth.