**Wednesday, March 20, 2013** **[W304]**

**LUNAR REMOTE AND SAMPLE SPECTROSCOPY, AND THE NEW HIGHLAND ROCK TYPE**

**8:30 a.m. Waterway Ballroom 6**

**Chairs:** **Georgiana Kramer**
**Tomoko Arai**

8:30 a.m. Wetzel D. T. * Jacobsen S. D. Thomas S.-M. Hauri E. H. Rutherford M. J. et al.
*FTIR and Raman Spectroscopy of the Lunar Picritic Glasses* **[#2360]**
Full FTIR and Raman spectra are reported for the three lunar glass compositions. We demonstrate the 3550 $cm^{-1}$ total water peak is measurable in the samples.

8:45 a.m. Arnold J. A. * Glotch T. D. Thomas I. R. Bowles N. E.
*Plagioclase-Olivine Mixtures in a Simulated Lunar Environment* **[#2972]**
We use lunar-environment mid-IR emissivity spectra to constrain changes in modeled Diviner Christiansen feature positions with mixture composition.

9:00 a.m. Donaldson Hanna K. L. * Pieters C. M. Patterson W. R. III Mustard J. F. Greenhagen B. T. et al.
*Effects of Varying Temperature and Pressure Conditions on Emissivity Spectra: Application to Thermal Infrared Observations of Airless Bodies* **[#2225]**
New lab measurements illustrate, for the first time, how the pressure and the way in which a sample is heated each contribute to the changes in TIR spectra.

9:15 a.m. Lucey P. G. * Song E. Donaldson Hanna K. L. Millan-Valle L. F. Bowles N. E. et al.
*Global Diviner Christiansen Feature Space Weathering Effects: Hypotheses, Experiment and Mitigation* **[#2890]**
We show how space weathering influences the Christiansen Feature (CF) position derived from the Diviner instrument (LRO), and a method to mitigate this effect.

9:30 a.m. Trang D. * Gillis-Davis J. J. Lucey P. G.
*Ultraviolet to Near-Infrared K-Spectra Modeling of Synthetic Lunar Pyroclastic Glass* **[#1312]**
We modeled the k-spectra of synthetic lunar glasses from 0.3 to 2.55 µm with MGM. From this, we produced optical parameters as a function of FeO and $TiO_2$.

9:45 a.m. Isaacson P. J. * Hiroi T. Hawke B. R. Lucey P. G. Pieters C. M. et al.
*Lunar Meteorite Geologic Context: New Constraints from VNIR Spectroscopy and Geochemistry* **[#1134]**
Lunar meteorites were analyzed with VNIR spectroscopy. Their geologic context is constrained by comparison to remote VNIR and bulk chemical data.

10:00 a.m. Arai T. * Hiroi T. Sasaki S. Matsui T.
*Origin of the Lunar Crust Inferred from Mineralogy and Reflectance Spectra of Lunar Meteorites* **[#1016]**
Mineralogical and reflectance spectral studies of feldspathic lunar meteorites imply that low-Ca pyroxene is a secondary product of the primary troctolite crust.

10:15 a.m. Taylor L. A. Pieters C. M.
*Pink-Spinel Anorthosite Formation: Considerations for a Feasible Petrogenesis* **[#2785]**
The petrogenesis of the highlands and focuses on the origin of the pink spinel anorthosite (PSA) and other unusual highland lithologies are reviewed.

10:30 a.m. Pieters C. M. * Donaldson Hanna K. Cheek L. Dhingra D. Moriarty D. et al.
*Compositional Evolution of the Early Lunar Crust: Observed Diverse Mineralogy of the Upper and Lower Crust* **[#2545]**
Crustal compositions observed include (1) a feldspathic megaregolith, (2) PAN, (3) norite + plagioclase, (4) olivine + plagioclase, and (5) Mg-spinel + plagioclase.

10:45 a.m. Prissel T. C. * Parman S. W. Head J. W. Jackson C. R. M. Rutherford M. J. et al.
*An "Uncollected" Member of the Mg-Suite: Mg-Al Pink Spinel Anorthosites and Their Place on the Moon* **[#3066]**
We have designed a series of experiments to constrain the physical and chemical conditions necessary for the petrogenesis of lunar pink spinel anorthosites.

11:00 a.m. Yamamoto S. * Nakamura R. Matsunaga T. Ogawa Y. Ishihara Y. et al.
*Global Distribution of Mg-Spinel on the Moon Revealed by SELENE Spectral Profiler* **[#1768]**
We report the global distribution of Mg-rich spinels on the Moon revealed by the Spectral Profiler onboard the Japanese lunar explorer SELENE (Kaguya).

11:15 a.m. Sun Y. * Li L. Zhang Y. Z.
*Detection of Mg-Spinel Bearing Central Peaks Using $M^3$ Images* **[#1393]**
Investigation of 109 crater central peaks that global distributed for the presence of Mg-spinel lithology using $M^3$ images.

11:30 a.m. Srivastava N. * Gupta R. P.
*Spatial Distribution of Spinel in the Orientale Basin: New Insights from $M^3$ Data* **[#1509]**
$M^3$ derived spinel distribution and litho-associations in non-mare units of Orientale basin favor its origin from melt-wall rock reaction during ancient magmatism.