LUNAR REMOTE SENSING
8:30 a.m. Waterway Ballroom 6

Chairs: Lisa Gaddis
        Paul Hayne

8:30 a.m. Klima R. L. *  Hagerty J. J.  Cahill J. T. S.  Lawrence D. J.  
**Integrating Near-Infrared Derived Mineralogy and Gamma Ray Derived Chemistry of the Moon: Probing Igneous Sources from Orbit** [#2158]  
We integrate M* and Lunar Prospector data to compare the mineralogy and hydroxyl content of thorium anomalies for several locations on the lunar nearside.

8:45 a.m. Crites S. T. *  Lucey P. G.  Norman J.  
**The Mafic Component of the Lunar Crust from a Survey of Small Craters** [#1810]  
We are performing a global survey of immature small lunar craters in order to study the source of the mafic component of the lunar feldspathic highlands.

9:00 a.m. Hayne P. O. *  Ghent R.  Bandfield J. L.  Vasavada A. R.  Siegler M. A.  et al.  
**Formation and Evolution of the Moon’s Upper Regolith: Constraints from Diviner Thermal Measurements** [#3003]  
We use Diviner data to constrain the Moon’s upper regolith thickness and find that this correlates with ages of recent craters and mare basals.

9:15 a.m. Kumamoto A. *  Ono T.  Kobayashi T.  Oshigami S.  Haruyama J.  
**Determination of the Permittivity of the Lunar Surface Based on the Radar Echo Intensity Observed by the Kaguya** [#1950]  
The permittivity of the lunar surface has been determined based on the radar echo intensity and roughness of the surface observed by the Kaguya spacecraft.

9:30 a.m. Lehman K. M. *  Kramer G. Y.  Mayne R. G.  Kiefer W. S.  
**Composition Analysis of the Marius Hills Volcanic Complex Using Diviner Lunar Radiometer Experiment and Moon Mineralogy Mapper** [#1225]  
The combined datasets allowed plagioclase-rich regions to be identified along with clarifying previous compositional assessments.

**A Highly Unusual Series of Young Impact Melts and Rocky Surfaces Antipodal to Tycho Crater** [#1770]  
a unique set of features are present in LRO LROC, Diviner, and Mini-RF data. Rocky material impacted the surface from two azimuths across a 11000 sq. km region.

10:00 a.m. Hawke B. R.  Giguere T. A. *  Gaddis L. R.  Gustafson J. O.  Lawrence S. J.  et al.  
**Cryptomare and Pyroclastic Deposits on the Northern East Side of the Moon** [#1883]  
We analyzed LROC images as well as other spacecraft data to identify and characterize cryptomare and pyroclastic deposits on the northern east side of the Moon.

**The Lassell Massif — Evidence for Complex Volcanism on the Moon** [#2504]  
New LROC Wide Angle Camera, Narrow Angle Camera digital elevation models, and Diviner data support a history of complex volcanism for the Lassell Massif region.
10:30 a.m. Braden S. E. * Robinson M. S. Stopar J. D. van der Bogert C. H. Hawke B. R.

*Age and Extent of Small, Young Volcanic Activity on the Moon* [#2843]

Crater counts provide upper and lower age estimates for a subset of newly mapped small volcanic features found throughout the lunar maria.


*New* Volcanic Features in Lunar, Floor-Fractured Oppenheimer Crater [#2262]

New high-resolution data of Oppenheimer crater reveal at least eight “new” volcanic features that were previously unrecognized.

11:00 a.m. Greenhagen B. T. * Neish C. D. Bandfield J. L. Ghent R. R. Hayne P. O. et al.

Anomolously Fresh Appearance of Tsiolkovskiy Crater: Constraints from Diviner, Mini-RF, and LROC [#2987]

Tsiolkovskiy Crater has massive impact melt and is 300 Ga younger than previously reported but appears anomalously fresh in Diviner thermophysical datasets.

11:15 a.m. Moriarty D. P. III * Isaacson P. J. Pieters C. M.

NW-Central South Pole-Aitken: Compositional Diversity, Geologic Context, and Implications for Basin Evolution [#3039]

Compositional diversity in Finsen, Leibnitz, and Davison craters is investigated using M3 data to constrain the evolution of the South Pole-Aitken Basin.

11:30 a.m. Poppe A. R. * Halekas J. S. Sarantos M. Delory G. T.

Model-Based Constraints on the Lunar Exosphere Derived from ARTEMIS Pick-Up Ion Observations [#1678]

We use ARTEMIS observations of pick-up ions in the terrestrial magnetotail to constrain the density and distribution of the lunar neutral exosphere.