

Tuesday, May 24, 2016
ENDOGENOUS AND SURFACE VOLATILES
1:30 p.m. Lecture Hall

Chairs: Dana Hurley
Yang Liu

- 1:30 p.m. Hurley D. M. * Siegler M. A.
[Lunar Surface Volatiles](#) [#6046]
 This is a broad draft outline for the surface volatiles chapter that we can use to identify holes, overlaps, and contributors.
- 1:45 p.m. McCubbin F. M. *
[Endogenous Lunar Volatiles: Insights Into the Abundances of Volatiles in the Moon from Lunar Apatite](#) [#6090]
 This abstract briefly summarizes the utility of lunar apatite in understanding abundances of volatiles (F, Cl, H) in the Moon.
- 2:00 p.m. Robinson K. L. * Barnes J. J. Anand M. Taylor G. J. Franchi I. A.
[Volatiles in Evolved Lunar Rocks: Connecting Water and Chlorine](#) [#6081]
 Apollo 15 quartz monzodiorites have the lowest D/H ratios reported thus far in lunar apatite. New Cl isotope data suggests they obtained H and Cl from different sources.
- 2:15 p.m. Treiman A. H. * Boyce J. W. Greenwood J. P. Eiler J. M. Gross J.
 Guan Y. Ma C. Stolper E. M.
[D-Poor Hydrogen in Lunar Mare Basalts Assimilated from Lunar Regolith](#) [#6041]
 D/H in apatites in mare basalts decreases with Fe-Mg homogenization of their pyroxenes. This suggests that the low D/H represents hydrogen from lunar regolith, which masquerading as an igneous component.
- 2:30 p.m. Liu Y. * Guan Y. Chen Y. Taylor L. A.
[Impact Melt \(Agglutinitic Glass\) of Lunar Regolith: A "Volatile Recorder" of the Lunar Surface](#) [#6010]
 We report volatiles in impact melts of lunar soils and ancient regolith breccias.
- 2:45 p.m. Siegler M. A. * Miller E. Lucey P. G. Hayne P. O. Neumann G. A.
 Paige D. A. Greenhagen B. T.
[Evidence for Surface Volatiles on the Moon and Mercury: A Planetary Comparison](#) [#6089]
 We evaluate evidence from UV and near infrared reflectance data for surface volatiles on the Moon and Mercury. Comparison of these planetary bodies leads to new understanding (and questions) regarding water in the inner solar system.
- 3:00 p.m. Break
- 3:15 p.m. Hurley D. M. * Gladstone G. R. Stern S. A. Retherford K. D. Feldman P. D. Pryor W.
 Egan A. F. Greathouse T. K. Davis M. Versteeg M. Hendrix A. R.
[The LCROSS Plume as Observed by LRO/LAMP](#) [#6071]
 The LCROSS impact on the Moon revealed much about the composition of the volatiles in lunar PSRs.

- 3:30 p.m. Retherford K. D. * Greathouse T. K. Gladstone G. R. Hendrix A. R. Mandt K. E. Egan A. F. Kaufmann D. E. Hayne P. O. Stern S. A. Parker J. Wm. Davis M. W. Grava C. Hurley D. M. Cahill J. T. S. Stickle A. M. Liu Y. Bullock M. A. Pryor W. R. Feldman P. D. Mukherjee J. Mokashi P. Seifert C. J. Versteeg M. H.
[LRO Lyman Alpha Mapping Project \(LAMP\) Far-UV Maps: A New View of the Moon](#) [#6021]
The LRO-LAMP investigation has provided a unique view at far-UV wavelengths, and uses an innovative way to measure surface reflectance within permanently shaded regions in order to constrain the water frost abundance at the surface.
- 3:45 p.m. Hendrix A. R. * Retherford K. D. Hurley D. M. Vilas F. Mandt K. E. Greathouse T. K. Cahill J. T. S. Gladstone G. R.
[The Lunar Far-UV Albedo: Indicator of Hydration and Space Weathering](#) [#6075]
The ultraviolet, and particularly the far-ultraviolet as studied using LRO LAMP, is useful for understanding dayside, non-polar hydration as well as space-weathering effects. The depths sensed are complementary to those studied at longer wavelengths.
- 4:00 p.m. Patterson G. W. * Bussey D. B. J. Stickle A. M. Turner F. S. Jensen J. R. Nolan M. Yocky D. A. Wahl D. E. Mini-RF Team
[Mini-RF on LRO and Arecibo Observatory Bistatic Radar Observations of the Moon](#) [#6042]
Mini-RF bistatic observations of the Moon show an opposition surge for portions of the floor of Cabeus that are not in permanent shadow. The unique nature of the response may indicate the presence of near-surface deposits of water ice.
- 4:15 p.m. Monitored by Session Chairs
3-Minute Lightning Round of New Data and Perspectives
- 4:30 p.m. DISCUSSION