

Wednesday, October 22, 2014
LUNAR VOLATILES: CURRENT UNDERSTANDING I
1:30 p.m. Bldg. 200, Room 100

Chairs: Samuel Lawrence
Paul Hayne

- 1:30 p.m. Elphic R. *
LADEE and Volatiles
- 1:50 p.m. Hurley D. M. * Benna M. Mahaffy P. Elphic R. Goldstein D.
[*Water Interactions with Lunar Regolith from LADEE Observations*](#) [#3044]
 Water in lunar polar regions may arise in part from migration of water through the exosphere. We study important parameters in that migration using LADEE NMS data from engine burn experiments.
- 2:10 p.m. Paige D. *
Lunar Thermal Environment
- 2:30 p.m. McClanahan T. P. * Mitrofanov I. G. Boynton W. V. Chin G. Evans L. G. Starr R. D.
 Livengood T. Sagdeev R. Parsons A. M. Su J. J. Murray J. Sanin A. Litvak M.
 Harshman K. Hamara D. Bodnarik J.
[*Epithermal Neutrons, Illumination, Spatial Scale and Topography: A Correlative Analysis of Factors Influencing the Detection of Slope Hydration Using LRO's Lunar Exploration Neutron Detector*](#) [#3039]
 This research correlates the Moon's south polar epithermal neutron flux, topography and a visible illumination model and shows that there is a widespread hydration of poleward-facing (PF) slopes that is occurring at a continuum of spatial scales.
- 2:50 p.m. Livengood T. A. * Chin G. Sagdeev R. Z. Mitrofanov I. G. Boynton W. V. Evans L. G.
 Litvak M. L. McClanahan T. P. Sanin A. B. Starr R. D. Su J. J.
[*Diurnally Variable Hydrogen-Bearing Volatiles at the Moon's Equator: Evidence, Concentration, Transport, Implications*](#) [#3058]
 Neutron remote-sensing demonstrates significant quantities of volatiles in the equatorial region that cycle in and out of subsurface sequestration diurnally. Solar wind and micrometeoroids supply insufficient hydrogen to support equilibrium.
- 3:10 p.m. Teodoro L. F. A. * Lawrence D. J. Elphic R. C. Eke V. R. Feldman W. C. Maurice S.
[*The Search for a Diurnal Effect in Lunar Hydrogen Abundance*](#) [#3023]
 We studied the LP data exhibit diurnal variations of the same magnitude as those reported by Livengood et al 2014, however the LPNS variations are systemically anti-correlated with instrument temperature.
- 3:30 p.m. Lawrence D. J. * Peplowski P. N. Plescia J. B. Greenhagen B. T.
 Maurice S. Prettyman T. H.
[*Lunar Highlands Bulk Hydrogen Concentrations*](#) [#3038]
 A map of bulk hydrogen concentration across the lunar highlands is presented. These concentrations are measured with data from the Lunar Prospector Neutron Spectrometer.
- 3:50 p.m. BREAK
- 4:05 p.m. Smith D *
LOLA Observations - Lunar Volatiles
- 4:25 p.m. Robinson M *
LROC Observations of Permanently Shadowed Regions

- 4:45 p.m. Patterson G. W. * Bussey D. B. J. Stickle A. M. Cahill J. T. S. Spudis P. Mini-RF Team
[*Mini-RF Bistatic Observations of Cabeus Crater*](#) [#3049]
Observations of the south polar crater Cabeus indicate anomalous scattering behavior associated with crater floor materials (behavior not observed with monostatic data). We interpret this behavior as consistent with the presence of water ice.
- 5:05 p.m. DISCUSSION