LUNAR REGOLITH PROCESSES: WET, DRY, AND SWIRLY
8:30 a.m. Waterway Ballroom 1

Chairs: Annemarie Pickersgill
Wu Yunzhao

8:30 a.m. Elsila J. E. * Callahan M. P. Glavin D. P. Dworkin J. P. Noble S. K. et al. Distribution of Amino Acids in Lunar Regolith [#1127]
Amino acids were detected in lunar regoliths. Contamination is possible, but the presence of an acid-hydrolyzable extraterrestrial precursor is suggested.

8:45 a.m. Pieters C. M. * Moriarty D. P. III Garrick-Bethell I. Atypical Regolith Processes Hold the Key to Enigmatic Lunar Swirls [#1408]
Instead of low space weathering for swirls, we propose local collapse of regolith fairy castle and minor redistribution of lunar dust by local electric fields.

9:00 a.m. Hemingway D. * Garrick-Bethell I. Space Weathering at Lunar Swirls and at High Lunar Latitudes [#1979]
Space weathering effects are found to vary systematically with latitude in a way that resembles the unusual weathering trends observed at lunar swirls.

We investigate effects of space weathering at UV wavelengths, focusing on variability in the highlands indicative of differences in the degree of impact shock.

µXRD for the purpose of quantifying shock level is being applied for the first time to the feldspar group using both terrestrial impactites and Apollo samples.

9:45 a.m. Molaro J. L. * Byrne S. Grain-Scale Thermoelastic Stresses on Airless Bodies and Implications for Rock Break-Down [#1179]
We model thermoelastic stresses generated near surfaces on the Moon and Vesta, and discuss implications for regolith production on these bodies.

10:00 a.m. Bandfield J. L. * Hayne P. O. Paige D. A. What is the Surface Temperature of the Moon? [#1519]
Lunar surface temperatures separated by just a few centimeters can vary by nearly 200 K. No single “correct” temperature exists for retrieval of spectral properties.

10:15 a.m. Koeber S. D. * Robinson M. S. Speyerer E. J. LROC Observations of Permanently Shadowed Regions on the Moon [#2811]
We will present preliminary analysis of NAC images of the permanently shadow regions of the Moon.

10:30 a.m. Patterson G. W. * Bussey D. B. J. Stickle A. M. Cahill J. T. S. Carter L. M. et al. Mini-RF and the Curious Case of Cabeus Crater [#2765]
Bistatic radar observations of the crater Cabeus indicate anomalous scattering behavior associated with its floor (behavior not observed with monostatic data).
*Upper-Latitude Hydration of the Moon’s Southern Poleward-Facing Slopes [2931]*
We illustrate evidence that a pervasive hydration of the Moon’s poleward-facing slopes reaching to
–60° latitude.

11:00 a.m. Eke V. R. * Bartram S. A. Lane D. A. Smith D. Teodoro L. F. A.
*Lunar Polar Craters — Icy, Rough or just Sloping? [1853]*
What do circularly polarized radar data tell us about the possible presence of water ice deposits in
permanently shaded lunar polar craters?

11:15 a.m. Peng W. X. * Wang H. Y. Cui Dr. Zhang C. M. Liang Dr. et al.
*Active Particle-Induced X-Ray Spectrometer for Chang’e-3 YuTu Rover Mission and its First Results [1699]*
The Active Particle-induced X-ray Spectrometer onboard the Yutu rover of the Chang’e-3 mission got
its first spectrum of lunar regolith around the landing site.

11:30 a.m. Lu Y. X. Y. * Basilevsky A. T. Abdrakhimov A. M.
*Local Geology of Chang’e-3 Landing Site from Analysis of the CE-3 Descent Camera and LROC NAC Images [1116]*
Chang’e-3 landed on the rim of a young 450-m crater so the regolith there should be immature and its
material originated from the depth down to 40–50 m.