

Thursday, March 22, 2018

[R602]

**POSTER SESSION II: SPACE WEATHERING:
WHY SOME BODIES HAVE ATMOSPHERE ENVY
6:00 p.m. Town Center Exhibit Area**

Blewett D. T. **POSTER LOCATION #24**

[Mercury Hollows: A Possible Analog for Phaethon](#) [#1038]

Phaethon experiences a space-weathering environment even harsher than that of Mercury. Unusual landforms analogous to Mercury hollows may form on Phaethon.

Trang D. Gasda P. J. Corley L. M. Gillis-Davis J. J. Lucey P. G. **POSTER LOCATION #25**

[Space Weathering of Graphite: Application to Mercury](#) [#1208]

Laboratory space weathering experiments show that irradiating graphite may produce various submicroscopic carbon phases, which could be present on Mercury.

Stockstill-Cahill K. R. Izenberg N. R. Trang D.

Cahill J. T. S. Domingue D. L.

POSTER LOCATION #26

[Hapke Spectral Modeling of the Space Weathered Surface of Mercury Constrained by Compositional Information from MESSENGER](#) [#1733]

Space weathered planet / Carbon and Iron darken / Modeling spectra.

Ogliore R. C. Malaer J. B.

POSTER LOCATION #27

[Microcraters in Disaggregated Regolith-Breccia Meteorites](#) [#2506]

We disaggregated Adzhi-Bogdo (stone) and Murchison using a custom-built freeze-thaw device, imaged the residue in an SEM, and identified microcraters.

Izenberg N. R. Drabenstadt C. W. Nichols J. R. Jordan A. P. Stubbs T. J. **POSTER LOCATION #28**

[Pilot Experiments in Dielectric Breakdown Space Weathering of Planetary Regolith Analogs](#) [#1588]

No air, no thunder / Lunar simulation seeks / Lightning in the sand.

Ding X. Z. Wang D.

POSTER LOCATION #29

[The Discovery of the "Freezing and Thawing Landform" of Tycho Impact Crater of the Moon](#) [#1367]

The discovery of the "freezing and thawing landform" of Tycho impact crater of the Moon.

Jeong M. Choi Y.-J. Kim S. S. Kim I.-H. Shkuratov Y. G. et al.

POSTER LOCATION #30

[Particle Size Evolution of the Lunar Regolith and a New Maturity Index](#) [#1772]

We have analyzed the particle size of lunar regolith using polarimetric data. We find the clue to the space weathering agent motion near the Moon.

Chrbolková K. Kohout T. Ďurech J.

POSTER LOCATION #31

[Space Weathering Trends on the Moon Based on Statistical Analysis of Spectral Parameters](#) [#1878]

We will present results on space weathering trends on the Moon that we achieved by statistical analysis of spectral parameters in lunar swirl areas.

Mahanti P. Robinson M. S. Ravi S.

POSTER LOCATION #32

[Influence of Crater Size and Morphological Degradation State on the Optical Maturity of Copernican Crater Ejecta](#) [#1674]

Investigating the change in optical maturity for Copernican craters for different crater sizes and morphological degradation states.

Yasanayake C. N. Denevi B. W. Jolliff B. L. Lawrence S. J. Ghent R. R.

POSTER LOCATION #33

[The Spectral Characteristics of Lunar Agglutinates](#) [#2159]

We are separating agglutinates from six Apollo soil samples in order to characterize their spectral properties and examine their rates of formation.

Raut U. Karnes P. L. Retherford K. D. Davis M. W. Liu Y. et al. **POSTER LOCATION #34**
[Examining the Origin of the Blue Slope in the Far-Ultraviolet \(FUV\) Spectra of Lunar Soils: The Role of Nanophase Iron](#) [#2753]

Based on the laboratory spectra of Apollo soil and lunar simulant JSC-1A, we will examine the role of nanophase Fe on the FUV bluing in the LRO-LAMP spectra.

Keller L. P. Howe J. Y. Rahman Z. Thompson M. S. Zega T. J. **POSTER LOCATION #35**
[In Situ Heating Experiments on Patina Coated Lunar Rock 76015](#) [#2594]

In situ stepped heating of space-weathered opx produced vesicles and nanophase Fe metal.

Needham D. H. Fassett C. I. Hirabayashi M. Thomson B. J. **POSTER LOCATION #36**
[Local Variations in Lunar Regolith Thickness: Testing a New Model of Regolith Formation Near the Apollo 15 Landing Site](#) [#1599]

We analyze regolith thickness variations in mare units near Hadley Rille to test a new analytical model that describes regolith development by small craters.

Barker M. K. Mazarico E. Smith D. E. Sun X. Zuber M. T. et al. **POSTER LOCATION #37**
[Searching for Lunar Horizon Glow with the Lunar Orbiter Laser Altimeter \(LOLA\)](#) [#1258]

This campaign targets a parameter space region poorly constrained by previous studies: meteor stream periods at altitudes < 20 km and elongation angles < 7°.

Wilson J. K. Schwadron N. A. Jordan A. P. Spence H. E. **POSTER LOCATION #38**
 Looper M. D. et al. **POSTER LOCATION #38**
[Shallowly-Buried Hydrogenation in the Lunar Regolith: Refining Latitude and Local Time Trends](#) [#2023]

Lunar water found / Near the poles and at sunrise. / What else can we see?

Tang H. Zeng X. D. Li X. Y. Yu W. Mo B. **POSTER LOCATION #39**
[The Formation and Thermal Stability in Plagioclase by Proton Implantation](#) [#1791]

After H⁺ implantation in the plagioclase, the OH and H₂O absorption increases remarkable, and the change of the water content with temperature is obviously.

Young J. M. Glotch T. D. Legett C. Munsat T. **POSTER LOCATION #40**
[Infrared Darkening of Olivine from Simulated Micrometeoroid Impact Experiments](#) [#1760]

When dust particles / Hit exposed materials / Spectra really change.

Nicholas S. L. Young J. M. Legett C. Thieme J. Glotch T. D. **POSTER LOCATION #41**
[Initial Fe 1s XANES Measurements of Experimentally Space-Weathered Olivine](#) [#2745]

LCF of olivine and basalt glass standards to XANES spectra from experimental dust-impacted olivine suggest a contribution of FeII glass at the impacted surface.

Thompson M. S. Loeffler M. J. Morris R. V. Clemett S. J. **POSTER LOCATION #42**
 Christoffersen R. et al. **POSTER LOCATION #42**
[Simulating Progressive Space Weathering of a Carbonaceous Chondrite via Pulsed Laser Irradiation](#) [#2408]

Lasered Murchison / Organics and spectra change / Complex weathering.

Shah J. Y. Mazrouei S. Ghent R. R. **POSTER LOCATION #43**
[Error Analysis of Lunar Boulder Sizes](#) [#1736]

An error analysis of lunar boulder sizes which can better help understand boulder size-frequency distributions around different craters.