

Thursday, March 24, 2016

[R632]

**POSTER SESSION II: MERRILY MEASURING MOONLIGHT:
INSIGHTS FROM REMOTE LUNAR COMPOSITIONAL ANALYSIS**

6:00 p.m. Town Center Exhibit Area

Kim K. J. Wöhler C. Hasebe N. van Gasselt S. Berezhnoy A. A. et al. **POSTER LOCATION #442**
[Lunar Silicon Distribution as Observed by the Kaguya Gamma-Ray Spectrometer and Chandrayaan-1 Moon](#)

[Mineralogy Mapper \(M³\) Calibration](#) [#1473]

We present an investigation of the global lunar Si-distribution based on Kaguya GRS data using regression-based analysis and M³ spectral reflectance data.

Moriarty D. P. III Pieters C. M.

POSTER LOCATION #443

[South Pole — Aitken Basin as a Probe to the Lunar Interior](#) [#1763]

Using M³ data, we identify, characterize, and map sub-crustal materials excavated by the SPA-forming impact. These materials are rich in high-Mg pyroxenes.

Sim C. K. Kim S. S. Lucey P. Garrick-Bethell I. Baek G.

POSTER LOCATION #444

[Optical Maturity of Inner Walls in Lunar Craters](#) [#1859]

We analyze the OMAT differences between the north and south walls as well as the east and west walls of lunar craters in terms of space weathering fluxes.

Martinot M. Besse S. Flahaut J.

Blanchette-Guertin J.-F. Quantin C. et al.

POSTER LOCATION #445

[Mapping the Lunar Crust/Mantle Boundary with the Moon Mineralogy Mapper Instrument Data](#) [#1970]

The final goal of this study is to evaluate the lunar crust organization and compositional variations around the crust-mantle boundary at a global scale.

Wang X. Chen J. P. Xu Y. B. Zheng Y. C. Yan B. K. et al.

POSTER LOCATION #446

[Inversion of the Main Mineral Compositions and Subdivision of Tectonic Units on Lunar LQ-4 Based on Chang'e Data](#) [#2102]

This abstract talks about the distribution of FeO, Al₂O₃, Plagioclase and Pyroxene on LQ-4, Sinus Iridum region, and established a tectonic system.

Grice J. P. Donaldson Hanna K. L. Bowles N. E.

Schultz P. H. Bennett K. A.

POSTER LOCATION #447

[Investigating Young Irregular Mare Patches on the Moon Using Moon Mineralogy Mapper Observations](#) [#2106]

Moon Mineralogy Mapper data is used to determine the maturity of two Irregular Mare Patches and compare their composition with surrounding mare and craters.

Donaldson Hanna K. L. Evans R. Bowles N. E.

Schultz P. H. Greenhagen B. T. et al.

POSTER LOCATION #448

[Investigating Young \(<100 Million Years\) Irregular Mare Patches on the Moon Using Diviner Observations](#) [#2127]

Irregular mare patches (IMPs) and their surrounding mare materials are investigated using thermal infrared observations from Diviner onboard LRO.

Cohen B. A. Lawrence S. J. Petro N. E. Bart G. D. Clegg-Watkins R. N. et al. **POSTER LOCATION #449**

[Identifying and Characterizing Impact Melt Outcrops in the Nectaris Basin](#) [#1389]

A dusty jewel / Witness to cataclysm / tempts us to visit.

Chen J. Ling Z. C. Li B. Zhang J. Sun L. Z. et al.

POSTER LOCATION #450

[Lunar Global Aluminum Map: Results from Chang'e-2 Gamma Ray Spectrometer](#) [#3022]

Lunar Al map from Chang'e-2 gamma ray spectrometer.

Staid M. Sunshine J. Besse S. **POSTER LOCATION #451**

[Mapping Relative Olivine Content in Mare Basalts Using \$M^3\$ Data](#) [#2531]

The relative olivine content of mare basalts is examined by applying MGM modeling to the reflectance properties of small, optically immature craters.

Coman E. O. Jolliff B. L. Carpenter P. **POSTER LOCATION #452**

[Maturity Effects on UV/VIS Ratio and Implications for \$TiO_2\$ Detection Using LROC WAC](#) [#2497]

Mature soils exhibit UV/VIS ratios affected more by ilmenite than maturity; when LROC WAC detects these soils, 321/415 ratio and TiO_2 are well correlated.

Livengood T. A. Chin G. Mitrofanov I. G.

Boynton W. V. Bodnarik J. G. et al.

POSTER LOCATION #453

[Constructing Lunar Neutron Flux Maps with LRO/LEND Natural Resolution](#) [#3065]

Wee lunar neutrons / Made by cosmic ray impact / Map the globe, you dig?

Wu Y. Z. Tang X. Zhang X. M. Chen Y. Cai W.

POSTER LOCATION #454

[An Unusual Geology of Mare Imbrium and Implication to the Global Evolution](#) [#1406]

We reported our multi-year research for northern Imbrium, showing unusual geology with mafic highlands, olivine rich basalts, young ridges, ripple, and mounds.

Liu C. Q. Ling Z. C.

POSTER LOCATION #455

[Distributions of Mineral Assemblages and Rock Types of the Lorentz Basin Revealed by Moon Mineralogy Mapper Data](#) [#2886]

Lorentz is an archaic basin of Nectarian age, with anomalies. The mineral assemblages are a key to understand early history of lunar crustal evolution.

Hirata N. Hareyama M. Ishihara Y. Yokota Y. Nakamura R. et al.

POSTER LOCATION #456

[Spectral Characteristics of Possible Ejecta Deposits on the Antipode and Its Surrounding of Tycho Crater](#) [#1903]

Multi spectral data of the Tycho antipode region is examined to describe spectral characteristics and regional extent.

McBride M. J. Horgan B. H. N. Gaddis L. R.

POSTER LOCATION #457

[Revisiting the Mineralogy of the Aristarchus Regional Pyroclastic Deposit with New \$M^3\$ Analysis Techniques](#) [#3052]

Mapping minerals / Large volcanic deposit / All about that glass.

Bandfield J. L. Edwards C. S. Poston M. J. Klima R. L.

POSTER LOCATION #458

[Lunar \$H_2O/OH\$ - Distributions: Revised Infrared Spectra from Improved Thermal Corrections](#) [#1594]

New thermal corrections of M^3 data result in a much more prominent absorption near 3 microns. Initial results show no variation with latitude and local time.

Chen J. P. Wang X. Gao G. D. Yao M. J.

POSTER LOCATION #459

[On the Methodology of Lunar Lithological Classification Based on Spectral Characteristics as Exemplified from Apollo16 Moon Landing Area](#) [#1343]

The Apollo16 landing area was covered by melted anorthosite in the north, breccia in the south, and granitic basalts distributed zonally from north to south.

Antonenko I.

POSTER LOCATION #460

[Applying Predictive Financial Risk Models to the Identification of Lunar Basalt Spectra](#) [#2948]

Bank risk models can help identify basalt spectra in lunar data.

Barker M. K. Sun X. Mazarico E. Neumann G. A. Smith D. E. et al.

POSTER LOCATION #461

[Mapping the Lunar Phase Function in the Near-Infrared with the Lunar Orbiter Laser Altimeter](#) [#1999]

The Lunar Orbiter Laser Altimeter is mapping the near-infrared phase function of the Moon using active and passive radiometry.

Vance A. M. Christoffersen R. Keller L. P. Berger E. L. Noble S. K. **POSTER LOCATION #462**
[Evolution of Shock Melt Compositions in Lunar Regoliths](#) [#2852]
High iron content / In agglutinitic glass / Where does it come from?

Schaub D. R. Sinclair A. Lindsley D. H. Nekvasil H. Glotch T. **POSTER LOCATION #463**
[Synthesis of "Large" Pigeonite Crystals for Lunar Spectroscopic and Space Weathering Studies](#) [#2352]
We have determined a suitable protocol for synthesizing gram quantities of pigeonites with usable grain sizes for use as standards in remote sensing.

Miura Y. Tanosaki T. **POSTER LOCATION #464**
[Carbon on the Moon: Contribution of Dark Color for Moon Surface Rocks](#) [#1415]
Color on the Moon can be caused by carbon contents studied from the Moon and Earth samples with laser experiment. Impacted Moon shows carbon-bearing dark color.