

Tuesday, March 18, 2014

[T621]

**POSTER SESSION: NEW PERSPECTIVES OF THE MOON:
ENABLING FUTURE LUNAR MISSIONS
6:00 p.m. Town Center Exhibit Area**

Kokhanov A. A. Karachevtseva I. P. Zubarev A. E.

Kozlova N. A. Kreslavsky M. A.

POSTER LOCATION #284[*GIS-Based Analysis in Support of Future Russian Lunar Missions*](#) [#1235]

The main task of our work is to develop photogrammetric technique and geoanalysis methods for lunar landing site characterization.

Haruyama J. Ohtake M. Matsunaga T. Otake H. Ishihara Y. et al.

POSTER LOCATION #285[*Data Products of SELENE \(Kaguya\) Terrain Camera for Future Lunar Missions*](#) [#1304]

Products from the SELENE (Kaguya) Terrain Camera (TC) that have been or will be released are introduced.

Keller J. W. Petro N. E. McLanahan T. P. Vondrak R. R. Garvin J. B.

POSTER LOCATION #286[*Recent Results from the Lunar Reconnaissance Orbiter Mission and Plans for a Second Extended Science Mission*](#) [#2294]

Recent results from the Lunar Reconnaissance Orbiter Mission and plans for an extended mission. We will also discuss how data from LRO enable future missions.

Palmer E. E. Sykes M. V. Gaskell R. W.

POSTER LOCATION #287[*Mercator — Autonomous Navigation Using Panoramas*](#) [#2453]

We study autonomous navigation based on horizon matching. We use SPC to generate terrain and synthetic panoramas, which are then compared to a real panorama.

Bussey D. B. J. Patterson G. W. Turner F. S. Schulze R. Wahl D. E. et al.

POSTER LOCATION #288[*Bistatic Radar Observations of the Moon Using the Arecibo Observatory and Mini-RF on LRO*](#) [#2704]

We are acquiring bistatic radar data to determine if permanently shadowed polar impact craters contain volatile deposits.

Bussey D. B. J. McGovern J. A. Stickle A. M. Spudis P. D.

POSTER LOCATION #289[*Illumination Simulations in Support of Lunar Surface Operations*](#) [#2118]

The ability to produce high-fidelity illumination and communication-visibility simulations is useful in planning lander/rover missions, and surface operations.

Jung M. Kim S. S. Min K. W. Jin H. Garrick-Bethell I. et al.

POSTER LOCATION #290[*Preliminary Results from Multi-Band Polarimetric Observations of the Lunar Surface*](#) [#1315]

Wavelength dependency of the polarimetry of the lunar surface and Reiner Gamma's polarimetric properties.

Pandey D. Sriram Saran Anup Das Chakraborty M.

POSTER LOCATION #291[*Synthesis of Hybrid Dual-Polarimetric Radar Signatures with Application to Lunar Surface*](#) [#2045]

We attempt to utilize polarization signature plots synthesized from the Mini-RF data for visualization of the scattering characteristics of lunar surface.

Carter L. M. Neish C. D. Patterson G. W.

Bussey D. B. J. Cahill J. T. S. et al.

POSTER LOCATION #292[*The Mini-RF Radar: Polarization Performance and Comparison with Prior Radar Data*](#) [#2152]

We present an analysis of the polarimetry products produced by the Mini-RF radar on LRO, including quantitative comparisons with groundbased radar polarimetry.

Zimmerman M. I. Patterson G. W. Bussey D. B. J. Mini-RF Team **POSTER LOCATION #293**
[Preliminary Electromagnetic Simulations of Radar Scattering from the Lunar Surface as Applied to Mini-RF Observations](#) [#2756]

We describe full-wave electromagnetic simulations of bistatic radar scattering from the lunar surface that will increase understanding of Mini-RF observations.

Zhang D. Li Q. X. Lang L. Xiao Q. H. Zheng Y. C. et al. **POSTER LOCATION #294**
[The Bulk Density of Lunar Subsurface Layer from Diurnal Differences of Chang'e Microwave and LRO Infrared Brightness Temperature](#) [#1627]

The distinct diurnal differences of microwave brightness temperature result from the physical properties of lunar subsurface layer.

Kumamoto A. Ishiyama K. Kobayashi T. Oshigami S. Haruyama J. **POSTER LOCATION #295**
[Determination of the Effective Dielectric Constant of the Lunar Surface Based on the Echo Intensity Observed by the Kaguya](#) [#1701]

For estimation of the bulk density of the lunar uppermost layers, the effective dielectric constant has been determined by using the Kaguya radar sounder data.

Vijayan S. Mohan S. Murty S. V. S. **POSTER LOCATION #296**
[Simulated Lunar Brightness Temperature in L- and S-Band and Regolith Thickness Estimation Using an Index-Based Approach](#) [#1682]

Simulated lunar brightness temperature in L- and S-band and regolith thickness estimation using an index-based approach.

French R. A. Jurdy D. M. Robinson M. S. Watters T. R. **POSTER LOCATION #297**
[Provenance of Boulders Along Lunar Wrinkle Ridges](#) [#2489]

Boulders and high reflectance material along wrinkle ridge slopes may be related to seismic activity from impacts and recent tectonic activity.

Petro N. E. Klima R. L. **POSTER LOCATION #298**
[Moon Mineralogy Mapper Views of the Sculptured Hills: Implications for the Origins of the Station 8 Boulder from Apollo 17](#) [#2604]

Moon Mineralogy Mapper data reveal mafic units within the Sculptured Hills near the Apollo 17 landing site. The origin of the Station 8 boulder is considered.

Wagner R. V. Robinson M. S. Speyerer E. J. Plescia J. B. **POSTER LOCATION #299**
[Locations of Anthropogenic Sites on the Moon](#) [#2259]

Precise coordinates have been determined for lunar impactors and landers (including Chang'e-3) using the LROC NAC. Uncertainties range from 2 to 13 meters.

Berman P. A. Williams D. R. **POSTER LOCATION #300**
[Shadowing on Apollo 12 Solar Cells and Possible Movement of the ALSEP Central Station](#) [#2786]

Examination of the shadowing on an Apollo 12 solar cell indicates possible movement of the ALSEP central station over a seven year period.

Kouyama T. Ishihara Y. Nakamura R. Tsuchida S. Matsunaga T. et al. **POSTER LOCATION #301**
[Comparison of a New Lunar Radiometric Model Based on SELENE/SP with Satellite Observing Lunar Images](#) [#1302]

The ability of a new lunar reflectance model from the Spectral Profiler onboard SELENE to accurately validate relative sensor degradation in space has been confirmed.

Sato H. Denevi B. W. Hapke B. Robinson M. S. Boyd A. K. **POSTER LOCATION #302**
[Photometric Experiments Using LROC WAC Oblique Observations](#) [#2281]

We estimate fitting residuals using the new WAC pitch observations to examine how the current Hapke parameter maps are accurate for uncovered low phase ranges.