

Tuesday, March 21, 2017

[T346]

**POSTER SESSION I: PLANETARY SPATIAL DATA INFRASTRUCTURE IV:
NEW TECHNIQUES, DATASETS, AND INSTRUMENT CALIBRATION ADVANCES**
6:00 p.m. Town Center Exhibit Area

Neesemann A. van Gasselt S. Jaumann R. *POSTER LOCATION #673*
[Quantifying the Influence of Topography-Model-Related Distortions on Cratering Chronologies](#) [#2762]

We quantify and evaluate the effects of topography-model-related image distortions directly on chronology systems proposed for the Moon, Mars, Ceres, and Vesta.

Paganelli F. Kirk R. Le Gall A. Styles B. Rodriguez S. et al. *POSTER LOCATION #674*
[Enhancing Geological and Structural Elements Through PCA of SAR, Integrated High-Resolution Radiometry and VIMS Data on Titan](#) [#1028]

Enhancing geological and structural elements through PCA of SAR, integrated high-resolution radiometry and VIMS data on Titan.

Cisneros E. Awumah A. Brown H. M. Martin A. C. Paris K. N. et al. *POSTER LOCATION #675*
[Lunar Reconnaissance Orbiter Camera Permanently Shadowed Region Imaging — Atlas and Controlled Mosaics](#) [#2469]

The LRO/LROC Team has acquired and compiled long-exposure NAC images of the lunar permanently shadowed regions into mosaics and an atlas detailing each PSR.

Quinn D. P. Ehlmann B. L. *POSTER LOCATION #676*
[A Method for Error Analysis and Orientation Statistics of Best-Fitting Planes from Remote-Sensing Data](#) [#2980]

A new principal-components based method for error analysis and visualization of bedding orientations supports structural analysis from remote-sensing datasets.

Tar P. D. Thacker N. A. Gilmour J. D. *POSTER LOCATION #677*
[Linear Poisson Models: A New Tool for Lunar and Planetary Science](#) [#1422]

Linear Poisson Modelling is a new statistical analysis method applied to lunar and martian datasets allowing complex data to be described quantitatively.

Ferguson R. L. Laura J. R. Hare T. M. *POSTER LOCATION #678*
[THEMIS-Derived Thermal Inertia on Mars: Improved and Flexible Algorithm](#) [#1563]

This work describes the improved and flexible software tool developed and used to support the estimation of thermal inertia values for the martian surface.

Moon S. H. Choi H. L. *POSTER LOCATION #679*
[A Methodology for Generating Surface Normals of a Planetary Surface Using Image Data Obtained from Orbiter](#) [#1888]

This study introduces the workflow for obtaining surface normals of planet or moon surface image using photometric stereo from orbiter image data.

Edmundson K. L. Archinal B. A. Becker T. L. Mapel J. A. Robinson M. S. et al. *POSTER LOCATION #680*
[Connecting the Dots: Preprocessing Apollo 15 Panoramic Camera Images for Photogrammetric Control](#) [#2140]

The USGS is photogrammetrically controlling the ~1500 Panoramic Camera images of the Moon acquired on Apollo 15. Here we describe preprocessing of these images.

Williams D. R. Hills H. K. Taylor P. T. Guinness E. A. *POSTER LOCATION #681*
[Apollo Data Restoration Update: The Lunar Data Project/PDS Lunar Data Node](#) [#2424]

Apollo data / Dormant, unused for decades / Now being restored.

Alexandrov O. Beyer R. A. *POSTER LOCATION #682*
[Multi-View Shape-from-Shading for Planetary Images with Challenging Illumination](#) [#3024]
 We present a method to obtain high quality DEMs using shape from shading.

Gyalay S. Aye M. Paige D. A. *POSTER LOCATION #683*
[Recalibrating the Moon's Thermometer: LRO Diviner Nonlinear Detector Response and Opposition Effect Corrections](#) [#2655]
 We correct for nonlinear detection and extra solar-phase-angle-dependent radiance present in LRO Diviner's observations, particularly at longer wavelengths.

McDougall D. S. Shirley K. A. Greenhagen B. T. *POSTER LOCATION #684*
 Glotch T. D. Diviner Science Team
[Photometric Correction of Thermal Data from the Diviner Lunar Radiometer](#) [#2843]
 Several blank sites / Can be used to correct / Most of the data.

Sato H. Denevi B. W. Robinson M. S. Hapke B. *POSTER LOCATION #685*
[DTM Pixel Scale Effect on Photometry](#) [#1139]
 We examine how the normalized images are affected and how the θ calculation is controlled by the DTM resolution, using the LROC WAC data with various DTMs.

Chen W. L. Liu J. J. Zhang H. B. Liu D. W. Zhang X. X. et al. *POSTER LOCATION #686*
[Optical Flow Based Super-Resolution Restoration of LRO NAC Repeat-Pass Imagery of the Chang'e-3 Landing Site](#) [#1316]
 In order to improve understanding of the Chang'e-3 landing site, optical flow based SR restoration is employed to enhance the resolution of LRO NAC images.

Chen J. P. Cheng C. *POSTER LOCATION #687*
[Lunar Multi-Scale Topographic Analysis Based on Deviation from Mean Elevation](#) [#1321]
 The paper focuses on the deviation from mean elevation (DEV), and visualizes the elevation residual features at local, meso, and broad scales by DEV_{max} rasters.

Yamashita N. Prettyman T. H. *POSTER LOCATION #688*
[Archiving High-Resolution Lunar Gamma Ray Spectra](#) [#1615]
 We are going to archive fully calibrated and corrected, high-resolution gamma-ray spectra of the Moon acquired by the Kaguya mission at PDS.

Isbell C. E. Garcia P. A. *POSTER LOCATION #689*
[Creating a Planetary Data System Archive of Select Lunar Mapping and Modeling Program Products](#) [#1622]
 We describe a PDART project to preserve select LMMP data products, and associated ancillary data and documentation, within a PDS archive.

Feng J. Su Y. Dai S. Xing S. Ding C. et al. *POSTER LOCATION #690*
[An Imaging Method of Chang'e-5 Lunar Regolith Penetrating Radar](#) [#3002]
 An introduction of imaging method of Lunar Regolith Penetrating Radar (LRPR) which will be carried by the CE-5 lander.

Weirich J. R. Palmer E. E. Gaskell R. W. Barnouin O. S. *POSTER LOCATION #691*
 Al Asad M. et al.
[Application of Stereophotoclinometry \(SPC\) for the OSIRIS-REx Mission](#) [#1700]
 Testing for OSIRIS-REx made images of a synthetic digital asteroid. SPC uses these images to create a model shape, which exceeded mission requirements.

Arai T. Demura H. Kouyama T. Senshu H. Ogawa Y. et al. **POSTER LOCATION #692**
[Observed Data Products and Asteroid Mappings of Thermal Infrared Imager Onboard Hayabusa2](#) [#1708]
This study introduces the data products for observation of the asteroid 162173 Ryugu with TIR onboard the Hayabusa2 spacecraft.

D'Amore M. Le Scaon R. Palomba E. Longobardo A. Hiesinger H. **POSTER LOCATION #693**
[Automatic Machine Learning Classification Applied to Dawn/VIR Data in View of MERTIS/BepiColombo](#) [#1893]
We explored machine learning techniques to analyse Dawn/VIR data in view of MERTIS/BepiColombo and produced a multi-step classification algorithm.

Roberts J. H. Barnouin O. S. Gaskell R. W. Palmer E. E. Weirich J. et al. **POSTER LOCATION #694**
[SPCOLA: Joint Topography Solutions of Benu from Laser Altimetry and Stereophotoclinometry](#) [#2060]
Images, lidar / Two techniques to get topo / Stronger together.

Ganesh I. Porwal A. **POSTER LOCATION #695**
[A GIS Based Compilation of Morphometric Parameters of Valles Marineris ILDs](#) [#2324]
The aim is to compile a morphometric database of ILDs of VM chasma and study them using spatial statistical techniques. The morphometric parameters are presented.

Hareyama M. Ishihara Y. Demura H. Hirata N. Honda C. et al. **POSTER LOCATION #696**
[Global Classification Map of Absorption Spectrum of Lunar Reflectance Observed by Spectral Profiler/Kaguya](#) [#1706]
This report presents the global classification map of lunar absorption spectra observed by the SP/Kaguya obtained by unsupervised classification methods.

Stein A. J. Gilmore M. S. **POSTER LOCATION #697**
[GIS-Based Data Pipeline for the Extraction of Radar Emissivity and Dielectric Constant Values for Physiographic Surface Units of Venus](#) [#1183]
We build a pipeline using ArcGIS, R, and Python to calculate radar emissivity corrected for incidence angle and dielectric constants for surface units on Venus.

Liu Y. Retherford K. D. Greathouse T. K. Hendrix A. R. Cahill J. T. S. et al. **POSTER LOCATION #698**
[The Far-UV Wavelength Dependence of the Lunar Phase Curve as Seen by LRO LAMP](#) [#2814]
We discuss the FUV wavelength dependence of the lunar phase curves as seen by LAMP and report derived Hapke parameters at FUV wavelengths for our study areas.

Todd N. S. Zeigler R. A. Mueller L. P. **POSTER LOCATION #699**
[Astromaterials Curation Online Resources for Principal Investigators](#) [#3046]
This abstract describes the digital resources and data available at NASA's Astromaterials Curation website and lists the latest data repository enhancements.

Russell S. S. Smith C. L. Hutzler A. Meneghin A. Brucato J. et al. **POSTER LOCATION #700**
[EURO-CARES \(European Curation of Astromaterials Returned from Exploration of Space\): An Update](#) [#2586]
One day Europe will need a super-awesome curation facility for material returned from space. We describe it here.

Stark A. Oberst J. Scholten F. Gläser P. **POSTER LOCATION #701**
[Measurements of Moon's Rotation by Co-Registration of Laser Altimeter Profiles and Stereo Terrain Models](#) [#2304]
We perform co-registration of topographic data sets from orbital observations of the Moon to measure its rotational dynamics.