Thursday, March 10, 2011
POSTER SESSION II: MOON: DATASETS, CATALOGS, AND ARCHIVES
6:00 p.m. Town Center Exhibit Area

Scholten F. Oberst J. Matz K.-D. Roatsch T. Wählisch M. Robinson M. S. LROC Team
GLD100 — The Global Lunar 100 Meter Raster DTM from LROC WAC Stereo Models **[#2046]**
We derived a lunar 100-m raster DTM (GLD100) for latitudes <80° from 50,000 LROC WAC stereo models. Until a PDS release in summer 2010, requests from the science community for subsets (or as a whole) will be satisfied on a best-effort basis.

Beyer R. A. Archinal B. Cheng Y. Edmundson K. Howington-Krauss E. Kirk R. Li R. McEwen A. Mattson S. Meng X. Moratto Z. Oberst J. Rosiek M. Scholten F. Tran T. Thomas O. Wang W. LROC Team
LROC DTM Comparison Effort **[#2715]**
This work involves several different groups using different techniques to build DTMs from the same starting data in order to assess various absolute and relative measures of the quality of LROC NAC derived terrain data.

Gaskell R. Mastrodemos N. Hayward R. Rosiek M.
SPC Topography from Clementine Images **[#2535]**
Topography of the lunar poles, constructed using stereophotoclinometry (SPC) and Clementine images, is compared with results from LOLA and LRO wide-angle camera analyses.

Salamunićcar G. Lončarić S. Mazarico E.
From Interpolation Based Crater Detection Algorithm and LOLA Data Towards the Most Complete Global Catalog of Lunar Craters **[#1449]**
The global catalogue of 60,645 lunar craters was assembled, using new interpolation-based crater detection algorithm and LOLA data. As an accompanying result the global catalogue of 132,843 martian craters was assembled using a similar approach.

Fassett C. I. Kadish S. J. Head J. W. Smith D. E. Zuber M. T. Neumann G. A. Mazarico E.
Lunar Impact Basins: Crater Statistics and Sequence from a Lunar Orbiter Laser Altimeter (LOLA) Catalog of Large Lunar Craters (≥20 km) **[#1539]**
We use a new global crater catalog mapped using Lunar Orbiter Laser Altimeter data to examine the stratigraphy of lunar impact basins. This catalog allows us to calculate crater statistics for many basins and determine their relative sequence.

Romine G. C. Frey H. V.
Using LOLA Data to Test the Reality of Candidate Lunar Basins Derived from Older Data **[#1188]**
LOLA data were used to assess the reality of 92 candidate large basins on the Moon derived from photogeologic and earlier topographic and crustal thickness data. Thirteen of 65 unnamed candidates were eliminated as possible large basins.

Oberst J. Unbekannt H. Scholten F. Haase I. Hiesinger H. Robinson M.
A Search for Degraded Lunar Basins Using the LROC-WAC Digital Terrain Model (GLD100) **[#1992]**
We have carried out a search for degraded impact basins on the Moon using as a basis the near-global digital terrain model (GLD100), derived from LROC-WAC stereo images.

Bauer A. W. Stepinski T. F.
Machine Cataloging of Lunar Craters from Digital Terrain Model **[#1292]**
Lunar craters are identified automatically from the LOLA-based digital elevation model using a computer algorithm.

Kadish S. J. Fassett C. I. Head J. W. Smith D. E. Zuber M. T. Neumann G. A. Mazarico E.
A Global Catalog of Large Lunar Craters (≥20 km) from the Lunar Orbiter Laser Altimeter **[#1006]**
We have compiled a global catalog of large lunar craters using LOLA topography. The crater diameter and density data offer important insights regarding the age of the lunar surface and the history of the cratering flux in our solar system.

Buckingham D. T. W. Salimkumar B. Barlow N. G.
Development of a New GIS Database of Lunar Impact Craters **[#1428]**
We are producing a new GIS-based catalog of all lunar impact craters 5-km-diameter and larger across the entire Moon. We present the current status of the crater database.

Talpe M. J. Zuber M. T. Clark M. E. Mazarico E.
Regional Cataloguing of Lunar Crater Morphology **[#2549]**
Altimetry profiles of lunar craters, obtained from the Lunar Orbiter Laser Altimeter (LOLA), are decomposed to extract key crater parameters.

Bussey D. B. J. Spudis P. D. Mini-RF Team
New Insights into Lunar Processes and History from Global Mapping by Mini-RF Radar **[#2086]**
Mini-RF is a Synthetic Aperture Radar on NASA’s LRO. It uses a hybrid dual polarization architecture that permits the determination of all four Stokes parameters, which offer a powerful tool to investigate the nature of lunar radar backscatter.

Neumann G. A. Mazarico E. Smith D. E. Zuber M. T. Gläser P.
Lunar Orbiter Laser Altimeter Measures of Slope and Roughness **[#2313]**
LOLA map products are presented that characterize surface topographic properties at scales of 3–100 m unattained by previous altimetry missions, useful for geological classification of impact features and for landed science.

Mazarico E. Rowlands D. D. Neumann G. A. Torrence M. H. Smith D. E. Zuber M. T.
Selenodesy with LRO: Radio Tracking and Altimetric Crossovers to Improve Orbit Knowledge and Gravity Field Estimation **[#2215]**
The orbit reconstruction of the LRO spacecraft is significantly improved by the use of LOLA altimetric crossovers. Total position accuracy are expected to be ~10–15 m over the whole first year of mission based on orbit overlaps.

Kirk R. L. Howington-Kraus E. Becker T. L. Cook D. Barrett J. M. Neish C. D. Thomson B. J. Bussey D. B. J. Mini-RF Team
Next Steps in Radargrammetry of the Moon: Targeted Stereo Observations and Controlled Mosaic Production **[#2392]**
Rigorous geometric analysis of Mini-RF radar images lets us make topographic models with 50 m horizontal and <10-m vertical resolution from specially targeted stereo observations, as well as subpixel-accurate mosaics of the lunar poles.

Mattson S. Bartels A. Boyd A. Calhoun P. Hsu O. McEwen A. Robinson M. Siskind J. Tran T.
Continuing Analysis of Spacecraft Jitter in LROC-NAC **[#2756]**
We present the results of an ongoing study of spacecraft jitter affecting the LROC-NAC, its effects on DTMs, and potential mitigation strategies. Included is a comparison of changes in jitter conditions since the end of commissioning phase.

Han S.-C. Mazarico E. Rowlands D. D. Lemoine F. G.
New Analysis of Lunar Prospector Radio Tracking Data Improves the Nearside Gravity Field with a Higher Resolution to Degree and Order 200 **[#2404]**
We present a new global gravity model that is useful to characterize the anomalies at a spatial scale of 27 km or smaller (i.e., degree and order 200). The new model captured the gravity anomalies over smaller craters that have not been reported.

Yamamoto A. Fujita T. Tateno N. Hareyama M.
Data Visualization and Web Map Server (WMS) System for Kaguya (SELENE). **[#1645]**
"Kaguya Image Gallery" and "Kaguya 3D GIS" are the web service that exhibit visualized data and scientific result of Japanese Lunar Orbiter "Kaguya (SELENE)." We will explain about Web Map Server (WMS) system and a client application for Kaguya.

Fortezzo C. M. Hare T. M.
Digital Renovation of the Geologic Map of the Near Side of the Moon **[#2293]**
We have digitally renovated the 1971 Wilhelms and MacCauley lunar near side geologic map. The digital version is in simple cylindrical with the geology and contact locations updated based on the Lunar Orbiter mosaic and a preliminary Kaguya DEM.

Archinal B. A. Gaddis L. R. Hare T. M. Rosiek M. R. Howington-Kraus E. Lee E. Weller L. A. Kirk R. L. Edmundson K. Thomas O. H. Becker T. L. Jolliff B. L. Tran T. N. Robinson M. S. LROC Science Team
Progress on High Resolution Mapping of the Lunar South Pole-Aitken Basin Interior **[#2316]**
We are mapping the South Pole-Aitken basin interior Constellation site region of interest at high resolution using LROC and LOLA data. These data suggest it will be highly suitable as a landing site and provide a test case for future planning.

Lough T. A. Gregg T. K. P. Yingst R. A.
Assessment of Geologic Mapping Techniques at Aristarchus Plateau, the Moon **[#2013]**
We create and compare three geologic maps of Aristarchus plateau using three techniques: (1) relying heavily on compositional data; (2) using only morphologic data; and (3) synthesizing information from (1) and (2) to eliminate redundancies, but retain key geologic information.