Tuesday, March 18, 2014 [T624]
POSTER SESSION: LUNAR GEOPHYSICAL EVOLUTION: GRAIL AND MORE
6:00 p.m. Town Center Exhibit Area

Macke R. J. Kiefer W. S. Britt D. T. Consolmagno G. J. Irving A. J. ***POSTER LOCATION #321***
New Lunar Sample Density and Magnetic Susceptibility Measurements **[#1949]**
As part of a study to constrain lunar gravity models, we report new densities and magnetic susceptibilities for 21 lunar samples from NASA JSC.

Goossens S. Lemoine F. G. Sabaka T. J. Nicholas J. B. Mazarico E. et al. ***POSTER LOCATION #322***
Global Gravity Field Models of the Moon Using GRAIL Primary and Extended Mission Data **[#1619]**
We present high-resolution gravity field models of the Moon using GRAIL primary and extended mission data.

Sori M. M. Zuber M. T. ***POSTER LOCATION #323***
The Nature of Lunar Isostasy **[#1630]**
We investigate the relative importance of Airy and Pratt isostasy on the Moon using a combination of recent gravity, topography, and geochemistry datasets.

Soderblom J. M. Evans A. J. Phillips R. J.
Andrews-Hanna J. C. Melosh H. J. et al. ***POSTER LOCATION #324***
Constraints on Impact-Induced Fracturing and Brecciation of the Lunar Crust from Grail **[#2213]**
We use GRAIL data to constrain the extent of brecciation and subsurface fracturing associated with the formation of lunar impact craters.

Jozwiak L. M. Head J. W. Phillips R. J. Zuber M. T. Smith D. E. et al. ***POSTER LOCATION #325***
Lunar Floor-Fractured Craters: Intrusion Emplacement and Associated Gravity Anomalies **[#1464]**
We analyze the process of magmatic intrusion emplacement beneath lunar floor-fractured craters including surface morphologies and Bouguer gravity anomalies.

Blair D. M. Johnson B. C. Freed A. M. Melosh H. J. ***POSTER LOCATION #326***
Modeling the Geophysical History of Very Large Impact Basins: The Gravity Anomalies of the Orientale Basin **[#2105]**
We model the geophysical history of Orientale Basin, using GRAIL and LRO/LOLA data as constraints and accounting for the effects of the curvature of the Moon.

Miljkovic K. Wieczorek M. A. Collins G. S.
Solomon S. C. Smith D. E. et al. ***POSTER LOCATION #327***
Excavation of the Mantle in Basin-Forming Events on the Moon **[#1828]**
Hydrocode modeling shows that the largest basins on the lunar nearside and Moscoviense basin on the farside could have exposed mantle materials at the surface.

Ishihara Y. Nakamura R. ***POSTER LOCATION #328***
Re-Examination of Excavation Cavity of the Impact Basins of the Moon Based on GRAIL Based Crustal Thickness Model **[#1641]**
We estimate excavation cavity for lunar impact basins based on the GRAIL-based crustal thickness model and examine depth-to-diameter ratio of cavity.

Keane J. T. Matsuyama I. ***POSTER LOCATION #329***
The Contribution of Mascons to the Lunar Figure **[#2676]**
The lunar figure is significantly out of hydrostatic equilibrium. We modeled the contribution of mascons to see if they could explain the Moon's odd figure.

Williams J. G. Konopliv A. S. Lemoine F. G.
Goossens S. Asmar S. W. et al. ***POSTER LOCATION #330***
A Glimpse of Lunar Core Shape and Deep Gravity Field **[#2267]**
A GRAIL S21 value implies a misalignment of principal axes derived by Lunar Laser Ranging. A fluid outer core shaped by internal gravity can affect axes.

Williams J. G. Boggs D. H. Ratcliff J. T. ***POSTER LOCATION #331***
Free Libration Modes of a Structured Moon **[#1579]**
Inner core free librations include longitude libration, precession, and wobble modes. Periods are short enough to modify observable physical libration terms.

Barker M. K. Mazarico E. Neumann G. A. Smith D. E. Zuber M. T. ***POSTER LOCATION #332***
Detection of the Lunar Body Tide by the Lunar Orbiter Laser Altimeter **[#1629]**
We use LOLA altimetric crossovers as a global set of measurements to detect surface tidal deformation on the Moon.

Qin C. Zhong S. Wahr J. M. ***POSTER LOCATION #333***
Constraining Long-Wavelength Elastic Structure of the Lunar Mantle Using GRAIL Tidal Love Numbers **[#2761]**
The reported GRAIL k_{20}, k_{21}, k_{22} Love numbers differ by ~1–3%. We seek for long-wavelength elastic structure in the Moon to account for the variations in k_2's.

Yamada R. Noda H. Araki H. ***POSTER LOCATION #334***
Distributions of Seismic Moments of Deep Moonquakes and Estimation of Lunar Mantle Structure **[#1700]**
We present distributions of seismic moments of deep moonquakes derived from three stations data, and discuss a new lunar mantle Q model to explain the moments.

Kawamura T. Kobayashi N. Tanaka S. Lognonne P. ***POSTER LOCATION #335***
Evaluation of Observation Bias of Apollo Seismic Observation Network **[#2564]**
We will carry out a quantitative evaluation of the Apollo Seismic Network and discuss the source distribution of the deep moonquakes.

Watters T. R. Robinson M. S. Banks M. E. Daud K. Williams N. R. et al. ***POSTER LOCATION #336***
Global Distribution of Lobate Scarps on the Moon: Implications for the Current Stress State **[#2163]**
The distribution of young thrust fault scarps on the Moon may be the result of global contraction in combination with tidal stresses.

Cahill J. T. S. Lawrence D. J. Hagerty J. J. Klima R. L. Blewett D. T. ***POSTER LOCATION #337***
Surveying the South Pole-Aitken Basin Magnetic Anomaly for Remnant Impactor Metallic Iron **[#2253]**
Here we examine the lunar surface in and around the SPA basin for any evidence of the metallic iron remnants of its impactor.

Baek S.-M. Kim K.-H. Lee J.-K. Lee H.-J. Jin H. et al. ***POSTER LOCATION #338***
Characteristics of Small-Scale Magnetic Anomalies Outside of Mare Crisium **[#1965]**
We observed unusual small-scale magnetic anomalies in the vicinity of Crisium using the magnetometer on LP. We have presented a map of these anomalies.

Rückriemen T. Breuer D. Laneuville M. Spohn T. ***POSTER LOCATION #339***
Evolution of the Moon's Core in the Fe-Snow Regime **[#2546]**
We model the Fe-snow regime in the Moon's core and show that it can stop dynamo action and explain the observed remnant magnetization.

Chi P. J. ***POSTER LOCATION #340***
The Lunar Magnetic Field Environment: New Science from Apollo Data **[#2780]**
Recently restored Apollo magnetic field data have revealed ion cyclotron waves on the lunar surface. Enhancements on these data can foster further discoveries.

Harnett E. M. Kramer G. Y. ***POSTER LOCATION #341***
Simulations of Particle Impact at Lunar Magnetic Anomalies and Comparison with Spectral Observations **[#2510]**
Study of magnetic anomalies at the Moon and origin of lunar swirls using particle tracking and spectral analysis.

Fuqua H. A. Delory G. T. de Pater I. Grimm R. E. ***POSTER LOCATION #342***
Initial ARTEMIS Time Domain Electromagnetic Sounding Results from Night-Side Transient Events **[#2734]**
We use transient within low nightside ARTEMIS magnetic field measurements with forward modeling to constrain the electrical conductivity of the lunar interior.