

Monday, March 16, 2015
MERCURY: SWING LOW, SWEET CHARIOT
8:30 a.m. Waterway Ballroom 6

[M104]

Chairs: Paul Byrne
Debra Buczkowski

- 8:30 a.m. Johnson C. L. * Purucker M. E. Philpott L. C. Korth H. Anderson B. J. et al.
[*Evidence for Remanent Magnetic Fields on Mercury from MESSENGER'S Low-Altitude Campaign*](#) [#1205]
 Low-altitude magnetic field measurements made by MESSENGER at Mercury show evidence for regional-scale fields interpreted to result from remanent magnetization.
- 8:45 a.m. Mazarico E. * Genova A. Goossens S. Lemoine F. G. Smith D. E. et al.
[*The Gravity Field of Mercury After the MESSENGER Low-Altitude Campaign*](#) [#1385]
 During its low-altitude gravity campaign, MESSENGER was tracked to altitudes down to 25 km. We present an updated, higher-resolution gravity field of Mercury.
- 9:00 a.m. Murchie S. L. * Klima R. L. Denevi B. W. Ernst C. M. Keller M. R. et al.
[*Orbital Multispectral Mapping of Mercury by MESSENGER: Evidence for the Origins of Plains Units and Low-Reflectance Material*](#) [#1606]
 Orbital multispectral mapping of Mercury reveals stratigraphic relations of plains units and evidence for origin of low-reflectance material.
- 9:15 a.m. Lawrence D. J. * Feldman W. C. Nittler L. R. Peplowski P. N. Solomon S. C. et al.
[*Global Maps of Mercury's Elemental Composition: New Results from Epithermal and Fast Neutrons*](#) [#1833]
 New maps of epithermal and fast neutrons across Mercury's northern hemisphere show hydrogen and average atomic mass compositional heterogeneities.
- 9:30 a.m. Frank E. A. * Nittler L. R. Vorburger A. H. Weider S. Z. Starr R. D. et al.
[*High-Resolution Measurements of Mercury's Surface Composition with the MESSENGER X-Ray Spectrometer*](#) [#1949]
 We present updates to major-element maps of Mercury using low-orbit observations from MESSENGER's X-Ray Spectrometer.
- 9:45 a.m. Chabot N. L. * Ernst C. M. Mazarico E. Neumann G. A. Denevi B. W. et al.
[*Resolving the Surfaces of Mercury's Low-Reflectance Polar Deposits with Images from MESSENGER's Low-Altitude Campaign*](#) [#1274]
 Low-altitude images of Mercury's permanently shadowed craters provide new details on the surface morphology and evolution of the low-reflectance deposits.
- 10:00 a.m. Izenberg N. R. * Thomas R. J. Blewett D. T. Nittler L. R.
[*Are There Compositionally Different Types of Hollows on Mercury?*](#) [#1344]
 We investigate differences between Mercury hollows associated with different materials, such as low reflectance materials or pyroclastic deposits.
- 10:15 a.m. Harris R. S. * Schultz P. H. Bruck Syal M.
[*Preservation of Cometary and Asteroidal Volatiles in Impact Melt: An Overlooked Reservoir for Hollow Formation on Mercury*](#) [#2585]
 Hydrous impact melts must be considered as a source of volatiles available for the formation of hollows on Mercury.

- 10:30 a.m. Kreslavsky M. A. * Head J. W.
[*A Thicker Regolith on Mercury*](#) [#1246]
The scale-dependence of roughness contrasts and the morphology of small craters in smooth plains suggest that regolith on Mercury is thicker than on the Moon.
- 10:45 a.m. Byrne P. K. * Ostrach L. R. Denevi B. W. Chapman C. R. Fassett C. I. et al.
[*Near-Synchronous End to Global-Scale Effusive Volcanism on Mercury*](#) [#1731]
Lava eruptions/On Mercury shut off by/Global contraction.
- 11:00 a.m. Vander Kaaden K. E. * McCubbin F. M. Nittler L. R. Weider S. Z.
[*Petrologic Diversity of Rocks on Mercury*](#) [#1364]
Current XRS and GRS measurements of Mercury's surface by MESSENGER reveal a diverse set of rocks on the planet from komatiites to alkali-rich boninites.
- 11:15 a.m. Parman S. W. * Williams K. B. O'Brien H. P. Wang S. Prissel T. C. et al.
[*Phase Equilibria Constraints on Mercury Melting Conditions*](#) [#2345]
Phase equilibria experiments at low oxygen fugacity and high sulfur contents are used to constrain the formation of Mercury lava compositions.
- 11:30 a.m. Evans A. J. * Brown S. M. Solomon S. C.
[*Characteristics of Early Mantle Convection and Melting on Mercury*](#) [#2414]
Investigation of mercurian mantle stratification on form and vigor of mantle convection and the extent and duration of partial melting.