

Tuesday, March 22, 2016
POSTER SESSION I: MERCURY INSIDE OUT
 6:00 p.m. Town Center Exhibit Area

[T303]

Perry M. E. Neumann G. A. Johnson C. L.
 Phillips R. J. Ernst C. M. et al. **POSTER LOCATION #53**

[*Radio-Frequency Occultations and the Low-Degree Shape of Mercury*](#) [#2549]

We extract measurements of Mercury's radius from RF occultations of MESSENGER and then combine them with altimeter data to determine Mercury's low-degree shape.

Neumann G. A. Perry M. E. Mazarico E. Ernst C. M. Zuber M. T. et al. **POSTER LOCATION #54**
[*Mercury Shape Model from Laser Altimetry and Planetary Comparisons*](#) [#2087]

The shape of Mercury is determined precisely from laser altimetry and radio occultations. A complementary control point network from images is compared.

Mazarico E. Barker M. K. Neumann G. A. Smith D. E. Zuber M. T. **POSTER LOCATION #55**
[*Mercury's Rotational State from the Mercury Laser Altimeter*](#) [#2062]

Altimetric crossovers from data acquired by the Mercury Laser Altimeter onboard MESSENGER are used to estimate the orientation of Mercury.

Mazarico E. Genova A. Goossens S. Lemoine F. G. Smith D. E. et al. **POSTER LOCATION #56**
[*The Gravity Field of Mercury After MESSENGER*](#) [#2022]

MESSENGER radio tracking and altimetry enable the recovery of Mercury's gravity field and orientation. Our solution uses the complete dataset, up to impact.

Abrahams J. N. H. Cao H. Stevenson D. J. **POSTER LOCATION #57**
[*Inner Core Translation, True Polar Wander, and Mercury's North-South Asymmetric Magnetic Field*](#) [#2502]

We explore the implication of inner core translation and inertial interchange true polar wander on Mercury's asymmetric magnetic field.

Mariani M. J. Genova A. Iess L. **POSTER LOCATION #58**
[*BepiColombo Radio Science to Determine Mercury's Gravity and Orientation*](#) [#2703]

This paper reports the ability of BepiColombo through the Mercury Orbiter Radio science Experiment to provide a global determination of Mercury's gravity field.

Habermann M. Boujibar A. Righter K. Danielson L. Rapp J. et al. **POSTER LOCATION #59**
[*Partitioning of U, Th, and K between Metal, Sulfide, and Silicate: Insights into the Volatile Content of Mercury*](#) [#2604]

Upon the surface / Mercury's bulk volatiles / Are not as they seem.

Kaufman S. V. Corrigan C. M. McCoy T. J. Bullock E. S. **POSTER LOCATION #60**
[*Mineral Associations in Enstatite Chondrites: Possible Insights into Minerals on Mercury*](#) [#2743]

Associations between roedderite and djerfisherite in enstatite chondrites give us insight into conditions on Mercury.

Vander Kaaden K. E. McCubbin F. M. Nittler L. R.
 Peplowski P. N. Weider S. Z. et al. **POSTER LOCATION #61**
[*Mineralogy of the Mercurian Surface*](#) [#1476]

MESSENGER data/ Shows minerals are diverse/ And so are the rocks.

Stangarone C. Helbert J. Maturilli A. D'Amore M. Ferrari S. et al. **POSTER LOCATION #62**
[*Ab Initio Calculated Reflectance Spectra at Room and High Temperature of Mg-Silicates of Mercury Surface: A Tool to Interpret Thermal IR Emissivity Spectra Acquired in Remote Sensing*](#) [#2414]

Studying Mercury's surface by means of HT-IR vibrational frequencies: Ab initio calculated and compared with TIR spectra acquired in remote sensing.

Maxwell R. E. Izenberg N. R. Holsclaw G. M. **POSTER LOCATION #63**
[Implications for Iron and Carbon in Mercury Surface Materials from Ultraviolet Reflectance](#) [#1606]

We use UVVS spectral reflectance to improve Mercury's surface mineralogy and discuss the implications for variations in iron and carbon abundances.

Phillips M. S. Emery J. P. Moersch J. E. **POSTER LOCATION #64**
[Hollows on Mercury: No Geographic Trends in Reflectance](#) [#2178]

Trends in reflectance / Geographically absent / In Hollow features.

Frank E. A. Potter R. W. K. Abramov O. Mojzsis S. J. Nittler L. R. **POSTER LOCATION #65**
[Investigations into the Origin of Mercury's High-Magnesium Region](#) [#1270]

Here we explore scenarios for the emplacement of Mercury's high-Mg region and test the likelihood of an impact origin.

Kreslavsky M. A. Head J. W. Neumann G. A. Zuber M. T. Smith D. E. **POSTER LOCATION #66**
[Features of the Northern Smooth Plains of Mercury Revealed by Detrended MLA Topography: Comparison with the Moon](#) [#1333]

High-precision topography from MLA shows that volcanic emplacement style of Borealis Planitia on Mercury differs from lunar mare-forming volcanism.

Byrne P. K. Fassett C. I. Klimczak C. **POSTER LOCATION #67**
 Ostrach L. R. Chapman C. R. et al.
[The Interplay Between Volcanism and Tectonics on Mercury](#) [#1227]

Mercury has linked / Volcanic and tectonic / Histories ohhh yeeaaaahhh...

Fegan E. R. Rothery D. A. Marchi S. Conway S. J. Anand M. et al. **POSTER LOCATION #68**
[Late Movement of Basin-Edge Lobate Scarps on Mercury](#) [#2359]

Compression of Mercury's surface resulted in lobate scarps at the edge of basin volcanic fills. Activity on these features appears to have ceased ~1 Ga.

Fegan E. R. Rothery D. A. Conway S. J. Anand M. **POSTER LOCATION #69**
[Mercury Catenaes: Linear Features and Lighting Bias](#) [#2945]

We show lighting bias affects the results of orientation analysis even for large linear features, relevant for catenae and lobate scarps.

Galluzzi V. Ferranti L. Guzzetta L. Giacomini L. Massironi M. et al. **POSTER LOCATION #70**
[Investigating the Architecture and Evolution of the Victoria Rupes — Antoniadi Dorsum Array, Mercury](#) [#2164]

This work describes the structural and timing analyses done on the fault systems located inside the H02 quadrangle of Mercury.

Giacomini L. Massironi M. Ferrari S. Zagato N. **POSTER LOCATION #71**
[Dating the Activity of Tectonic Systems on Mercury](#) [#1872]

We dated the activity of two thrust systems on Mercury. The results allowed us to better constrain the beginning of the contraction of the planet.

Gemperline J. D. Hynek B. M. Robbins S. J. **POSTER LOCATION #72**
[Initial Results from Buffered Crater Counting for Two Large Rupes on Mercury Indicate Possible Influence from Secondary Craters](#) [#2457]

Buffered crater counting for two rupes on Mercury give an age of >4.0 Ga, indicating secondary crater populations may be influencing crater statistics.

Banks M. E. Xiao Z. Braden S. E. Marchi S. Chapman C. R. et al. **POSTER LOCATION #73**
[Revised Age Constraints for Mercury's Kuiperian and Mansurian Systems](#) [#2943]

Densities of fresh craters are used to estimate revised age limits for Mercury's Kuiperian and Mansurian systems of ~300 Ma and ~1.9 Ga respectively.

Wright J. Rothery D. A. Balme M. R. Conway S. J. **POSTER LOCATION #74**
[Preliminary Observations of Rustaveli Basin, Mercury](#) [#2063]

This impact basin is currently understudied. We introduce our observations of the young age, smooth infill, irregular peak-ring and polygonality of Rustaveli.

Kinczyk M. J. Prockter L. M. Chapman C. R. Susorney H. C. M. **POSTER LOCATION #75**
[A Morphological Evaluation of Crater Degradation on Mercury: Revisiting Crater Classification Using MESSENGER Data](#) [#1573]

We describe an updated approach to crater classification on Mercury and discuss the results of classifying craters on a global scale.

Horstman R. M. Barlow N. G. **POSTER LOCATION #76**
[Summit Pit Craters on Mercury and Comparisons to Central Peak Craters](#) [#1156]

We have used MESSENGER MDIS images to identify central pit and peak craters on Mercury. Results indicate that summit pits form by collapse of central peaks.

Fastook J. L. Head J. W. **POSTER LOCATION #77**
[Cold-Based Glaciation on Mercury: Accumulation and Flow of Ice in Permanently-Shadowed Circum-Polar Crater Interiors](#) [#1162]

An ice sheet model is used to evaluate accumulation and flow of ice in permanently-shadowed circum-polar crater interiors on Mercury.

Deutsch A. N. Head J. W. Fassett C. I. Chabot N. L. **POSTER LOCATION #78**
[Ice Deposits at Mercury's North Polar Region: Host Craters Provide Maximum Age](#) [#2319]

We present crater counts and crater size-frequency distributions for ice-hosting craters to estimate the maximum age of polar deposits at Mercury's north pole.

Chabot N. L. Ernst C. M. Nair H. Deutsch A. N. Head J. W. et al. **POSTER LOCATION #79**
[Imaging of Mercury's Polar Deposits During MESSENGER's Low-Altitude Campaign](#) [#1252]

Results from this campaign support the theory that all of Mercury's available cold traps are occupied by volatiles and water ice.

Merline W. J. Chapman C. R. Tamblyn P. M. Nair H. Chabot N. L. et al. **POSTER LOCATION #80**
[Search for Vulcanoids and Mercury Satellites from MESSENGER](#) [#2765]

During the cruise/orbital phases of the MESSENGER mission, we searched for vulcanoids and Mercury satellites. No detections of either class of object were made.