

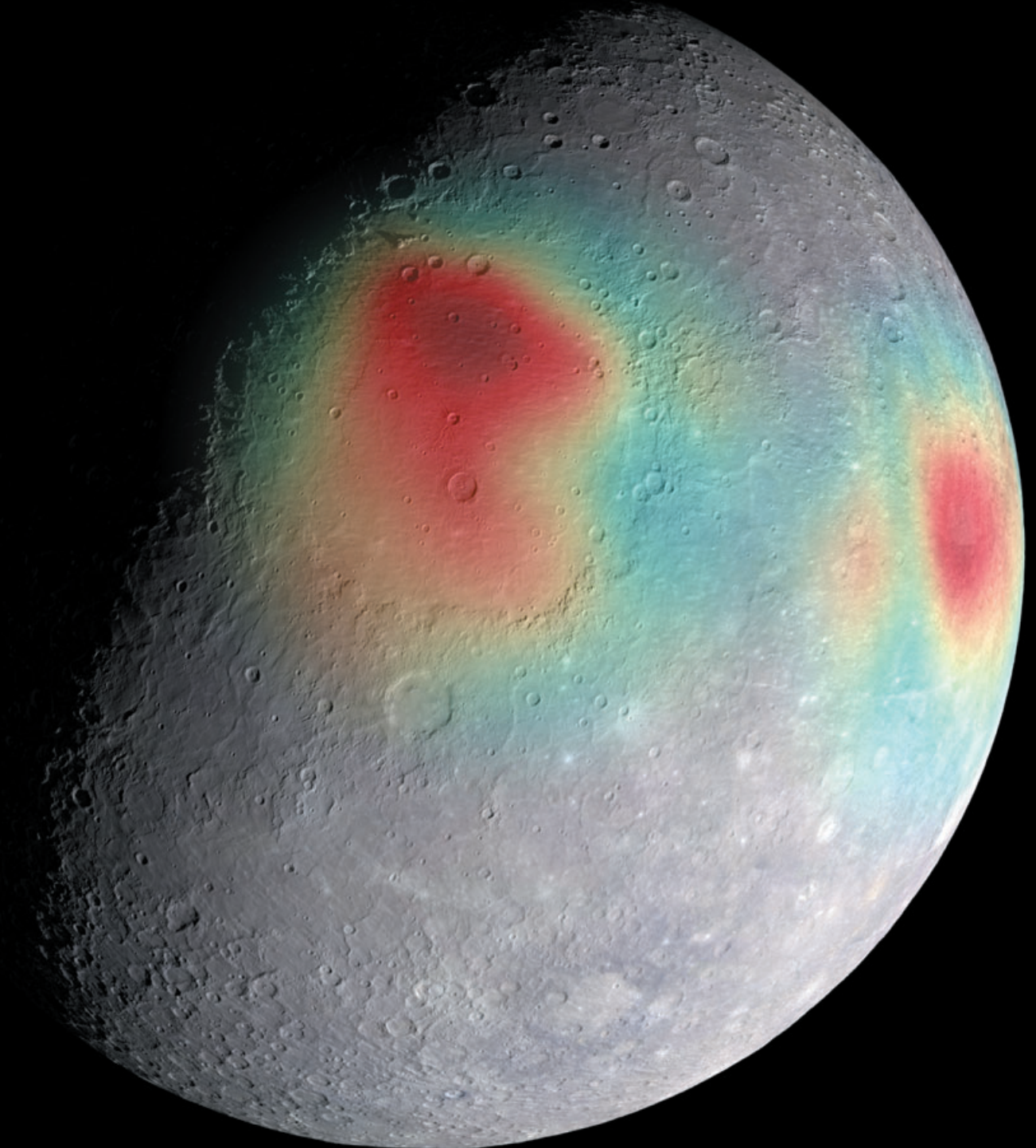
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# Planets

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# Journal of Geophysical Research Planets

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## Research Articles

- 2417** *Erwan Mazarico, Antonio Genova, Sander Goossens, Frank G. Lemoine, Gregory A. Neumann, Maria T. Zuber, David E. Smith, and Sean C. Solomon*  
The gravity field, orientation, and ephemeris of Mercury from MESSENGER observations after three years in orbit (doi 10.1002/2014JE004675)
- 2437** *M. R. Salvatore and P. R. Christensen*  
On the origin of the Vastitas Borealis Formation in Chryse and Acidalia Planitiae, Mars (doi 10.1002/2014JE004682)
- 2457** *D. Shoji and K. Kurita*  
Compositional diapirism as the origin of the low-albedo terrain and vaporization at midlatitude on Ceres (doi 10.1002/2014JE004695)
- 2471** *T. C. Duxbury, P. Christensen, D. E. Smith, G. A. Neumann, R. L. Kirk, M. A. Caplinger, A. A. Albee, N. V. Seregina, G. Neukum, and B. A. Archinal*  
The location of Airy-0, the Mars prime meridian reference, from stereo photogrammetric processing of THEMIS IR imaging and digital elevation data (doi 10.1002/2014JE004678)
- 2487** *Yuni Lee, Michael R. Combi, Valeriy Tenishev, and Stephen W. Bougher*  
Hot carbon corona in Mars' upper thermosphere and exosphere: 2. Solar cycle and seasonal variability\* (doi 10.1002/2014JE004669)
- \*Companion to Lee et al. [2014] doi:10.1002/2013JE004552.**
- 2510** *K. Noguchi, S. Ikeda, T. Kuroda, S. Tellmann, and M. Pätzold*  
Estimation of changes in the composition of the Martian atmosphere caused by CO<sub>2</sub> condensation from GRS Ar measurements and its application to the rederivation of MGS radio occultation measurements (doi 10.1002/2014JE004629)
- 2522** *M. P. Golombek, N. H. Warner, V. Ganti, M. P. Lamb, T. J. Parker, R. L. Fergason, and R. Sullivan*  
Small crater modification on Meridiani Planum and implications for erosion rates and climate change on Mars (doi 10.1002/2014JE004658)
- 2548** *David A. Glenar, Timothy J. Stubbs, Joseph M. Hahn, and Yongli Wang*  
Search for a high-altitude lunar dust exosphere using Clementine navigational star tracker measurements (doi 10.1002/2014JE004702)
- 2568** *Danielle Piskorz, Linda T. Elkins-Tanton, and Suzanne E. Smrekar*  
Coronae formation on Venus via extension and lithospheric instability (doi 10.1002/2014JE004636)
- 2583** *Paul E. Geissler*  
The birth and death of transverse aeolian ridges on Mars (doi 10.1002/2014JE004633)
- 2600** *G. S. Collins*  
Numerical simulations of impact crater formation with dilatancy (doi 10.1002/2014JE004708)
- 2620** *Ingrid J. Daubar, C. Atwood-Stone, S. Byrne, A. S. McEwen, and P. S. Russell*  
The morphology of small fresh craters on Mars and the Moon (doi 10.1002/2014JE004671)
- 2640** *Erwin Dehouck, Scott M. McLennan, Pierre-Yves Meslin, and Agnès Cousin*  
Constraints on abundance, composition, and nature of X-ray amorphous components of soils and rocks at Gale crater, Mars (doi 10.1002/2014JE004716)

- 2658** Valeriy Tenishev, Doğa Can Su Öztürk, Michael R. Combi, Martin Rubin, Jack Hunter Waite, and Mark Perry  
Effect of the Tiger Stripes on the water vapor distribution in Enceladus' exosphere (doi 10.1002/2014JE004700)
- 2668** Wouter A. Marra, Ernst Hauber, Stuart J. McLelland, Brendan J. Murphy, Daniel R. Parsons, Susan J. Conway, Manuel Roda, Rob Govers, and Maarten G. Kleinhans  
Pressurized groundwater outflow experiments and numerical modeling for outflow channels on Mars  
(doi 10.1002/2014JE004701)
- 2694** Scott D. Guzewich, Michael D. Smith, and Michael J. Wolff  
The vertical distribution of Martian aerosol particle size (doi 10.1002/2014JE004704)

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**Cover.** In this issue, *Mazarico et al.* [DOI: 10.1002/2014JE004675] present maps of the gravity field of Mercury derived from the analysis of the radio tracking data acquired by the MESSENGER spacecraft. Overlaid on a mosaic obtained by MESSENGER's Mercury Dual Imaging System and illuminated with a shape model determined from stereo-photoclinometry, the gravity anomalies are shown in false color. Red tones indicate mass concentrations, centered on the Caloris basin (center) and the Sobkou region (right limb). Such large-scale gravitational anomalies are signatures of subsurface structure and evolution. The north pole is near the top of the sunlit area. See pp. 2417–2436. Credit: NASA/Goddard Space Flight Center Science Visualization Studio/Johns Hopkins University Applied Physics Laboratory/Carnegie Institution of Washington.