

# Steven A. Hauck, II

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Planetary Sciences  
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## Education

- Washington University in St. Louis Earth and Planetary Sciences Ph.D. – 2001
- Washington University in St. Louis Earth and Planetary Sciences A.M. – 1998
- University of Minnesota Aerospace Engineering and Mechanics B.A.E.M. – 1996

## Appointments

- Professor Case Western Reserve University 2015 – Present
- Associate Professor Case Western Reserve University 2009 – 2015
- Assistant Professor Case Western Reserve University 2003 – 2009
- Postdoctoral Associate Carnegie Institution of Washington 2001 – 2003
- Graduate Research Assistant Washington University in St. Louis 1996 – 2001
- Graduate Teaching Assistant Washington University in St. Louis 1996 – 1999
- Undergraduate Teaching Assistant University of Minnesota 1995 – 1996
- Undergraduate Research Assistant University of Minnesota 1994

## Honors

- UCITE Mentoring Fellow, Case Western Reserve University 2013 – 2014
- Nominee, John S. Diekhoff Excellence in Graduate Mentoring Award 2011, 2015
- MESSENGER Participating Scientist 2007 – Present
- Stephen E. Dworkin Planetary Geoscience Student Paper Award – Honorable Mention 1997  
◦ *Geological Society of America.*
- National Merit Scholar 1992

## Service to Community

- Editor-in-Chief, *Journal of Geophysical Research – Planets* 2015 – 2018
- Virtual Options Advisory Group, AGU 2015
- Organizer, 30<sup>th</sup> NASA MESSENGER Science Team Meeting, CWRU 2013
- Co-chair, Organizing Committee, *Workshop on the Evolution and Constitution of Mercury's Interior*, Chicago, IL 2012 – 2013
- National Research Council, Planetary Science Decadal Survey Inner Planets Panel 2009 – 2010
- Guest Editor, *Icarus*, MESSENGER Special Issue 2009 – 2010
- NASA Venus Exploration Analysis Group – *Planetary Formation and Evolution Focus Group* 2005 – 2009
- Associate Editor, *Journal of Geophysical Research – Planets* 2003 – 2007
- Session Organizer, Fall 2005 AGU Meeting, *Diversity of Planetary Magnetic Fields in the Solar System* 2005
- Proposal Reviewer, NASA, NSF, Netherlands Organization for Scientific Research (NWO), Deutsche Forschungsgemeinschaft (German Funding agency DFG), Swiss National Science Foundation

- Peer Reviewer, *Astrobiology*, *Astrophysical Journal*, *Earth and Planetary Science Letters*, *Eos Transactions of the American Geophysical Union*, *Geochimica et Cosmochimica Acta*, *Geophysical Research Letters*, *Icarus*, *Journal of Geophysical Research*, *Nature*, *Physics of the Earth and Planetary Interiors*, *Planetary and Space Science*, *Progress in Earth and Planetary Science*, *Treatise on Geophysics*

### **Institutional Service**

- VP of ITS/CIO Cabinet Member 2015 – Present
- Faculty Sponsor for CWRU Information Technology Strategic Plan 2015 – 2016
- Advisory Committee on Research Computing 2005 – Present
- ITS Network Focus Group 2013 – 2014
- ITS Academic Technologies Faculty Support Site Focus Group 2012
- Admissions Event for Admitted Students and Alumni, Washington, DC 2013
- Faculty Senate Committee on Information and Communication Technology Fall 2012
- Freedman Fellows Selection Committee 2012, 2015
- Admissions Event for Admitted Students and Alumni, Washington, DC 2012
- Arts and Sciences Strategic Planning Task Force on Infrastructure 2008, 2014
- University Undergraduate Faculty Curriculum Committee 2005 – 2007
- Case High Performance Computing Technical Working Group 2004 – 2005

### **Department Service**

- Undergraduate Advisor for EEPS Majors 2014 – Present
- Ph.D. Program Review Self-Study Committee 2013 – 2014
- Faculty Search Committee 2012 – 2013
- Faculty Search Committee 2009 – 2010
- Website Committee 2006 – Present
- Graduate Admissions Committee 2003 – Present
- Journal Club Coordinator 2003 – Present
- Department *Experience Case* Coordinator 2006 – 2009
- Faculty Search Committee 2004 – 2005
- Department Seminar Coordinator 2004 – 2006

### **Advising and Mentoring**

- Post-doctoral: Nathalie C. Michel (2011 – 2013), Audrey Martin (w/J. Van Orman, 2013 – 2015), Ludovic Huguet (2016 – Present)
- Ph.D: J. Andreas Ritzer (2004 – 2010), Katherine Crispin (w/J. Van Orman, 2005 – 2011), Jeffrey Balcerski (2008 – 2015), Robert Moore (w/J. Van Orman, 2013 – Present).
- Undergraduate research: Derek Smith (Summer 2005), David Blair (2005 – 2007), Zachary Newman (2006 – 2007), Andrew Opsitnick (2007 –2008), Andrew Enns (2008), Marinda Mitchell (Summer 2009 –Spring 2010), Peng (Victoria) Sun (2011 – 2015), Rebecca Steely (Fall 2011), Mark Richardson (2011 – 2012), Emilie Dunham (2012 – 2013), Zachary Williams (Fall 2013 – Fall 2014), Nihar Chhatiawala (2013 –2014), Anthony Dario (2013 – 2014), Cullin Brown (Spring 2014), Brittany Adams (North Carolina State University, Summer 2015), Patrick Shoer (Summer 2015 – Present), Justo Karell (Fall 2015).
- Thesis and/or Qualifications Examination committees: Molly Yunker (M.S. 2005), Yan Liu (Ph. D. Civ. Eng. 2011), Bin (Benjamin) Zhang (Ph.D. student in Civ. Eng., 2007), Katherine Crispin (Ph.D. 2011), Ruth Jacob (Ph.D. 2015), Jian Han (current Ph.D. student), Julie Bloxson (current Ph.D. student), Alexander Stark (Ph.D., 2015 TU Berlin, Berlin, Germany)
- Case Western Reserve University Geological Society (CWRUGS) Advisor 2005 – 2010

### **Professional Society Memberships**

- American Geophysical Union 1994 – Present
- Geological Society of America 2011 – Present

### **Invited Professional Presentations**

- Hyland Software, Cleveland 2015
- BepiColombo – MESSENGER Joint Meeting, Berlin, Germany 2015
- Case Western Reserve University – Department of Astronomy 2015
- Carnegie Institution for Science – Geophysical Laboratory 2014
- Case Western Reserve University – Department of Physics 2014
- Ohio Section of the American Association of Physics Teachers 2013
- Gordon Research Conference – Interior of the Earth 2013
- AGU Fall Meeting – Terrestrial Planetary Cores Session 2011
- Case Western Reserve University – Department of Geological Sciences 2010
- University of Akron 2010
- Southwest Research Institute, Boulder 2010
- University of California – Los Angeles 2007
- JASON Project Professional Development Workshop 2005
- Case Western Reserve University – Department of Astronomy 2004
- University of Illinois at Chicago 2003
- Case Western Reserve University 2003
- 34<sup>th</sup> Interface Foundation Symposium, Montreal 2002
- Princeton University 2001
- Brown University – Vernadsky Institute Microsymposium 1999

### **Invited Public Lectures**

- College Club of Cleveland 2015
- Pluto Flyby Event, Institute for Science of Origins and Happy Dog 2015
- Science Café Cleveland 2015
- Akron Physics Club 2015
- Frontiers of Astronomy Lecture Series, CWRU Dept. of Astronomy, Cleveland Astronomical Society, and Cleveland Museum of Natural History 2013
- Cleveland Astronomical Society 2013
- Baldwin-Wallace University, Burrell Memorial Observatory 2012
- Akron Physics Club 2011
- Cleveland Astronomical Society 2010
- Third Saturday Series, NASA Glenn Research Center Visitor's Center 2008
- Frontiers of Astronomy Lecture Series, CWRU Dept. of Astronomy, Cleveland Astronomical Society, and Cleveland Museum of Natural History 2005
- Cleveland Astronomical Society 2005
- Ecophilia 2004
- Northern Ohio Geological Society 2004

### **Workshops**

- Workshop on Venus Exploration Targets, Houston, TX 2014
- Workshop on the Evolution and Constitution of Mercury's Interior, Chicago, IL 2013
- Early Career Faculty Workshop: Teaching, Research, and Managing Your Career, College of William and Mary 2004

## External Funding

- National Aeronautics and Space Administration 2015 – 2018
  - Solar System Workings Program, Title: *Dynamics and consequences of metallic core evolution*
  - Role: Principle Investigator
- National Aeronautics and Space Administration 2012 – 2016
  - Planetary Geology and Geophysics Program, Title: *High-pressure experimental constraints on the viability of iron snow as a driver for terrestrial planetary dynamos*
  - Role: Principle Investigator
- National Aeronautics and Space Administration 2008 – 2012
  - Lunar Advanced Science and Exploration Research Program, Title: *Impact Basins and the Evolution of the Lunar Crust and Lithosphere*
  - Role: Principle Investigator
- National Aeronautics and Space Administration 2007 – 2016
  - MESSENGER Participating Scientist Program, Title: *Contributions to MESSENGER and the Geophysical Structure and Evolution of Mercury*
  - Role: Principle Investigator
- National Aeronautics and Space Administration 2005 – 2009
  - Outer Planets Research Program, Title: *Thermophysical Evolution of Icy Satellite Interiors*
  - Role: Principle Investigator
- National Aeronautics and Space Administration 2004 – 2008
  - Mars Data Analysis Program, Title: *Martian Lithospheric Structure*
  - Role: Principle Investigator

## Other proposals

- Advanced Photon Source, Argonne National Laboratory 2014
  - GSECARS, Beam line 13-IDD
  - Melting and phase relation of Fe-FeSi-FeS-Fe<sub>3</sub>C at Mercury's core conditions, GUP 37172
  - Role: Experimenter, PI: Audrey Martin (postdoc).

## Peer-reviewed Publications (Hauck, his students and post-docs in bold, § = student author)

- §Balcerski, J. A., S. A. Hauck, II, §P. Sun, et al., Tilted crater floors as records of Mercury's surface deformation, *Journal of Geophysical Research: Planets*, in prep.
- §Balcerski, J. A., S. A. Hauck, II, A. J. Dombard, Viscoelastic evolution of uplifted mantle beneath lunar impact basins, *Icarus*, in prep.
- §Balcerski, J. A., S. A. Hauck, II, A. J. Dombard, Generation and retention of superisostatic states in lunar impact basins, *Earth and Planetary Science Letters*, in prep.
- Johnson, C. L., L. C. Philpott, B. A. Anderson, H. Korth, S. A. Hauck, II, D. Heyner, R. J. Phillips, R. M. Winslow, S. C. Solomon, MESSENGER observations of induced magnetic fields in Mercury's core, *Geophysical Research Letters*, submitted.
- Peale, S. J., J.-L. Margot, S. A. Hauck, II, S. C. Solomon, Consequences of a solid inner core on Mercury's spin configuration, *Icarus*, 264, 443-455, doi:10.1016/j.icarus.2015.09.024, 2016.
- Perry, M. E., G. A. Neumann, R. J. Phillips, O. S. Barnouin, C. M. Ernst, D. S. Kahan, S. C. Solomon, M. T. Zuber, D. E. Smith, S. A. Hauck, II, S. J. Peale, J.-L. Margot, E. Mazarico, C. L.

- Johnson, R. W. Gaskell, J. H. Roberts, R. L. McNutt, Jr., J. Oberst, The low-degree shape of Mercury, *Geophysical Research Letters*, 42, 6951-6958, doi:10.1002/2015GL065101, 2015.
- Johnson, C. L., R. J. Phillips, M. E. Purucker, B. J. Anderson, P. K. Byrne, B. W. Denevi, J. M. Feinberg, **S. A. Hauck, II**, J. W. Head II, H. Korth, P. B. James, E. Mazarico, G. A. Neumann, L. C. Philpott, M. A. Siegler, N. A. Tsyganenko, S. C. Solomon, Low-altitude magnetic field measurements by MESSENGER reveal Mercury's ancient crustal field, *Science*, 348, 892-895, doi: 10.1126/science.aaa8720, 2015.
  - Watters, T. R., M. M. Selvens, M. E. Banks, **S. A. Hauck, II**, K. J. Becker, M. S. Robinson, Distribution of large-scale contractional tectonic landforms on Mercury: Implications for the origin of global stresses, *Geophysical Research Letters*, 42, 3755-3763, doi: 10.1002/2015GL063570, 2015.
  - Weider, S. Z., L. R. Nittler, R. D. Starr, E. J. Crapster-Pregont, P. N. Peplowski, J. W. Head, P. K. Byrne, **S. A. Hauck, II**, S. C. Solomon, Evidence for geochemical terranes on Mercury: The first global mapping of major elements on the surface of the inner most planet, *Earth and Planetary Science Letters*, 416, 109-120, doi:10.1016/j.epsl.2015.01.023, 2015.
  - Byrne, P. K., C. Klimczak, A. M. C. Şengör, S. C. Solomon, T. R. Watters, and **S. A. Hauck, II**, Mercury: Global tectonics on a contracting planet, *Nature Geoscience*, 7, 301-307, doi:10.1038/ngeo2097, 2014.
  - Şpadovan, S., J.-L. Margot, S. A. Hauck, II, W. Moore, S. C. Solomon, The tides of Mercury and possible implications for its interior structure, *Journal of Geophysical Research: Planets*, doi: 10.1002/2013JE004459, 2014.
  - Peale, S. J., J.-L. Margot, **S. A. Hauck, II**, and S. C. Solomon, Effect of core-mantle and tidal torques on Mercury's spin axis orientation, *Icarus*, 231, 206-220 doi:10.1016/j.icarus.2013.12.007, 2014.
  - **Hauck, S. A., II**, J.-L. Margot, S. C. Solomon, R. J. Phillips, C. L. Johnson, F. G. Lemoine, E. Mazarico, T. J. McCoy, S. Padovan, S. J. Peale, M. E. Perry, D. E. Smith, M. T. Zuber, The curious case of Mercury's internal structure, *Journal of Geophysical Research: Planets*, 118, 1204-1220, doi:10.1002/jgre.20091, 2013.
  - **Michel, N. C., S. A. Hauck, II**, S. C. Solomon, R. J. Phillips, J. H. Roberts, M. T. Zuber, Thermal evolution of Mercury as constrained by MESSENGER observations, *Journal of Geophysical Research*, 118, 1033-1044, doi:10.1002/jgre.20049, 2013.
  - Zolotov, M. Yu., A. L. Sprague, **S. A. Hauck, II**, L. R. Nittler, S. C. Solomon, S. Z. Weider, The redox state, FeO content, and origin of sulfur-rich magmas on Mercury, *Journal of Geophysical Research*, 118, doi:10.1029/2012JE004274, 2013.
  - Dombard, A. J., **S. A. Hauck, II**, **Ş. J. A. Balcerski**, On the origin of mascon basins on the Moon (and beyond), *Geophysical Research Letters*, 40, 28-32, doi:10.1029/2012GL054310, 2013.
  - Stockstill-Cahill, K. R., T. J. McCoy, L. R. Nittler, S. Z. Weider, **S. A. Hauck, II**, Magnesium-rich crustal compositions on Mercury: Implications for magmatism from petrologic modeling, *Journal of Geophysical Research*, 117, E00L15, doi:10.1029/2012JE004140, 2012.
  - Margot, J.-L., S. J. Peale, S. C. Solomon, **S. A. Hauck, II**, F. D. Ghigo, R. F. Jurgens, M. Yseboodt, J. D. Giorgini, S. Padovan, D. B. Campbell, Mercury's moment of inertia from spin and gravity data, *Journal of Geophysical Research*, 117, E00L09, doi:10.1029/2012JE004161, 2012.
  - Zuber, M. T., D. E. Smith, R. J. Phillips, S. C. Solomon, G. A. Neumann, **S. A. Hauck, II**, S. J. Peale, O. S. Barnouin, J. W. Head, C. L. Johnson, F. G. Lemoine, E. Mazarico, X. Sun, M. H. Torrence, A. M. Freed, C. Klimczak, J.-L. Margot, J. Oberst, M. E. Perry, R. L. McNutt, Jr., **Ş. J. A. Balcerski**, **N. Michel**, M. J., Talpe, D. Yang, Topography of the northern hemisphere of Mercury from MESSENGER laser altimetry, *Science*, 336, 217-220, doi: 10.1126/science.1218805, 2012.

- Smith, D. E., M. T. Zuber, R. J. Phillips, S. C. Solomon, **S. A. Hauck, II**, F. G. Lemoine, E. Mazarico, G. A. Neumann, S. J. Peale, J.-L. Margot, C. L. Johnson, M. H. Torrence, M. E. Perry, D. D. Rowlands, S. Goossens, J. W. Head, A. H. Taylor, Gravity field and internal structure of Mercury from MESSENGER, *Science*, 336, 214-217, 2012.
- Peplowski, P. N., L. G. Evans, **S. A. Hauck, II**, T. J. McCoy, W. V. Boynton, J. J. Gillis-Davis, D. S. Ebel, J. O. Goldsten, D. K. Hamara, D. J. Lawrence, R. L. McNutt, L. R. Nittler, S. C. Solomon, E. A. Rhodes, A. L. Sprague, R. D. Starr, K. R. Stockstill-Cahill, Radioactive elements on Mercury's surface from MESSENGER: Implications for the planet's formation and evolution, *Science*, 333, 1850-1852, doi: 10.1126/science.1211576, 2011.
- §Vilim, R., S. Stanley, **S. A. Hauck, II**, Iron snow zones as a mechanism for generating Mercury's weak observed magnetic field, *Journal of Geophysical Research*, 115, E11003, doi: 10.1029/2009JE003528, 2010.
- Blewett, D. T., **S. A. Hauck, II**, H. Korth, Introduction to the special issue of *Icarus* on "Mercury after Two MESSENGER Flybys", *Icarus*, 209, 1-2, 2010.
- Zuber, M. T., L. G. J. Montesi, G. T. Farmer, **S. A. Hauck, II**, §**J. A. Ritzer**, R. J. Phillips, S. C. Solomon, D. E. Smith, M. J. Talpe, J. W. Head III, G. A. Neumann, T. R. Watters, C. L. Johnson, Accommodation of lithospheric shortening on Mercury from altimetric profiles of ridges and lobate scarps measured during MESSENGER flybys 1 and 2, *Icarus*, 209, 247-255-100, 2010.
- Smith, D. E., M. T. Zuber, R. J. Phillips, S. C. Solomon, G. A. Neumann, F. J. Lemoine, S. J. Peale, J. Margot, M. H. Torrence, M. J. Talpe, J. W. Head, **S. A. Hauck**, C. L. Johnson, M. E. Perry, O. S. Barnouin-Jha, R. L. McNutt, J. Oberst, The equatorial shape and gravity field of Mercury from MESSENGER flybys 1 and 2, *Icarus*, 209, 88-100, 2010.
- §**Ritzer, J. A.**, and **S. A. Hauck, II**, Lithospheric structure and tectonics at Isidis Planitia, Mars, *Icarus*, 201, 528-539, 2009.
- Watters, T.R., S.C. Solomon, M.S. Robinson, J.W. Head, S.L. Andre, **S. A. Hauck, II**, and S.L. Murchie, The tectonics of Mercury: The view after MESSENGER's first flyby, *Earth and Planetary Science Letters*, 285, 283-296, 2009.
- Dombard, A. J., and **S. A. Hauck, II**, Despinning plus global contraction and the orientation of lobate scarps on Mercury, *Icarus*, 198, 274-276, 2008.
- Andrews-Hanna, J. C., M. T. Zuber, and **S. A. Hauck, II**, Strike-slip faults on Mars: Observations and implications for global tectonics and geodynamics, *Journal of Geophysical Research*, 113, E08002, doi: 10.1029/2007JE002980, 2008.
- Zuber, M. T., D. E. Smith, S. C. Solomon, R. J. Phillips, S. J. Peale, J. W. Head III, **S. A. Hauck, II**, R. L. McNutt, Jr., J. Oberst, G. A. Neumann, F. G. Lemoine, X. Sun, O. Barnouin-Jha, J. K. Harmon, Laser altimeter observations from MESSENGER's first Mercury flyby, *Science*, 321, 77-79, doi: 10.1126/science.1159086, 2008.
- §Chen, B., J. Li, and **S. A. Hauck, II**, Non-ideal liquidus curve in the Fe-S system and Mercury's snowing core, *Geophysical Research Letters*, 35, L07201, doi: 10.1029/2008GL033311, 2008.
- Breuer, D., **S. A. Hauck, II**, M. Buske, M. Pauer, and T. Spohn, Interior evolution of Mercury, *Space Science Reviews*, 132, 229-260, doi:10.1007/s11214-007-9228-9, 2007.
- Zuber, M.T., O Aharonson, J. M. Aurnou, A. F. Cheng, **S. A. Hauck, II**, M. H. Heimpel, G. A. Neumann, S. J. Peale, R. J. Phillips, D. E. Smith, S. C. Solomon, and S. Stanley, The geophysics of Mercury: Current knowledge and future opportunities, *Space Science Reviews*, 131, 105-132, doi:10.1007/s11215-007-9265-4, 2007.
- **Hauck, S. A., II**, S. C. Solomon, and §**D. A. Smith**, Predicted recovery of Mercury's internal structure by MESSENGER, *Geophysical Research Letters*, 34, L18201, doi: 10.1029/2007GL030793, 2007.
- Tarter, J., Backus, P., Mancinelli, R., Aurnou, J., Backman, D., Basri, G., Boss, A., Clarke, A., Deming, D., Doyle, L., Feigelson, E., Freund, F., Grinspoon, D., Haberle, R., **Hauck, S.**, Heath, M., Henry, T., Hollingsworth, J., Joshi, M., Kilston, S., Liu, M., Meikle, E., Reid, I., Rothschild,

- L., Scalo, J., Segura, A., Tang, C., Tiedje, J., Turnbull, M., Walkowicz, L., Weber, A., Young, R., A re-appraisal of the habitability of planets around M dwarf stars, *Astrobiology*, 7, 30-65, 2007.
- **Hauck, S. A., II**, J. M. Aurnou, and A. J. Dombard, Sulfur's impact on core evolution and magnetic field generation on Ganymede, *Journal of Geophysical Research*, 111, E09008, doi:10.1029/2005JE002557, 2006.
  - Solomon, S. C., O. Aharonson, J. M. Aurnou, W. B. Banerdt, M. H. Carr, A. J. Dombard, H. V. Frey, M. P. Golombek, **S. A. Hauck, II**, J. W. Head, III, B. M. Jakosky, C. L. Johnson, P. J. McGovern, G. A. Neumann, R. J. Phillips, D. E. Smith, and M. T. Zuber, New perspectives on ancient Mars, *Science*, 307, 1214-1220, 2005.
  - **Hauck, S. A., II**, A. J. Dombard, R. J. Phillips, S. C. Solomon, Internal and tectonic evolution of Mercury, *Earth and Planetary Science Letters*, 222, 713-728, 2004.
  - **Hauck, S. A., II**, R. J. Phillips, Thermal and crustal evolution of Mars, *Journal of Geophysical Research*, 107, 5052, 10.1029/2001JE001801, 2002.
  - Phillips, R. J., M. A. Bullock, **S. A. Hauck, II**, Climate and interior coupled evolution on Venus, *Geophysical Research Letters*, 28, 1779-1782, 2001.
  - Phillips, R. J., M. T. Zuber, S. C. Solomon, M. P. Golombek, B. M. Jakosky, W. B. Banerdt, D. E. Smith, R. M. Williams, B. Hynek, O. Aharonson, **S. A. Hauck, II**, Ancient geodynamics and global-scale hydrology on Mars, *Science*, 291, 2587-2591, 2001.
  - **Hauck, S. A., II**, R. J. Phillips, A. M. Hofmeister, Variable conductivity: Effects on the thermal structure of subducting slabs, *Geophysical Research Letters*, 26, 3257-3260, 1999.
  - Smith, D. E., M. T. Zuber, S. C. Solomon, R. J. Phillips, J. W. Head, J. B. Garvin, W. B. Banerdt, D. O. Muhleman, G. H. Pettengill, G. A. Neumann, F. G. Lemoine, J. B. Abshire, O. Aharonson, C. D. Brown, **S. A. Hauck**, A. B. Ivanov, P. J. McGovern, H. J. Zwally, and T. C. Duxbury, The global topography of Mars and implications for surface evolution, *Science*, 284, 1495-1503, 1999.
  - **Hauck, S. A., II**, R. J. Phillips, M. H. Price, Venus: Crater distribution and plains resurfacing models, *Journal of Geophysical Research*, 103, 13,635-13,642, 1998.

### Editorials

- Baratoux, D., **S. A. Hauck, II**, S. Stanley, M. A. Wieczorek, Appreciation of peer reviewers for 2014, *Journal of Geophysical Research: Planets*, 120, 359-361, doi:10.1002/2015JE004810, 2015.

### Other Publications

- **Hauck, S. A., II**, Pluto is just the beginning, *Editor's Vox*, *Eos.org*, <https://eos.org/editors-vox/pluto-is-just-the-beginning>, November 2, 2015.
- **Hauck, S. A., II**, Why does Mercury have such a large core?, *Ask Astro*, *Astronomy Magazine*, January 2013.
- National Research Council, Appendix G - Mercury Lander Mission Concept Study, led by **Hauck, S. A., II**, D. Eng, et al for *Vision and Voyages for Planetary Science in the Decade 2013-2022*, The National Academies Press, 2011.

## Published Abstracts

(Hauck, his students and post-docs in bold, § = student author)

- **Hauck, S. A., II**, P. K. Byrne, B. W. Denevi, M. Grott, T. McCoy, S. Stanley, Mercury's global evolution: New views from MESSENGER, *American Geophysical Union Fall Meeting*, San Francisco, CA, abstract P53A-2105, 2015.
- Perry, M., G. A. Neumann, E. Mazarico, **S. A. Hauck, II**, S. C. Solomon, M. T. Zuber, D. E. Smith, R. J. Phillips, J.-L. Margot, C. L. Johnson, C. Ernst, J. Oberst, The low-degree shape of Mercury, *American Geophysical Union Fall Meeting*, San Francisco, CA, abstract P53A-2104, 2015.
- Byrne, P. K., C. Klimczak, A. Sengor, **S. A. Hauck, II**, S. C. Solomon, Understanding the interior evolution of Mercury from its tectonic history (invited), *American Geophysical Union Fall Meeting*, San Francisco, CA, abstract P51D-02, 2015.
- Johnson, C. L., R. J. Phillips, M. Purucker, B. Anderson, P. K. Byrne, B. W. Denevi, K. Fan, J. Feinberg, **S. A. Hauck, II**, J. W. Head, H. Korth, P. James, E. Mazarico, G. A. Neumann, L. Philpott, M. Siegler, B. Strauss, N. Tsyganenko, S. C. Solomon, Mercury's crustal magnetic field from low-altitude measurements by MESSENGER (invited), *American Geophysical Union Fall Meeting*, San Francisco, CA, abstract GP33A-03, 2015.
- Byrne, P. K., L. R. Ostrach, B. W. Denevi, C. R. Chapman, C. I. Fassett, J. L. Whitten, C. Klimczak, E. Mazarico, **S. A. Hauck II**, J. W. Head, S. C. Solomon, Near-synchronous end to global-scale effusive volcanism on Mercury, *46<sup>th</sup> Lunar and Planetary Science Conference*, The Woodlands, TX, abstract 1731, 2015.
- Johnson, C. L., M. E. Purucker, L. C. Philpott, H. Korth, N. A. Tsyganenko, **S. A. Hauck, II**, B. W. Denevi, P. K. Byrne, J. W. Head II, M. A. Siegler, R. J. Phillips, S. C. Solomon, Evidence of remanent magnetic fields on Mercury from MESSENGER's low-altitude campaign, *46<sup>th</sup> Lunar and Planetary Science Conference*, The Woodlands, TX, abstract 1205, 2015.
- **§Balcerski, J. A., S. A. Hauck, II**, A. J. Dombard, Topography on the crust-mantle boundary in lunar basins due to both genetic and evolutionary processes, *46<sup>th</sup> Lunar and Planetary Science Conference*, The Woodlands, TX, abstract 3002, 2015.
- **Martin, A. M.**, J. Van Orman, **S. A. Hauck, II**, N. Sun, T. Yu, Y. Wang, Role of sulfur, silicon and carbon on the crystallization processes in Mercury's core inferred from in-situ melting experiments between 4.5 and 15.5 GPa, *46<sup>th</sup> Lunar and Planetary Science Conference*, The Woodlands, TX, abstract 2627, 2015.
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