

ALL EXTENDED CONFERENCE ABSTRACTS AND SELECTED SHORT ABSTRACTS

Sarah T. Stewart

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1996

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2. Stewart, Sarah T.; Orton, Glenn S.; Baines, Kevin H.; Momary, Thomas W.; Ingersoll, Andrew P., Ground-based Observational Constraints on the Galileo Probe Entry Site Cloud Structure, American Astronomical Society, DPS meeting #28, #22.01; *Bulletin of the American Astronomical Society*, Vol. 28, p.1141, 1996.
3. Stewart, S. T., and T. J. Ahrens. The Thermal Properties of Stratified Comet Nuclei. *American Geophysical Union Fall Meeting*, #P22A-08, 1996.

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4. Orton, G.; Tamppari, T. Martin. L.; Liepack, O.; Fisher, B.; Friedson, J.; Ressler, M.; Yanamandra-Fisher, P.; Baines, K.; West, R.; Travis, L.; Stewart, S.; Peiris, H.; Dobrea, E. Noe; Hinkley, S.; Golisch, W.; Griep, D.; Kaminski, C., Atmospheric Structure of Jupiter from Radiometric Observations of the Galileo Photopolarimeter-Radiometer (PPR) and Ancillary Earth-Based Observations, American Astronomical Society, DPS meeting #29, #19.01; *Bulletin of the American Astronomical Society*, Vol. 29, p.1005, 1997.
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7. Stewart, S. T., and T. J. Ahrens. The Evolution of Circumstellar Dust Disks: A Collisional Model and New Experimental Approaches. *Protostars and Planets IV*, Santa Barbara, CA, July 6-11, 1998.

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8. Stewart, S. T., T. J. Ahrens, Porosity effects on impact processes in the solar system, *Lunar & Planetary Science Conference 30*, #2020, 1999.
9. Stewart, S. T., T. J. Ahrens, Correction to the dynamic tensile strength of ice and ice-silicate mixtures (Lange & Ahrens 1983), *Lunar & Planetary Science Conference 30*, #2037, 1999.
10. Stewart, S. T., T. J. Ahrens, Porosity Effects on Impact Processes in Solar System Materials, *11th APS Topical Conference on Shock Compression of Condensed Matter*, #R5.02, 1999.
11. Stewart, S. T., T. J. Ahrens, The Effects of Porosity on Impacts into Planetary Materials, *Asteroids Comets Meteors*, Cornell University, July 26-30, 1999.

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12. O'Keefe, J. D.; Stewart, S. T.; Ahrens, T. J., Impacts on Comets and Asteroids, American Astronomical Society, DPS Meeting #32, #07.01; *Bulletin of the American Astronomical Society*, Vol. 32, p.999, 2000.
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14. O'Keefe, J. D., Stewart, S. T., Ahrens, T. J., Damage and rock-volatile mixture effects on impact crater formation, *High Velocity Impact Symposium*, 2000.

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16. O'Keefe, J. D., S. T. Stewart, T. J. Ahrens, Chicxulub Ejecta Dynamics, *Lunar & Planetary Science Conference 32*, #2190, 2001.
17. O'Keefe, J. D., S. T. Stewart, T. J. Ahrens, Impact on Comets and Asteroids, *Lunar & Planetary Science Conference 32*, #2002, 2001.
18. Stewart, S. T., F. Nimmo, Surface Runoff Features on Mars: Testing the Carbon Dioxide Formation Hypothesis, *Lunar & Planetary Science Conference 32*, #1780, 2001.
19. Weiss, B. P., H. Vali, F. J. Baudenbacher, S. Stewart, J. L. Kirschvink, Records of an Ancient Martian Magnetic Field in ALH84001, *Lunar & Planetary Science Conference 32*, #1244, 2001.
20. Stewart, S. T., J. D. O'Keefe, and T. J. Ahrens, Impact Cratering on Ice-Rich Materials, *Geological Society of America Cordilleran Section 97th Annual Meeting*, April 9-11, 2001.
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22. Stewart, S. T.; Ahrens, T. J.; O'Keefe, J. D., Large Martian regolith water content implied by rampart crater population, *American Geophysical Union Fall Meeting*, # P42A-0574, 2001.

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23. Ahrens, T. J., J. D. O'Keefe, S. T. Stewart, Calculation of Planetary Impact Cratering to Late Times, *Impact Cratering: Bridging the Gap between Modeling and Observations*, #8002, 2003.
24. Stewart, S. T., T. J. Ahrens, Hugoniot and Shock-melting Criteria for Solid and Porous H₂O Ice, *Lunar & Planetary Science Conference 34*, #1622, 2003.
25. Cho, J. Y-K., S. T. Stewart, Global Dispersal of Dust Following Impact Cratering Events on Mars. *Proc. Lunar & Planetary Science Conference 34*, #2101, 2003.
26. Cho, J. Y-K, S. T. Stewart. Global Dispersion of Dust Following Impact Cratering Events on Mars. Abs. #3232, *Sixth International Conference on Mars*, Pasadena, CA, 2003.
27. Stewart, S. T., T. J. Ahrens, J. D. O'Keefe, Impact-induced Melting of Near-Surface Water ice on Mars, *13th APS Topical Conference on Shock Compression of Condensed Matter*, #1P1.0003, 2003.
28. Stewart, S. T., A New Water Ice Hugoniot: Implications for Planetary Impact Events, *13th APS Topical Conference on Shock Compression of Condensed Matter*, #K4.003, 2003. **Invited.**
29. Kennedy, G. B., S. T. Stewart. Exploration of the Solar System Through Impact Experiments on Planetary Materials, *54th Aeroballistic Range Association Meeting*, Santa Fe, NM, October, 2003.
30. Stewart, S. T., G. J. Valiant. Fluidized Ejecta Blankets on Mars: Measurements of Crater Geometry for Formation Hypothesis Testing, *6th Annual Mars Crater Consortium Meeting*, Flagstaff, AZ, October, 2003.
31. Stewart, S. T. The Shock Compression Laboratory at Harvard: A New Facility for Planetary Impact Processes, *6th Annual Mars Crater Consortium Meeting*, Flagstaff, AZ, October, 2003.

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34. Valiant, G. J., S. T. Stewart. Martian Surface Properties: Inferences from Resolved Differences in Crater Geometries, *Lunar & Planetary Science Conference 35*, #1293, 2004.
35. Stewart, S. T. and G. J. Valiant. Validation of Martian Impact Crater Geometry Measurements. *7th Annual Crater Consortium Meeting*, #0707, 2004.
36. Stewart, S.T. Inferring Martian Surface Properties from Impact Crater Morphologies. *American Geophysical Union Fall Meeting*, Abs. P34A-01, 2004. **Invited.**

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37. Louzada, K. L., S. T. Stewart, and B. P. Weiss, Shock Demagnetization of Pyrrhotite, *Lunar & Planetary Science Conference 36*, #1134, 2005.
38. Maloof, A. C, K. L. Louzada, S. T. Stewart, and B. P. Weiss. Geology of Lonar Crater, India: An Analog for Martian Impact Craters, *The Role of Volatiles and Atmospheres on Martian Impact Craters*, #3046, 2005.
39. Stewart, S. T., K. L. Louzada, A. C. Maloof, H. E. Newsom, B. P. Weiss, S. P. Wright. Field Observation of Ground-Hugging Ejecta Flow at Lonar Crater, India, *The Role of Volatiles and Atmospheres on Martian Impact Craters*, #3045, 2005.
40. Black, B.A., S. T. Stewart. Impact Crater Geometries Provide Evidence for Ice-Rich Layers at Low Latitudes on Mars, *The Role of Volatiles and Atmospheres on Martian Impact Craters*, #3044, 2005.
41. Cho, J. Y-K., S. T. Stewart. Dispersion and Mixing of Impact-Generated Aerosols in the Martian Middle Atmosphere, *The Role of Volatiles and Atmospheres on Martian Impact Craters*, #3047, 2005.
42. Kennedy, G. B., S. T. Stewart, L. E. Senft, A. W. Obst, M. R. Furlanetto, J. R. Payton, A. Seifert. Post-Shock Temperature Measurements of Basalt: Improving the Basalt Equation of State and Modeling of Post-Impact Conditions, *The Role of Volatiles and Atmospheres on Martian Impact Craters*, #3051, 2005.
43. Louzada, K. L., S. T. Stewart and B. P. Weiss, Shock demagnetization of pyrrhotite (Fe_{1-x}S , $x < 0.13$) and implications for the Martian crust and meteorites. *14th APS Topical Conference on Shock Compression of Condensed Matter*, #Q2.00004, 2005.
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47. Louzada, K. L., S. T. Stewart, B. P. Weiss, and A. C. Maloof, Shock Demagnetization of the Martian Crust, *8th Annual Mars Crater Consortium Meeting*, #0801, 2005.

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49. Leinhardt, Z. M., S. T. Stewart, Numerical Simulations of the Collisional Evolution of Cometesimals, *Lunar & Planetary Science Conference 37*, #2414, 2006.
50. Senft, L. E., S. T. Stewart, Modeling Impact Cratering into Layered Targets, *Lunar & Planetary Science Conference 37*, #2210, 2006.
51. Stewart, S. T., A. Griswold, J. C. Sacco, Z. M. Leinhardt. Impact! The making of a meteorite – New visualizations for museums and classrooms. *Lunar & Planetary Science Conference 37*, #1991, 2006.
52. Leinhardt, Z. M., S. T. Stewart, Collisional Evolution of Comets, *Spacecraft Reconnaissance of Asteroid and Comet Interiors*, #3034, 2006.
53. Leinhardt, Z. M., S. T. Stewart, Collisional Evolution of Comets, American Astronomical Society, DPS meeting #38, #54.04; *Bulletin of the American Astronomical Society*, Vol. 38, p.583, 2006.
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55. Louzada, K. L., S. T., Stewart, and B. P. Weiss, New results from shock experiments on pyrrhotite and implications for the magnetization of the Martian crust and meteorites, *American Geophysical Union Fall Meeting*, #GP33B-02, 2006.
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57. Senft, L. E.; Stewart, S. T., Impact Crater Formation in Icy Layered Terrains on Mars, *American Geophysical Union Fall Meeting*, # P31A-0121, 2006.

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58. Stewart, S. T., A. Seiffter, G. B. Kennedy, M. R. Furlanetto, A. W. Obst. Measurements of Emission Temperatures from Shocked Basalt: Hot spots in meteorites. *Lunar & Planetary Science Conference 38*, #2413, 2007.
59. Maloof, A. C., S. T. Stewart, N. Swanson-Hysell, K. L. Louzada, I. Garrick-Bethell, S. A. Soule, B. P. Weiss, Lonar Crater, India: An Analog for Martian Impact Craters. *Lunar & Planetary Science Conference 38*, #2316, 2007.
60. Louzada, K. L., B. P. Weiss, A. C. Maloof, S. T. Stewart, N. Swanson-Hysell. A Paleomagnetic Study of Lonar Impact Crater, India, *Lunar & Planetary Science Conference 38*, #2344, 2007.
61. Weiss, B. P., I. Garrick-Bethell, S. Pedersen, A. C. Maloof, K. L. Louzada, S. T. Stewart, Paleomagnetism of Impact Glass and Spherules from Lonar Crater, India. *Lunar & Planetary Science Conference 38*, #2360, 2007.
62. Senft, L. E., and S. T. Stewart, Diagnostic Features from Modeling Impact Cratering in Icy Layered Terrains on Mars, *Seventh International Conference on Mars*, #3309, Pasadena, CA, 2007.
63. Senft, L. E., S. T. Stewart, Improved Strength and Damage Modeling of Geologic Materials, *15th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. M4.00005, 2007.
64. Stewart, S. T., A. Seiffter, G. Kennedy, M. Furlanetto, A. Obst, Heterogeneous Thermal Emission from Shocked Basalt, *15th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. M4.00007, 2007.
65. Louzada, K. L., S. T. Stewart, and B. P. Weiss, The effects of shock on low-coercivity magnetization in pyrrhotite in the Martian crust and meteorites, *International Union of Geodesy and Geophysics*, Perugia, Italy, July 2-13, 2007.
66. Senft, L. E., and S. T. Stewart, Diagnostic Features from Modeling Impact Cratering in Icy Layered Terrains, *Bridging the Gap II: Effect of Target Properties on the Impact Cratering Process*, #8008, Montreal, Canada, 2007.

67. Stewart, S. T., and L. E. Senft, Frictional melting and complex crater collapse, *Bridging the Gap II: Effect of Target Properties on the Impact Cratering Process*, #8021, Montreal, Canada, 2007.
68. Leinhardt, Zoe; Stewart, S., Physical Effects of Collisions in the Kuiper Belt, American Astronomical Society, AAS Meeting #211, #85.05; *Bulletin of the American Astronomical Society*, Vol. 39, p.877, 2007.

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69. Stewart, S. T., Z. M. Leinhardt, Variable Catastrophic Disruption Criteria during Planet Formation, *Lunar & Planetary Science Conference 39*, #2207, 2008.
70. Senft, L. E., S. T. Stewart, Frictional Melting and Complex Crater Collapse, *Lunar & Planetary Science Conference 39*, #1417, 2008.
71. Stewart, S. T., A. Seifert, A. W. Obst, Measurements of Emission Temperatures from Shocked H₂O Ice, *Lunar & Planetary Science Conference 39*, #2301, 2008.
72. Sacco, J. C., S. T. Stewart, A. Griswold, Z. M. Leinhardt, IMPACT! An Asteroid's Journey to Earth – Interactive Visualizations for Museums and Classrooms, *Lunar & Planetary Science Conference 39*, #2487, 2008.
73. Boyce, J., N. Barlow, P. Mougini-Mark, S. Stewart, Ganymede Rampart Craters: Their Possible Implications to the Role of Subsurface Volatiles in Emplacement of Martian Layered Ejecta, *Lunar & Planetary Science Conference 39*, #1406, 2008.
74. Halevy, I., S. T. Stewart, A Non-equilibrium Clathrate Hydrate Dissociation Model and Application to Enceladus' Plume, *Lunar & Planetary Science Conference 39*, #1174, 2008.
75. Stewart, S. T., Microstructural Deformation in Brittle Minerals: Results from Pyrrhotite, paper presented at Workshop on Understanding Condensed Matter Dynamics at the Microscopic Level, Argonne National Laboratory, June 23-24, 2008.
76. S. T. Stewart and L. E. Senft, Advances in Modeling Collisions on Icy Bodies, *Science of Solar System Ices*, #9052, 2008.
77. Marcus, R. A., S. T. Stewart, J. A. Barranco, L. Hernquist, and D. Sasselov, SPH Simulations of planetary-scale impacts, *Large Meteorite Impacts and Planetary Evolution IV*, #3075, 2008.
78. Senft, L. E., S. T. Stewart, Frictional Melt Formation around Large Craters, *Large Meteorite Impacts and Planetary Evolution IV*, #3077, 2008.
79. Stewart, S. T., L. E. Senft, Advances in Modeling Collisions on Icy Bodies, *Large Meteorite Impacts and Planetary Evolution IV*, #3085, 2008.
80. Louzada, K. L., S. T. Stewart, The Effect of Planet Curvature on the Shock Pressure Field around Martian Impact Basins, *Large Meteorite Impacts and Planetary Evolution IV*, #3101, 2008.
81. Leinhardt, Z. M., and S. T. Stewart, Variable Catastrophic Disruption Criteria during Planet Formation, American Astronomical Society, DPS meeting #40, #58.03; *Bulletin of the American Astronomical Society*, Vol. 40, p.503, 2008.
82. Louzada, K. L., S. T., Stewart, and B. P. Weiss, Unraveling the Shock History of Magnetic Materials, *American Geophysical Union Fall Meeting*, #GP33B-02, 2008.
83. Stewart, S. T., L. E. Senft, A. Seifert, A. W. Obst, Shocking H₂O Ice: The Role of Phase Changes during Impact Crater Formation, *American Geophysical Union Fall Meeting*, #MR12A-05, 2008.

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84. Senft, L. E., S. T. Stewart, The Role of Phase Changes during Impact Cratering on Icy Satellites, *Lunar & Planetary Science Conference 40*, #2130, 2009.
85. Kraus, R. G., S. T. Stewart, Thermodynamics of Impacts onto Icy Mixtures: Peak and Post-shock Temperature Measurements in an Ice-Sand Mixture, *Lunar & Planetary Science Conference 40*, #2508, 2009.

86. McEachern, F. M., M. Cuk, and S. T. Stewart, Dynamical Evolution of the Hungaria Asteroids, *Lunar & Planetary Science Conference 40*, #2554, 2009.
87. Halekas, J. S., R. J. Lillis, M. E. Purucker, K. L. Louzada, S. T. Stewart, M. Manga, Interpreting Lunar Impact Demagnetization Signatures using Lunar Prospector Magnetometer/Electron Reflectometer Data. *Lunar & Planetary Science Conference 40*, #1354, 2009.
88. Lillis, R. J., J. S. Halekas, K. L. Louzada, S. T. Stewart, M. Manga, Impact Demagnetization at Mars: Using Multiple Altitude Magnetic Field Data to Constrain Properties of Crustal Magnetization, *Lunar & Planetary Science Conference 40*, #1444, 2009.
89. Cuk, M., F. M. McEachern, and S. T. Stewart, Dynamical Evolution of the Hungaria Asteroids, American Astronomical Society, *Division on Dynamical Astronomy*, #06.10, 2009.
90. Marcus, R. A., S. T. Stewart, D. Sasselov, and L. Hernquist, Collisional Disruption of Super-Earths, American Astronomical Society, *Division on Dynamical Astronomy*, #15.02, 2009.
91. Cuk, M., B. J. Gladman, and S. T. Stewart, The Imbrian Crater Record and the Lunar Cataclysm, *American Geophysical Union Joint Assembly*, #CG22A-01, 2009.
92. Stewart, S. T., Advances in Modeling Impacts onto H₂O Ice, *16th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. T3.00001, 2009. **Invited.**
93. Kraus, R., S. T. Stewart, A. Seifert, A. W. Obst, Thermodynamics of Shock Waves in Ice-Sand Mixtures: Peak and Post-Shock Temperature Measurements, *16th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. T3.00002, 2009.
94. Marcus, R. A., S. T. Stewart, D. Sasselov, L. Hernquist, The super-Earth Mass-Radius Relationship: Constraints from giant impacts, *41st Division for Planetary Sciences Meeting*, Abs. 58.01, 2009.
95. Kraus, R. G., S. T. Stewart, Production of Liquid Water by Impacts onto Icy Bodies, *41st Division for Planetary Sciences Meeting*, Abs. 38.06, 2009.
96. Leinhardt, Z. M., R. A. Marcus, S. T. Stewart, Graze and merge: The Formation of the Haumea Collisional Family, *41st Division for Planetary Sciences Meeting*, Abs. 32.11, 2009.
97. Stewart, S. T., Impacts onto Icy Bodies: A Journey from the Laboratory to the Outer Solar System, *41st Division for Planetary Sciences Meeting*, Abs. 12.01, 2009. **Urey Prize Lecture.**
98. Stewart, S. T., R. G. Kraus, A. Seifert, A. W. Obst, Shock and Post-Shock Temperatures in an Ice-Quartz Mixture: Implications for Melting During Planetary Impact Events, *American Geophysical Union Fall Meeting*, #P23E-07, 2009.

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99. Lillis, R. J., J. S. Halekas, S. T. Stewart, K. L. Louzada, M. E. Purucker, M. Manga, Impact Demagnetization at Mars: New Constraints from Monte Carlo Modeling and Multiple Altitude Magnetic Field Data, *Lunar & Planetary Science Conference 41*, #1514, 2010.
100. Lillis, R. J., J. S. Halekas, S. T. Stewart, K. L. Louzada, M. E. Purucker, M. Manga, Lunar Impact Demagnetization: New Constraints from Monte Carlo Modeling and Multiple Altitude Magnetic Field Data, *Lunar & Planetary Science Conference 41*, #1511, 2010.
101. Louzada, K. L., S. T. Stewart, B. P. Weiss, Shock Demagnetization of Single Domain Magnetite, *Lunar & Planetary Science Conference 41*, #1937, 2010.
102. Kraus, R. G., S. T. Stewart, Impact Induced Melting and Vaporization on Icy Planetary Bodies, *Lunar & Planetary Science Conference 41*, #2693, 2010.
103. Stewart, S. T., R. G. Kraus, R. E. Milliken, N. J. Tosca, Uncertainties in the Shock Devolatilization of Hydrated Minerals: A Nontronite Case Study, *Lunar & Planetary Science Conference 41*, #1919, 2010.
104. Boyce, J.M., N. Barlow, P. M. Mouginiis-Mark, S. T. Stewart, Rampart Craters on Ganymede, Europa, Mars, and Earth: Implications for Layered (Fluidized) Ejecta Emplacement, *Lunar & Planetary Science Conference 41*, #1444, 2010.

105. Zucker, R. V., S. T. Stewart, Fault Weakening and Shear Localization during Crater Collapse, *Lunar & Planetary Science Conference* 41, #2460, 2010.
106. Stewart, S. T., Toward an Impact Basin Formation Scaling Law, *Lunar & Planetary Science Conference* 41, #2722, 2010.
107. Stewart, S. T., The role of phase changes on the thermodynamics and mechanics of impact cratering in H₂O ice, *11th Hypervelocity Impact Symposium*, 2010. **Plenary lecture.**
108. Stewart, S. T., Planetary impact dynamics: The importance of phase changes on decompression, *Research at High Pressure*, Gordon Research Conference, 2010. **Invited.**
109. Stewart, S. T., The Mechanics of Impact Basin Formation: Comparison between Modeling and Geophysical Observations, *American Geophysical Union Fall Meeting*, #P43A-08, 2010.
110. Kraus, R. G., D. C. Swift, S. T. Stewart, R. Smith, C. A. Bolme, D. K. Spaulding, D. Hicks, J. Eggert, G. Collins, Investigating Vaporization of Silica through Laser Driven Shock Wave Experiments, *American Geophysical Union Fall Meeting*, #MR21A-1993, 2010.
111. Wieczorek, M. A., B. P. Weiss, S. T. Stewart, The fate of the South Pole-Aitken impactor: constraints from orbital magnetic field data and impact simulations, *American Geophysical Union Fall Meeting*, #P43A-07, 2010.
112. Lillis, R. J., S. T. Stewart, M. Manga, I. Rose, J. S. Halekas, K. L. Louzada, M. E. Purucker, Impact demagnetization at the moon and Mars: new results from hydrocode simulations and multiple altitude magnetic field data, *American Geophysical Union Fall Meeting*, #GP43B-1059, 2010.
113. Weiss, B. P., S. Pedersen, I. Garrick-Bethell, S. T. Stewart, K. L. Louzada, M. Fuller, A. C. Maloof, N. Swanson-Hysell, Paleomagnetic tests for impact-generated fields at Lonar and other terrestrial craters, *American Geophysical Union Fall Meeting*, #GP43B-1055, 2010.

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114. Stewart, S. T., Impact Basin Formation: The Mantle Excavation Paradox Resolved, *Lunar & Planetary Science Conference* 42, #1633, 2011.
115. Kraus, R. G., S. T. Stewart, D. C. Swift, C. A. Bolme, R. Smith, S. Hamel, B. Hammel, D. K. Spaulding, D. G. Hicks, J. H. Eggert, G. W. Collins, Shock Induced Vaporization of Silica: Implications for Giant Impact Events, *Lunar & Planetary Science Conference* 42, #2263, 2011.
116. Andrews-Hanna, J. C., S. T. Stewart, The Crustal Structure of Orientale and Implications for Basin Formation, *Lunar & Planetary Science Conference* 42, #2194, 2011.
117. Wieczorek, M. A., B. P. Weiss, S. T. Stewart, The Fate of the South Pole-Aitken Impactor and the Origin of Lunar Magnetic Anomalies, *Lunar & Planetary Science Conference* 42, #1696, 2011.
118. Kraus, R. G., S. T. Stewart, D. C. Swift, C. A. Bolme, R. F. Smith, S. Hamel, B. Hammel, D. K. Spaulding, D. G. Hicks, J. H. Eggert, G. W. Collins, Determining the Liquid-Vapor Curve of Silica with Mbar Shock and Release Experiments, *17th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. D4.00004, 2011.
119. Stewart, S., R. Kraus, R. Milliken, N. Tosca, Uncertainties in the Shock Devolatilization of Hydrated Minerals, *17th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. D4.00001, 2011.
120. Stewart, S. T., New Frontiers at the Intersection of Shock Physics and Planetary Sciences, *17th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. G1.00001, 2011. **Plenary lecture.**
121. Stewart, S. T., Z. M. Leinhardt, The Diversity of Giant Impact Outcomes during the End Stage of Planet Formation, *Origins of Solar Systems Gordon Conference*, 2011.
122. Leinhardt, Z. M., S. T. Stewart, S. Pardekooper, A Collision Model for Planet Formation, *Extreme Solar Systems II*, Abs 05.05, 2011.
123. Leinhardt, Z. M., S. T. Stewart, A Model for Collisional Regimes in Planet Formation, *European Planetary Science Congress – Division for Planetary Sciences Joint Meeting*, Abs. 1525-1, 2011.

124. Stewart, S. T., Z. M. Leinhardt, A General Catastrophic Disruption Law for Planet Formation, *European Planetary Science Congress – Division for Planetary Sciences Joint Meeting*, Abs. 1447, 2011.
125. Čuk, M., S. T. Stewart, The Puzzle of Lunar Inclination, *European Planetary Science Congress – Division for Planetary Sciences Joint Meeting*, Abs. 580, 2011.
126. Ebel, D. S., C. M. Alexander, S. A. Hauck, D. J. Lawrence, L R. Nittler, P. Peplowski, S. C. Solomon, A. L. Sprague, R. D. Starr, S. T. Stewart, MESSENGER: Implications for Mercury Formation Hypotheses, *Geological Society of America Annual Meeting*, Abs. 142-5, 2011.
127. Stewart, S. T., Z. M. Leinhardt, Diverse Impact Outcomes and Compositional Changes during the End Stage of Terrestrial Planet Formation, *American Geophysical Union Fall Meeting*, Abs. P11A-1589, 2011.

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128. Čuk, M., S. T. Stewart, Resonances and the Angular Momentum of the Earth-Moon System, *Workshop on the Early Solar System Impact Bombardment II*, Abs. 4006, 2012.
129. Minton, D. A., W. F. Bottke, H. V. Frey, R. J. Lillis, H. J. Roberts, S. T. Stewart. The Early Bombardment History of Mars Revealed in Ancient Megabasins, *Workshop on the Early Solar System Impact Bombardment II*, Abs. 4040, 2012.
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131. Kraus, R. G., D. C. Swift, D. G. Hicks, S. T. Stewart, High Accuracy Equations of State for Planetary Collision Modeling, *Lunar and Planetary Science Conference 43*, #2649, 2012.
132. S. T. Stewart, Impact Basin Formation and Structure from 3D Simulations, *Lunar and Planetary Science Conference 43*, #2865, 2012.
133. Lillis, R., S. Stewart, P. Olds, M. Manga, Constraining Magnetic Properties of the Martian Crust Through Impact Simulations & Crustal Magnetic Fields, *AOGS-AGU (WPGM) Joint Assembly*, PS02-A018, 2012.
134. Kraus, R., D. C. Swift, S. T. Stewart, Improvements in Equations of State and the Interpretation of Giant Impacts in Exoplanetary Systems, *Division for Planetary Science Annual Meeting 44*, #113.15, 2012.
135. S. T. Stewart, M. Čuk, A New Model for the Origin of the Moon, *Division for Planetary Science Annual Meeting 44*, #503.04, 2012.
136. Steinhardt, W., S. T. Stewart, Shock Thermodynamics of the Olivine Series: Fayalite results, *American Geophysical Union Fall Meeting*, Abs. MR11A-2468, 2012.
137. Newman, M., S. T. Stewart, R. G. Kraus, Hugoniot Measurements on Dry and Water-Saturated Soils, *American Geophysical Union Fall Meeting*, Abs. P11A-1788, 2012.
138. Kraus, R. G., S. Root, M. P. Desjarlais, S. T. Stewart, L. Shulenburg, M. D. Knudson, R. Lemke, D. H. Dolan, C. T. Seagle, S. B. Jacobsen, D. G. Flicker, T. Mattsson, Shock-Induced Melting and Vaporization of MgO by Multi-Mbar Shock and Release Experiments, *American Geophysical Union Fall Meeting*, Abs. MR23B-2411, 2012.
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140. Sarid, G., S. T. Stewart, Hold on to your Volatiles – Early Preservation in Evolving Icy Planetesimals, *Lunar and Planetary Science Conference 44*, Abs. 1467, 2013.
141. Lillis, R. J., S. T. Stewart, M. Manga, Demagnetization by Basin-Forming Impacts on Early Mars: Contributions from Shock, Heating and Excavation, *Lunar and Planetary Science Conference 44*, Abs. 1433, 2013.

142. Steinhardt, W. M., S. T. Stewart, Shock Thermodynamics of Mantle Rocks: Rockport Fayalite, *Lunar and Planetary Science Conference 44*, Abs. 2826, 2013.
143. Lock, S. J., S. T. Stewart, Atmospheric Loss during High Angular Momentum Giant Impacts, *Lunar and Planetary Science Conference 44*, Abs. 2608, 2013.
144. Stewart, S. T., S. Mukhopadhyay, Late Impacts and the Origins of the Atmospheres on Venus, Earth, and Mars, *Lunar and Planetary Science Conference 44*, Abs. 2419, 2013.
145. Stewart, S. T., Z. M. Leinhardt, M. Humayun, Giant Impacts, Volatile Loss, and the K/Th Ratios on the Moon, Earth, and Mercury, *Lunar and Planetary Science Conference 44*, Abs. 2306, 2013.
146. Sarid, G., S. T. Stewart, To Melt is Not Enough – Retention of Volatile Species Despite Collision and Thermal Processing in Icy Bodies, *8th Workshop on Catastrophic Disruption in the Solar System*, 2013.
147. Stewart, S., W. Steinhardt, Shock Thermodynamics of Mantle Rocks: Rockport Fayalite, *18th APS Topical Conference on Shock Compression of Condensed Matter and 24th AIRAPT*, Abs. M1.00060, 2013.
148. Stewart, S., S. Mukhopadhyay, Volatile Loss during Collisional Growth of Planets, *18th APS Topical Conference on Shock Compression of Condensed Matter and 24th AIRAPT*, Abs. Z5.00007, 2013.
149. Sarid, G., S. T. Stewart, Masking Surface Water Ice Features on Small Distant Bodies, *The Pluto System on the Eve of Exploration by New Horizons*, 2013.
150. Sarid, G., S. T. Stewart, To Melt is Not Enough – Retention of Volatile Species Despite Collisional and Thermal Processing, *8th Workshop on Catastrophic Disruption in the Solar System*, 2013.
151. Stewart, S. T., A sequence of giant impacts leading to the origin of the Earth and Moon, *Origin of the Moon, Discussion Meeting, Royal Society, London*, September 23-24, 2013.
152. Mukhopadhyay, S., S. T. Stewart, S. J. Lock, R. Parai, M. K. Peto, J. Tucker, Sculpting the Volatile Content of the Earth through Giant Impact-induced Atmospheric Loss and Magma Oceans, *American Geophysical Union Fall Meeting*, Abs. V24B-07, 2013.
153. Kraus, R. G., S. Root, R. W. Lemke, S. T. Stewart, S. B. Jacobsen, T. R. Mattsson, Impact Vaporization of Planetary Cores, *American Geophysical Union Fall Meeting*, Abs. V33D-2792, 2013.
154. Spaulding, D., S. T. Stewart, M. Hankin, L. Wizda, Characterizing the Thermal History of Shock-Compressed Phyllosilicates, *American Geophysical Union Fall Meeting*, Abs. P41F-1990, 2013.

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155. Stewart, S. T., S. J. Lock, S. Mukhopadhyay, Atmospheric Loss and Volatile Fractionation during Giant Impact, *Lunar and Planetary Science Conference 45*, Abs. 2869, 2014.
156. Kraus, R. G., S. Root, R. W. Lemke, S. T. Stewart, S. B. Jacobsen, T. R. Mattsson, Impact Vaporization of Planetary Cores, *Lunar and Planetary Science Conference 45*, Abs. 2888, 2014.
157. Sarid, G., S. T. Stewart, Z. M. Leinhardt, Mercury, The Impactor, *Lunar and Planetary Science Conference 45*, Abs. 2723, 2014.
158. Lock, S. J., S. T. Stewart, S. Mukhopadhyay, Was the Atmosphere Lost during the Moon-Forming Giant Impact?, *Lunar and Planetary Science Conference 45*, Abs. 2843, 2014.
159. Jacobson, S. A., A. Morbidelli, D. C. Rubie, D. P. O'Brien, S. Raymond, S. Stewart, S. Lock, Planet Formation Within the Grand Tack Model, *Lunar and Planetary Science Conference 45*, Abs. 2274, 2014.
160. Edwards, C. S., P. D. Asimow, B. L. Ehlmann, S. Stewart-Mukhopadhyay, Testing the Impact-Induced Decompression Melting Hypothesis for Rocky, Mafic Infilled Crater Floors on Mars, *Lunar and Planetary Science Conference 45*, Abs. 2644, 2014.
161. Stewart, S. T., S. J. Lock, S. Mukhopadhyay, Atmospheric blowoff and melting during the giant impact stage of planet formation, *Accretion and Early Differentiation of the Terrestrial Planets, ACCRETE Workshop*, May 26-31, 2014. **Invited.**

162. Lock, S. J., S. T. Stewart, S. Mukhopadhyay, Was the Atmosphere Lost during the Moon-Forming Giant Impact?, *Accretion and Early Differentiation of the Terrestrial Planets, ACCRETE Workshop*, May 26-31, 2014.
163. Sarid, G., S. Stewart-Mukhopadhyay, To melt is not enough: Retention of volatile species through internal processing in icy bodies, *Asteroids, Comets, Meteors*, 30 June – 4 July, 2014.
164. Mukhopadhyay, S., S. T. Stewart, S. J. Lock, R. Parai, J. M. Tucker. Late Impacts and the Origins of the Atmospheres on the Terrestrial Planets, *AGU Fall Meeting*, Abs. DI53C-03, 2014.
165. Edwards, C. S., P. D. Asimow, S. T. Stewart, B. L. Ehlmann. The Formation of Widespread Volcanically Filled Crater Floors on Mars: Insights from Modeling and Observations, *AGU Fall Meeting*, Abs. P43B-3903, 2014.
166. Stewart, S. T., S. J. Lock, S. Mukhopadhyay, Partial Atmospheric Loss and Partial Mantle Melting during the Giant Impact Stage of Planet Formation, *AGU Fall Meeting*, Abs. P44A-06, 2014.
167. Lock, S. J., S. T. Stewart, Z. M. Leinhardt, M. Mace, M. Čuk, The Earth-Lunar Disk Connection: Favorable Aspects of a High-Angular Momentum Giant Impact, *AGU Fall Meeting*, Abs. P51A-3900, 2014.

2015

168. Stewart, S. T., Growing Planets by Giant Impacts: A Diversity of Outcomes, KITP Conference: Physics of Exoplanets: From Earth-sized to Mini-Neptunes, February 23-27, 2015. **Invited.**
169. Davies, E. J., S. T. Stewart, R. J. Lillis, Impact Basin Formation on Mars: From Borealis to the Late Heavy Bombardment, *Lunar and Planetary Science Conference 46*, Abs. 2212, 2015.
170. Sarid, G., S. T. Stewart, Black Sheep and White Elephants: Compositions of Survivors from Collisions of Differentiated Ice-Rock Bodies, *Lunar and Planetary Science Conference 46*, Abs. 2834, 2015.
171. Stewart S. T., S. J. Lock, S. Mukhopadhyay, How Much of the Mantle Melts in a Giant Impact?, *Lunar and Planetary Science Conference 46*, Abs. 2263, 2015.
172. Lock S. J., S. T. Stewart, Z. M. Leinhardt, M. Mace, M. Čuk, The Post-Impact State of the Moon-Forming Giant Impact: Favorable Aspects of High-Angular Momentum Models, *Lunar and Planetary Science Conference 46*, Abs. 2193, 2015.
173. LaJeunesse, J., J. Borg, S. Stewart, N. Thadhani, Investigating Velocity Spectra at the Hugoniot State of Shock Loaded Heterogeneous Materials, *19th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. U6.00002, 2015.
174. Spaulding, D., S. Stewart, M. Hankin, L. Wizda, Towards an Improved Understanding of Shock Effects in Recovered Samples: Application to Shocked Clay Minerals, *19th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. M1.00037, 2015.
175. Davies, E., S. Stewart, R. Lillis, Impact Basin Formation on Mars: From Borealis to the Late Heavy Bombardment, *19th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. M1.00039, 2015.
176. Newman, M., S. Stewart, R. Kraus, Hugoniot Measurements on Dry and Water-Saturated Soils, *19th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. L6.00005, 2015.
177. Schumaker, M., S. T. Stewart, J. P. Borg, Stress and Temperature Distributions of Individual Particles in a Shock Wave Propagating through Dry and Wet Sand Mixtures, *19th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. L6.00006, 2015.

178. Stewart, S., S. Lock, Z. Leinhardt, M. Mace, M. Čuk, The Role of Vaporization in High Angular Momentum Moon-forming Giant Impacts, *19th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. O3.00003, 2015.
179. Sarid, G., S. T. Stewart, Z. M. Leinhardt, Aftermath of early Hit-and-Run collisions in the Inner Solar System, *IAU General Assembly Meeting #29*, Abs. 2256152, 2015.
180. Stewart, S. T., S. J. Lock, M. I. Petaev, Z. M. Leinhardt, M. T. Mace, S. B. Jacobsen, M. Čuk, Transforming the Earth into a High Energy State: The Physics of Giant Impacts and Lunar Origin, *The 5th International Conference on High Energy Density Physics*, August 23-27, 2015. **Invited.**
181. Stewart, S. T., S. Mukhopadhyay, S. J. Lock, The addition and removal of volatiles during terrestrial planet formation, *Second Comparative Climates of Terrestrial Planets Conference*, September 8-11, 2015. **Invited.**
182. Čuk, M., S. T. Stewart, S. J. Lock, D. Hamilton, Tidal Evolution of the Moon from a High-Obliquity Fast-Spinning Earth, *Division for Planetary Science Annual Meeting 44*, #309.01, 2015.
183. Lock S. J., S. T. Stewart, M. I. Petaev, Z. M. Leinhardt, M. Mace, S. B. Jacobsen, M. Čuk, Condensing the Moon from a MAD Earth, *AGU Fall Meeting*, Abs. V23D-07, 2015. **Invited.**
184. Stewart, S. T., S. J. Lock, The Thermal States of Accreting Planets: From Mars-like Embryos to a MAD Earth, *AGU Fall Meeting*, Abs. MR21D-02, 2015. **Invited.**
185. Davies, E. J., S. T. Stewart, Large Collisions on Icy and Rocky Bodies with Strength, *AGU Fall Meeting*, Abs. P51A-2038, 2015.

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186. Lock, S. J., S. T. Stewart, M. I. Petaev, Z. M. Leinhardt, M. Mace, S. B. Jacobsen, M. Čuk, A New Model for Lunar Origin: Equilibration with Earth beyond the Hot Spin Stability Limit, *Lunar and Planetary Science Conference 47*, Abs. 2881, 2016.
187. Lock, S. J., S. T. Stewart, A Hot Spin Stability Limit for Terrestrial Planets, *Lunar and Planetary Science Conference 47*, Abs. 2856, 2016.
188. Petaev, M. I., S. B. Jacobsen, S. Huang, S. J. Lock, S. T. Stewart, Testing Models of the Moon's Origin, III: Phase Diagram of a Proto-Lunar Disk and Condensation of Trace Elements, *Lunar and Planetary Science Conference 47*, Abs. 2468, 2016.
189. Huang, S., M. I. Petaev, W. Wang, S. J. Lock, Z. Wu, S. T. Stewart, S. B. Jacobsen, Lunar Origin beyond the Hot Spin Stability Limit: Stable Isotopic Fractionation, *Lunar and Planetary Science Conference 47*, Abs. 2261, 2016.
190. Jacobsen, S. B., M. I. Petaev, B. Boatwright, S. J. Lock, S. T. Stewart, A New Model for Lunar Origin: Elemental and Isotopic Constraints, *Lunar and Planetary Science Conference 47*, Abs. 2713, 2016.
191. Čuk, M., S. T. Stewart, S. J. Lock, D. Hamilton, Tidal Evolution of the Moon from a Fast-Spinning High-Obliquity Earth, *Lunar and Planetary Science Conference 47*, Abs. 2489, 2016.
192. Stewart, S. T., S. J. Lock, M. I. Petaev, S. B. Jacobsen, G. Sarid, Z. M. Leinhardt, S. Mukhopadhyay, M. Humayun, Mercury Impact Origin Hypothesis Survives the Volatile Crisis: Implication for Terrestrial Planet Formation, *Lunar and Planetary Science Conference 47*, Abs. 2954, 2016.
193. Carter, P. J., Z. M. Leinhardt, T. Elliott, M. J. Walter, S. T. Stewart, The Effects of Collisions and Dynamical Excitation on the Composition of Growing Terrestrial Planet Embryos, *Lunar and Planetary Science Conference 47*, Abs. 2300, 2016.

194. Davies, E. J., S. Root, S. T. Stewart, D. K. Spaulding, S. B. Jacobsen, Experimental Study of Shock-Induced Vaporization of Rocky Planet Constituents, *Lunar and Planetary Science Conference 47*, Abs. 3001, 2016.
195. Davies, E. J., S. T. Stewart, Beating up Pluto: Modeling Large Impacts with Strength, *Lunar and Planetary Science Conference 47*, Abs. 2938, 2016.
196. Ebel, D. S., S. T. Stewart, The Origin of Mercury: Chaotic, Orderly, or Both?, *79th Annual Meeting of the Meteoritical Society*, Abs. 6538, 2016.
197. Sarid, G., S. T. Stewart, W. Grundy, Let's Dense – Modifying densities and compositions through collisions of Kuiper belt objects, *Joint Division for Planetary Sciences 48 and European Planetary Science Congress 11*, Abs. 200.08, 2016.
198. Stewart, S. T., S. J. Lock, M. I. Petaev, Z. M. Leinhardt, M. Mace, S. B. Jacobsen, M. Cuk, Accretion of the Moon after a High-Energy, High-Angular Momentum Giant Impact, *AGU Fall Meeting*, Abs. V41D-01, 2016. **Invited.**
199. Lock, S. J., S. T. Stewart, S. Mukhopadhyay, Preservation of Primordial Mantle in the Aftermath of a Giant Impact, *AGU Fall Meeting*, Abs. DI33A-01, 2016.

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200. Stewart, S. T., D. K. Spaulding, The Shock Compression Laboratory at University of California Davis, *Lunar and Planetary Science Conference 48*, Abs. 2154, 2017.
201. Davies, E. J., S. Root, R. Lemke, S. T. Stewart, R. G. Kraus, D. K. Spaulding, S. B. Jacobsen, T. K. R. Mattsson, Forsterite Shock Temperatures: Implications for Melting and Vaporization during Planetary Impacts, *Lunar and Planetary Science Conference 48*, Abs. 2890, 2017.
202. Hollyday, G. O., S. T. Stewart, Z. M. Leinhardt, P. J. Carter, S. J. Lock, Lunar Accretion after a High-Energy, High-Angular Momentum Giant Impact, *Lunar and Planetary Science Conference 48*, Abs. 2606, 2017.
203. Lock, S. J., S. T. Stewart, M. I. Petaev, Z. M. Leinhardt, M. Mace, S. B. Jacobsen and M. Cuk, A new model for Lunar Origin: Equilibration with Earth beyond the Corotation Limit, *Accretion and Early Differentiation of the Terrestrial Planets, ACCRETE Workshop*, May 29-June 3, 2017.
204. Hollyday, G. O., S. T. Stewart, Z. M. Leinhardt, P. J. Carter, S. J. Lock, Lunar Accretion after a High-Energy, High-Angular Momentum Giant Impact, *Accretion and Early Differentiation of the Terrestrial Planets, ACCRETE Workshop*, May 29-June 3, 2017.
205. Kraus, R. G. and 16 coauthors, Measuring the Melting Curve of Iron at Super Earth Core Conditions, *20th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. F5.00001, 2017.
206. LaJeunesse, J., J. Borg, S. Stewart, N. Thadhani, Investigating the shock response of dry and water-saturated sand: flyer-plate experiments and mesoscale simulations, *20th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. J8.00004, 2017.
207. Davies, E. J., S. Root, R. Lemke, S. T. Stewart, R. G. Kraus, D. K. Spaulding, S. B. Jacobsen, T. K. R. Mattsson, Forsterite and Enstatite Shock Temperatures: Implications for Planetary Impact Melting, *20th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. F5.00002, 2017.

208. Stewart, S. T., Shock-and-Release to the Liquid-Vapor Phase Boundary: Experiments and Applications to Planetary Science, *20th APS Topical Conference on Shock Compression of Condensed Matter*, Abs. T6.00005, 2017. **Invited.**
209. Stewart, S. T., What happens to the volatiles during a giant impact?, *Origins of Volatiles in Habitable Planets: The Solar System and Beyond*, Michigan University, October 16-17, 2017.
210. Lock, S. J., S. T. Stewart, S. Mukhopadhyay, The last stage of Earth's formation: Increasing the pressure, *AGU Fall Meeting*, Abs. P53F-07, 2017.
211. Townsend, J. P., S. Root, L. Shulenburg, R. W. Lemke, R. G. Kraus, S. B. Jacobsen, D. Spaulding, E. Davies, S. T. Stewart, The principal Hugoniot of Mg₂SiO₄ to 950 GPa, *AGU Fall Meeting*, Abs. MR31B-0447, 2017.
212. Davies, E., S. Root, R. G. Kraus, J. P. Townsend, D. Spaulding, S. T. Stewart, S. B. Jacobsen, Dayne Fratanduono, M. A. Millot, T. R. Mattsson, H. L. Hanshaw, Forsterite Shock Temperatures and Entropy: New Scaling Laws for Impact Melting and Vaporization, *AGU Fall Meeting*, Abs. D123B-04, 2017. **Invited.**
213. Stewart, S. T., S. J. Lock, R. Caracas, Raining a magma ocean: Thermodynamics of rocky planets after a giant impact, *AGU Fall Meeting*, Abs. MR34B-01, 2017. **Invited.**
214. Caracas, R., S. T. Stewart, Molten silicate mantle during a giant impact. Speciation from vapor to supercritical state, *AGU Fall Meeting*, Abs. MR21C-04, 2017.

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215. Davies, E. J., S. Root, D. K. Spaulding, R. G. Kraus, S. T. Stewart, S. B. Jacobsen, J.P. Townsend, P.J. Carter, Forsterite Shock Temperatures and Entropy, *Lunar and Planetary Science Conference 49*, Abs. 1672, 2018.
216. Root, S., J. P. Townsend, E. J. Davies, R. W. Lemke, D. E. Bliss, D. E. Fratanduono, R. G. Kraus, M. Millot, D. K. Spaulding, L. Shulenburg, S. T. Stewart, and S. B. Jacobsen, Shock Compression of Forsterite (Mg₂SiO₄) to 950 GPa, *Lunar and Planetary Science Conference 49*, Abs. 1777, 2018.
217. Stewart S. T., S. J. Lock, R. Caracas, Raining A Magma Ocean: Thermodynamics of Rocky Planets after Giant Impacts, *Lunar and Planetary Science Conference 49*, Abs. 1708, 2018.
218. Lock, S. J., S. T. Stewart, and M. Čuk, Earth after the Moon Forming Giant Impact: Accounting for All the Energy, *Lunar and Planetary Science Conference 49*, Abs. 1616, 2018.
219. Carter P. J., S. J. Lock, and Sarah T. Stewart, The Energy Budgets of Giant Impacts, *Lunar and Planetary Science Conference 49*, Abs. 2731, 2018.
220. Caracas, R., S. T. Stewart, Supercritical silicate melts during the Giant Impact and in the protolunar disk, *European Geosciences Union General Assembly*, Abs. EGU2018-14783, 2018.
221. Jacobsen S., M. Petaev, S. Stewart, S. Lock, Testing Models of Lunar Origin, *Goldschmidt Abstracts*, 2018.