

David A. Brain

Assistant Professor

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(As of September 2018)

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Education

- Ph.D. **University of Colorado at Boulder** (2002)
Astrophysical, Planetary, and Atmospheric Sciences
- M.S. **University of Colorado at Boulder** (1997)
Astrophysical, Planetary, and Atmospheric Sciences
- B.A. **Rice University** (1995)
Physics and Mathematics

Research Interests

- Planetary atmospheric source/loss processes and climate evolution
- Influence of planetary scale magnetic fields on climate
- Plasma environments and upper atmospheres of unmagnetized planets
- Star-planet interactions
- Interpretation of spacecraft measurements of magnetic fields and charged particles
- Plasma processes in small scale (non-global) magnetic fields

Professional Experience

- 2017 – Present Associate Professor – CU Boulder LASP & APS
- 2011 – 2017 Assistant Professor – CU Boulder LASP & APS
- 2005 – 2011 Assistant Research Physicist – UC Berkeley Space Sciences Laboratory
- 2003 – 2005 Postdoc – UC Berkeley Space Sciences Laboratory
- 2003 – 2005 Independent Consultant – Addison Wesley
- 2002 – 2003 Postdoc – CU Boulder LASP
- Fall, 2002 Instructor – CU Boulder APS Department
- 1995 – 2002 Graduate Research Assistant – CU Boulder LASP

Awards and Honors

- 2016 Provost's Faculty Achievement Award for significant publication or creative contribution to an academic field (CU)
- 2015 Marinus Smith Award for positive impact on undergraduates (CU)
- 2014 NASA Robert H. Goddard Exceptional Achievement for Engineering Team – MAVEN Team
- 2013 CU ASSETT Award of Excellence as an Outstanding Teacher for Technology in Teaching
- 2011 NASA Group Achievement Award – MAVEN Phase B Team
- 2010 Editor's Citation for Excellence in Refereeing for GRL
- 2006 Carl Sagan Early Career Fellowship in Planetary Sciences (NASA)
- 2002 Residence Life Academic Teaching Award (CU)
- 2001 Outstanding Student Presentation (Spring AGU Meeting)

Professional Organizations

American Geophysical Union

Division for Planetary Sciences of the American Astronomical Society

PI Grants

- 2016 – 2019 Solar system Workings (NASA)
Charged Particle Transport in Martian Magnetic Cusps
- 2015 – 2017 Mars Data Analysis (NASA)
Ion Escape Rates from the Martian Atmosphere
- 2014 – 2017 Earth and Space Science Fellowship Program (NASA Fellowship)
Influence of Asteroid and Comet Impacts on Atmospheric Abundances at Venus, Earth, and Mars
- 2013 – 2015 Early Career Fellowship in Planetary Science (formerly Sagan Fellowship)
The Plasma Environments of Unmagnetized Planets
- 2010 – 2014 Planetary Atmospheres (NASA)
Modeling Atmospheric Erosion by Impacts at Mars, Earth, and Venus
- 2008 – 2010 ISSI International Team (International Space Science Institute, Switzerland)
Intercomparison of Global Models and Measurements of the Martian Plasma Environment
- 2008 - 2013 Mars Data Analysis (NASA)
Magnetic Reconnection and Shear in the Martian Plasma Environment
- 2006 - 2015 Venus Express Supporting Investigator (NASA/ESA)
The First Suprathermal Electron Measurements at Venus: Implications for Planetary Evolution
- 2006 - 2010 Mars Data Analysis (NASA)
Martian Aurorae from Acceleration to Emission
- 2006 - 2010 Planetary Atmospheres (NASA)
Atmospheric Energy Deposition at Mars, Venus and Extrasolar Planets from Solar Energetic Particle events
- 1998 - 2001 Graduate Student Research Program (NASA)
The Martian Surface Magnetic Field

Funded Co-I on ~11 NASA grants from the Mars Data Analysis, Geospace Science, Planetary Atmospheres, Mars Fundamental Research, Discovery Data Analysis, Hubble Space Telescope, Solar System Exploration Research Virtual Institute, and Mars Scout programs. Co-I on two ISSI International Teams.

Service to the Research Community

- 2017 – Member of Mars Exploration Program Analysis Group (MEPAG) Goals Committee
- 2016 – 2017 Scientific Organizing Committee for 2017 Mars Aeronomy Conference
- 2016 – 2017 Scientific Organizing Committee for 2017 Nexus for Exoplanet System Science (NExSS) Conference on “Habitable Worlds”
- 2016 Delegation member for NASA-ISRO (Indian Space Agency) Mars collaborations – traveled to Bangalore, India in February, 2016
- 2015 – 2018 Scientific Organizing Committee for 2018 Comparative Climatology of Terrestrial Planets Conference
- 2015 Convener of Fall AGU session on “Planetary Atmospheres”
- 2014 – 2015 Scientific Organizing Committee for 2015 Comparative Climatology of Terrestrial Planets Conference

2014	Panelist for NASA Planetary Mission Senior Review
2013	Convener of Fall AGU session on “Atmospheric Escape, Upper Atmospheres, Ionospheres, and Plasma Interactions at Mars and Venus”
2012	Review panelist for the NASA Planetary Atmospheres Program
2012	Review panelist for the NASA Planetary Mission Data Analysis Program
2011	Convener of Fall AGU session on “Extreme Space Weather”
2011	Convener of EPSC-DPS session on “Plasma Processes at Venus and Mars: Observations and Modeling”
2010	Convener of Fall AGU session on “Momentum and Energy Transfer and Atmospheric Escape in Weakly Magnetized Objects”
2010-2013	Associate Editor of <i>Journal of Geophysical Research - Space Physics</i>
2009-2011	Member of the NASA’s Planetary Atmospheres and Astronomy Management Operations Working Group (MOWG)
2009-2010	Program Committee (Planetary Sciences Section) for 2010 Western Pacific Geophysics Meeting
2009-2010	Program Committee Member for 2010 Alfven Conference on Plasma Interaction with Unmagnetized Bodies in the Solar System
2009	Convener of Fall AGU session on “Planetary Plasma Interactions and Atmospheric Escape”
2008-2009	Guest editor for <i>Icarus</i> special issue on “The Solar Wind Interaction with Mars” (appearing December 2009)
2006-2008	Convener of 2008 AGU Chapman Conference “The Solar Wind Interaction with Mars”
2008	Review panelist for the NASA Planetary Atmospheres Program
2007	Convener of Spring AGU session on “Magnetospheres of the Inner Planets”
2004-present	External Reviewer for data sets on the Planetary Data System: <i>Lunar Prospector Magnetometer and Electron Reflectometer</i> ; <i>Cassini Plasma Spectrometer</i>
2003-present	External Reviewer for NASA Mars Data Analysis, NASA Mars Fundamental Research, NASA Jupiter Data Analysis, NASA Lunar Advanced Science and Exploration Research, NASA Postdoc Program, and NSF proposals
2001-present	Reviewer for ~70+ manuscripts submitted to nine journals: <i>Science</i> , <i>Geophysical Research Letters</i> , <i>Journal of Geophysical Research - Space Physics</i> , <i>Journal of Geophysical Research - Planets</i> , <i>Icarus</i> , <i>Planetary and Space Science</i> , <i>Space Science Reviews</i> , <i>Annales Geophysicae</i> , <i>Advances in Space Research</i> , <i>Astrobiology</i>

Public Lectures

- “Earth is Just Right”, Inner Circle of Advocates 2018 Meeting, Chicago, July 2018.
- “Do Habitable Worlds Require Magnetic Fields?”, MAVEN Outreach Webinar, April 2018.
- “The MAVEN Project”, FIDAE Airshow, Santiago, Chile, April 2018.
- “Venus is too Hot, Mars is too Cold, Earth is Just Right”
Stars Above Aspen, 14 August 2017.
- The Academy (retirement community), Boulder, Colorado, April 2017.
- “Earth is Just Right”, CU Director’s Club – June 16, 2017
- “The World of Science Fiction”, United Arab Emirates Mars Science Workshop, 03 October 2016.
- “CU: A Leader in Space and Teaching”, CU Admitted Students Day, April 2016.
- “Update on CU’s MAVEN Mission”, CU Scoop, March 2016.

- “CUs MAVEN Mission to Mars: Update on MAVEN”, CU Advocacy Day at Colorado State Capitol, January, 2016.
- “Do Habitable Worlds Require Magnetic Fields?”, TEDx Boulder, 19 September, 2015. → Promoted to “TED talk” at the TED.com website, 12 August, 2016. ~1 million views.
- “CU’s MAVEN Mission”, Boulder Alumni Chapter: Fiske Planetarium, 16 May, 2015.
- “Update on CU’s MAVEN Mission”, CU Scoop, March 2015.
- “An Insider’s Look: CU Boulder and the Red Planet”, eTown Hall, Boulder, 10 November, 2014.
- “*Total Recall* and Terraforming Mars”, Science on Screen at Boulder Dairy Center for the Arts, August 18, 2014.
- “MAVEN: CU’s Mission to Mars”
- Denver – (CU Chancellor’s Tour of Colorado) – June 3, 2014
 - Colorado Springs – (CU Chancellor’s Tour of Colorado) – June 3, 2014
 - Pueblo – (CU Chancellor’s Tour of Colorado) – June 3, 2014
 - Durango – (CU Chancellor’s Tour of Colorado) – June 4, 2014
 - Grand Junction – (CU Chancellor’s Tour of Colorado) – June 5, 2014
 - Carbondale – (CU Chancellor’s Tour of Colorado) – June 5, 2014
 - Vail – (CU Chancellor’s Tour of Colorado) – June 6, 2014
 - CU Lunch and Learn for Denver Metro Alumni Chapter – August 13, 2014
- “Was Ancient Mars Earth-like?”
- Fiske Planetarium, CU Boulder, March 6&7, 2014.
 - CU Seminar, Boulder, April 4, 2014.
- Panelist on “Post-Launch MAVEN Briefing” hosted by the Denver Museum of Nature and Science, Cape Canaveral, Florida, November 18, 2013.
- “Ancient Mars and the MAVEN Mission?”, Chautauqua Space Series, Boulder, Colorado, October 10, 2013.
- “The 2013 MAVEN Mission to Mars”
- University of Colorado College of Arts and Sciences Leadership Society, Boulder, Colorado, October 29, 2013.
 - University of Colorado 50th Reunion and Golden Anniversary Club Dinner, Boulder, Colorado, October 25, 2013.
 - Holly Creek Retirement Community, Centennial, Colorado, September 3, 2013.
 - CU Director’s Club, Vail, Colorado, June 15, 2013.
- Panelist on “Mars Exploration: The Next Steps” at the 16th Mars Society Convention, August 15, 2013.
- “Was Ancient Mars Earth-like?”, CU in the Community, Trinidad State Junior College, Trinidad, Colorado, February 13, 2013.
- “The 2013 MAVEN Mission to Mars”, Denver Space Society, December 20, 2012.
- “The Mars Science Laboratory”, MSL Public Event at LASP, August 05, 2012.
- “The Mars Science Laboratory”, CU Fiske Planetarium, August 06, 2012.
- “The Disappearing Martian Atmosphere”, CU SEDS, February 27, 2012.
- “Mars’s Lumpy Bumpy Neato Magneto(Sphero)”, Nerd Nite San Francisco, November 17, 2010.
- “Life in the Solar System”, Berkeley City Commons Club, October, 2006.
- “Invisible Mars: More than a Big Red Rock”, Mars Night at Fiske Planetarium, CU Boulder, August 2003.

Invited Presentations, Colloquia, and Seminars

- “Atmospheric Escape from Mars”, 52nd ESLAB Symposium, Noordwijk, Netherlands, May 2018.
- “Exploring the Habitability of Ancient Mars using Robotic Spacecraft”, Aeronautical Polytechnic Academy, Santiago, Chile, April 2018.
- “Acceleration and Escape of Ions from the Martian Atmosphere”, January 2018.
- “Gone With the (Solar) Wind: Escape to Space of the Ancient Martian Atmosphere”, 2017 American Physical Society 4 Corners Meeting, Fort Collins, Colorado, 21 October, 2017.
- “Gone With the Wind: One Mars Year of Atmospheric Loss”, Division for Planetary Sciences Meeting, Provo, Utah, 19 October, 2017.
- “Gone With the (Solar) Wind: The Escaping Martian Atmosphere”, University of Kansas Physics and Astronomy Colloquium, 02 October, 2017.
- “The Response of the Martian Atmosphere to the Solar Wind”, IAU 335:Space Weather of the Heliosphere: Processes and Forecasts, Exter, UK, 24 July, 2017.
- “Evolution of the Mars Atmosphere”, Mars Aeronomy Conference, Boulder, CO, 15 May, 2017.
- “MAVEN Measurements of Ion Escape Rates from Mars”, American Geophysical Union Fall Meeting, San Francisco, December 2016.
- “Plasma Environments of Unmagnetized Planets”, Nexus for Exoplanetary System Science Annual Workshop, May 2016
- “Variability in the Loss of Ions from the Martian Atmosphere”, European Geophysical Union General Assembly, Vienna, Austria, 18 April 2016.
- “Martian Atmospheric Ion Loss Rates”, Geospace Environment Modeling System for Integrated Studies (GEMSIS) Workshop, University of Nagoya, Nagoya, Japan, March 2016.
- “Has the Martian Atmosphere Disappeared over Time?”
University of Colorado APS Department Colloquium, 22 August 2016
University of Minnesota Physics and Astronomy Colloquium, 10 March 2016.
University of Arizona Lunar and Planetary Laboratory Colloquium, 19 January 2016.
- “MAVEN Results”, Indian Space Research Organization, Bangalore, India, 23 February 2016.
- “Science and Science Traceability”, LASP PI Training Series, 04 December, 2015.
- “Evolution of the Martian Atmosphere”, American University of Sharjah, United Arab Emirates, 20 October 2015.
- “The Emirates Mars Mission”, LASP Seminar, 01 October 2015.
- “The Martian Atmosphere”, Global Space and Satellite Forum, Abu Dhabi, 27 May, 2015.
- “Bubbles in Space”, Boulder Bubble Day, 01 May 2015.
- “MAVEN Mission Update and Early Science”, Mars Exploration Program Analysis Group, Pasadena, CA, 25 February, 2015.
- “Fun Physics at Martian Crustal Fields”, LASP - Friends of the Magnetosphere Seminar, 17 February 2015.
- “What Happened to the Martian Atmosphere?”, Goddard Space Flight Center, 10 February, 2015.
- “What Happened to the Ancient Martian Atmosphere”, University of Toronto Physics Colloquium, Toronto, 15 January 2015.
- “Suprathermal Electrons in the Plasma Environments of Mars and Venus”, American Geophysical Union Fall Meeting, San Francisco, December 2014.
- “Climates of Terrestrial Planets”, Heliophysics Summer School, Boulder, Colorado, 16 July, 2014.

- “Ion Escape from Mars: Expectations for MAVEN”, 6th Alfven Conference, London, 08 July, 2014.
- Brain, D.A., “What Happened to the Ancient Martian Atmosphere?”
Colorado School of Mines Department of Physics, April 21, 2014.
Southwest Research Institute, 05 August, 2014.
- Brain, D.A., “Do Magnetospheres Matter?”, Georgia Tech Planetary Seminar, March 26, 2013.
- Brain, D.A., “Mars Atmospheric Escape and Climate Evolution”, Nagoya University Global COE Program, Gifu, Japan, March 09, 2013.
- Brain, D.A., “Do Magnetospheres Matter?”, Astrobiology Colloquium, University of Washington, November 27, 2012.
- Brain, D.A. et al., “Lunar Crustal Magnetic Fields in the Solar Wind”, Cluster/THEMIS Joint Workshop, 04 October 2012.
- Brain, D.A., “The 2013 MAVEN Mission to Mars”, Workshop on Planetary Atmospheres, Ahmedabad, India, 23 July 2012.
- Brain, D.A., “The Dynamic Martian Plasma Environment”, Workshop on Planetary Atmospheres, Ahmedabad, India, 23 July 2012.
- Brain, D.A., “Planetary Magnetic Fields and Climate”, Comparative Climatology of Terrestrial Planets, Boulder, Colorado, 27 June 2012.
- Brain, D.A., “Aurora in Martian Mini-Magnetospheres”, American Geophysical Union Chapman Conference on Relationship between Auroral Phenomenology and Magnetospheric Processes, 28 February 2011.
- Brain, D.A., J.S. Halekas, and J.P. Eastwood, “The Induced Magnetotails of Mars and Venus: A Tale of Two Tails”, American Geophysical Union Fall Meeting, San Francisco, December 2010.
- Brain, D.A., “The Physics of Mini-Magnetospheres at Mars”, 5th Alfven Conference, Sapporo, Japan, October, 2010.
- Brain, D.A., “Models for the Venus Upper Atmosphere and Plasma Environment”, International Venus Conference, Aussois, France, 25 June 2010.
- Brain, D.A., “Space Weather Influences on the Atmospheres of Unmagnetized Planets”
- University of Colorado Physics Seminar, 11 March 2010.
- University of Arizona LPL Seminar, 12 February 2010.
- UC Berkeley Space Physics Seminar, 09 February 2010.
- Brain, D.A., “The Ins and Outs of Martian Mini-Magnetospheres”
- University of Colorado APS Colloquium, 02 June 2010.
- Goddard Space Flight Center Heliophysics Seminar, 30 April 2010.
- Boston University Center for Space Physics Seminar, 26 April 2010.
- University of Colorado Physics Colloquium, 12 March 2010.
- University of New Hampshire Physics Colloquium, 15 February 2010.
- University of Arizona Planetary Science Colloquium, 11 February 2010.
- Brain, D.A., “Atmospheric Escape and Aurora on Mars”, SETI Colloquium, August 2009.
- Brain, D.A., “Plasma Transport in the Lumpy Martian Magnetosphere”, Huntsville Workshop on The Physical Processes for Energy and Plasma Transport Across Magnetic Boundaries, 27 October, 2008.
- Brain, D.A., S. Barabash, A. Boeswetter, S. Bougher, S. Brecht, G. Chanteur, D. Crider, E. Dubinin, X. Fang, M. Fraenz, J. Halekas, E. Harnett, M. Holmstrom, E. Kallio, H. Lammer, S. Ledvina, M. Liemohn, K. Liu, J. Luhmann, Y. Ma, R. Modolo, U. Motschmann, A. Nagy, H. Nilsson, J. Schoendorf, H. Shinagawa, N. Terada, “The Solar Wind Interaction with Mars (SWIM) Model Challenge”, COSPAR, Montreal, 19 July 2008.
- Brain, D.A., “Aurora in the lumpy magnetic fields of Mars”

- Southwest Research Institute, Boulder, 12 September 2008.
 - University of California Berkeley CIPS, 07 May 2008.
 - University of California Berkeley Space Physics Seminar, 29 April 2008.
 - University of Iowa Space Physics Seminar, 31 March 2008.
 - University of Minnesota Astronomy Colloquium, 29 February 2008.
 - University of Alaska Fairbanks Geophysical Institute, 19 February 2008.
 - George Mason University Department of Physics and Astronomy, 14 February 2008.
- Brain, D.A., S. Barabash, A. Boesswetter, S. Bougher, S. Brecht, G. Chanteur, D. Crider, E. Dubinin, X. Fang, M. Fraenz, J. Halekas, E. Harnett, M. Holmstrom, E. Kallio, H. Lammer, S. Ledvina, M. Liemohn, K. Liu, J. Luhmann, Y. Ma, R. Modolo, U. Motschmann, A. Nagy, H. Nilsson, J. Schoendorf, H. Shinagawa, N. Terada, "The SWIM Model Challenge", American Geophysical Union Chapman Conference on the Solar Wind Interaction with Mars (SWIM), San Diego, 25 January 2008.
- Brain, D.A., J.S. Halekas, L.M. Peticolas, M.O. Fillingim, R.P. Lin, J.G. Luhmann, D.L. Mitchell, S.W. Bougher, D. Lummerzheim, "Origin, Variability, and Consequences of the Martian Aurora", American Geophysical Union Fall Meeting, San Francisco, 12 December 2006.
- Brain, D.A., "Aurora at Planets Lacking Global Magnetic Fields", European Planetary Science Congress, Berlin, Germany, 21 September 2006.
- Brain, D.A., "Crustal fields in the solar wind: The lumpy bumpy magnetosphere of Mars", Boston University Center for Space Physics Seminar, 13 April, 2006.
- Brain, D.A., "MGS Measurements of the Martian Solar Wind Interaction", Kiruna Mars Workshop, Kiruna, Sweden, 28 February, 2006.
- Brain, D.A., "The interaction of the solar wind with Mars", American Geophysical Union Fall Meeting, San Francisco, 8 December 2005.
- Brain, D.A., "Auroral Electrons in Mars's Neato Magneto(sphere)", Rice University Space Physics Seminar, Houston, TX, 14 November 2005.
- Brain, D.A., "The bow shock and upstream waves at Venus and Mars", Committee for Space Research Meeting at the World Space Congress, October 11 2002, Houston.
- Brain, D.A., "Observation of low frequency waves upstream from the Martian bow shock", Workshop at the International Space Science Institute on Mars magnetism and its interaction with the solar wind, Bern, Switzerland, October 2001.
- Brain, D. "Comparative magnetospheres in the solar system", CEDAR 2000 Student Workshop, June 2000, Boulder, Colorado.
- Brain, D.A., F. Bagenal, M.H. Acuña, J.E.P. Connerney, P.A. Cloutier, D.H. Crider, C.C. Law, P.W. Walker, Y. Chen, R.P. Lin, D. Mitchell, H. Reme, C. Mazelle, D. Vignes, and N.F. Ness, "Implications of Mars Global Surveyor MAG/ER data for atmospheric water loss at Mars", 30th Annual Lunar and Planetary Science Conference, March 1999, Houston, Texas.

Publications (as of September, 2018)

166. Lillis RJ, Halekas JS, Fillingim MO, Poppe AR, Collinson G, Brain DA, Mitchell DL. "Field-Aligned Electrostatic Potentials Above the Martian Exobase From MGS Electron Reflectometry: Structure and Variability." *JOURNAL OF GEOPHYSICAL RESEARCH-PLANETS*. 123 (1) (January 01, 2018): 67-92.

165. Lentz CL, Baker DN, Jaynes AN, Dewey RM, Lee CO, Halekas JS, Brain DA. "Statistical Similarities Between WSA-ENLIL plus Cone Model and MAVEN in Situ Observations From November 2014 to March 2016." SPACE WEATHER-THE INTERNATIONAL JOURNAL OF RESEARCH AND APPLICATIONS. 16 (2) (February 01, 2018): 157-171.
164. Jarvinen R, Brain DA, Modolo R, Fedorov A, Holmstrom M. "Oxygen Ion Energization at Mars: Comparison of MAVEN and Mars Express Observations to Global Hybrid Simulation." JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS. 123 (2) (February 01, 2018): 1678-1689.
163. Harada Y, Halekas JS, DiBraccio GA, Xu S, Espley J, Mcfadden JP, Mitchell DL, Mazelle C, Brain DA, Hara T, et. al. "Magnetic Reconnection on Dayside Crustal Magnetic Fields at Mars: MAVEN Observations." GEOPHYSICAL RESEARCH LETTERS. 45 (10) (May 28, 2018): 4550-4558.
162. DiBraccio GA, Luhmann JG, Curry SM, Espley JR, Xu S, Mitchell DL, Ma Y, Dong C, Gruesbeck JR, Connerney JEP, et. al. "The Twisted Configuration of the Martian Magnetotail: MAVEN Observations." GEOPHYSICAL RESEARCH LETTERS. 45 (10) (May 28, 2018): 4559-4568.
161. Ruhunusiri S, Halekas JS, Espley JR, Eparvier F, Brain D, Mazelle C, Harada Y, DiBraccio GA, Thiemann EMB, Larson DE, et. al. "One-Hertz Waves at Mars: MAVEN Observations." JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS. 123 (5) (May 01, 2018): 3460-3476.
160. Fang X, Ma Y, Luhmann J, Dong Y, Brain D, Hurley D, Dong C, Lee CO, Jakosky B. "The Morphology of the Solar Wind Magnetic Field Draping on the Dayside of Mars and Its Variability." GEOPHYSICAL RESEARCH LETTERS. 45 (8) (April 28, 2018): 3356-3365.
159. Inui S, Seki K, Namekawa T, Sakai S, Brain DA, Hara T, McFadden JP, Halekas JS, Mitchell DL, Mazelle C, et. al. "Cold Dense Ion Outflow Observed in the Martian-Induced Magnetotail by MAVEN." GEOPHYSICAL RESEARCH LETTERS. 45 (11) (June 16, 2018): 5283-5289.
158. Egan H, Ma Y, Dong C, Modolo R, Jarvinen R, Bougher S, Halekas J, Brain D, Mcfadden J, Connerney J, et. al. "Comparison of Global Martian Plasma Models in the Context of MAVEN Observations." JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS. 123 (5) (May 01, 2018): 3714-3726.
157. Lillis RJ, Mitchell DL, Steckiewicz M, Brain D, Xu S, Weber T, Halekas J, Connerney J, Espley J, Benna M, et. al. "Ionizing Electrons on the Martian Nightside: Structure and Variability." JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS. 123 (5) (May 01, 2018): 4349-4363.
156. Gruesbeck JR, Espley JR, Connerney JEP, DiBraccio GA, Soobiah YI, Brain D, Mazelle C, Dann J, Halekas J, Mitchell DL. "The Three-Dimensional Bow Shock of Mars as Observed by MAVEN." JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS. 123 (6) (June 01, 2018): 4542-4555.

155. Romanelli N, Modolo R, Leblanc F, Chaufray J-Y, Hess S, Brain D, Connerney J, Halekas J, Mcfadden J, Jakosky B. "Effects of the Crustal magnetic Fields and Changes in the IMF Orientation on the Magnetosphere of Mars: MAVEN Observations and LatHyS Results." *JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS*. 123 (7) (July 01, 2018): 5315-5333.
154. Halekas, J. S., Brain, D. A., Luhmann, J. G., DiBraccio, G. A., Ruhunusiri, S., Harada, Y., ... Jakosky, B. M. (2017). Flows, fields, and forces in the Mars-solar wind interaction. *Journal of Geophysical Research: Space Physics*, 122, 11,320–11,341. <https://doi.org/10.1002/2017JA024772>. (not captured by CUBE, but published in November 2017)
153. Larsson, R., Milz, M., Eriksson, P., Mendrok, J., Kasai, Y., Buehler, S. A., Diéval, C., Brain, D., and Hartogh, P.: Martian magnetism with orbiting sub-millimeter sensor: simulated retrieval system, *Geosci. Instrum. Method. Data Syst.*, 6, 27-37, <https://doi.org/10.5194/gi-6-27-2017>, 2017. (Not captured by CUBE, but published in 2017)
152. Brain, D.A. (2017), "The Response of the Martian Atmosphere to Space Weather", in "Space Weather of the Heliosphere: Processes and Forecasts" edited by C. Foullon and O. Malandraki.
151. Hara T, Luhmann JG, Leblanc F, Curry SM, Seki K, Brain DA, Halekas JS, Harada Y, McFadden JP, Livi R, et. al. "MAVEN observations on a hemispheric asymmetry of precipitating ions toward the Martian upper atmosphere according to the upstream solar wind electric field." *JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS*. 122 (1) (January 01, 2017): 1083-1101.
150. Hara T, Brain DA, Mitchell DL, Luhmann JG, Seki K, Hasegawa H, Mcfadden JP, Halekas JS, Espley JR, Harada Y, et. al. "MAVEN observations of a giant ionospheric flux rope near Mars resulting from interaction between the crustal and interplanetary draped magnetic fields." *JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS*. 122 (1) (January 01, 2017): 828-842.
149. Ruhunusiri S, Halekas JS, Espley JR, Mazelle C, Brain D, Harada Y, DiBraccio GA, Livi R, Larson DE, Mitchell DL, et. al. "Characterization of turbulence in the Mars plasma environment with MAVEN observations." *JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS*. 122 (1) (January 01, 2017): 656-674.
148. Steckiewicz M, Garnier P, Andre N, Mitchell DL, Andersson L, Penou E, Beth A, Fedorov A, Sauvaud J-A, Mazelle C, et. al. "Comparative study of the Martian suprathermal electron depletions based on Mars Global Surveyor, Mars Express, and Mars Atmosphere and Volatile Evolution mission observations." *JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS*. 122 (1) (January 01, 2017): 857-873.
147. Masunaga K, Seki K, Brain DA, Fang X, Dong Y, Jakosky BM, McFadden JP, Halekas JS, Connerney JEP, Mitchell DL, et. al. "Statistical analysis of the reflection of incident O+ pickup ions at Mars: MAVEN observations." *JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS*. 122 (4) (April 01, 2017): 4089-4101.

146. Dong Y, Fang X, Brain DA, McFadden JP, Halekas JS, Connerney JEP, Eparvier F, Andersson L, Mitchell D, Jakosky BM. "Seasonal variability of Martian ion escape through the plume and tail from MAVEN observations." JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS. 122 (4) (April 01, 2017): 4009-4022.
145. Fang X, Ma Y, Masunaga K, Dong Y, Brain D, Halekas J, Lillis R, Jakosky B, Connerney J, Grebowsky J, et. al. "The Mars crustal magnetic field control of plasma boundary locations and atmospheric loss: MHD prediction and comparison with MAVEN." JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS. 122 (4) (April 01, 2017): 4117-4137.
144. DiBraccio GA, Dann J, Espley JR, Gruesbeck JR, Soobiah Y, Connerney JEP, Halekas JS, Harada Y, Bowers CF, Brain DA, et. al. "MAVEN observations of tail current sheet flapping at Mars." JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS. 122 (4) (April 01, 2017): 4308-4324.
143. Harada Y, Halekas JS, McFadden JP, Espley J, DiBraccio GA, Mitchell DL, Mazelle C, Brain DA, Andersson L, Ma YJ, et. al. "Survey of magnetic reconnection signatures in the Martian magnetotail with MAVEN." JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS. 122 (5) (May 01, 2017): 5114-5131.
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