

# Marissa F. Vogt

Center for Space Physics  
Boston University  
725 Commonwealth Avenue  
Boston, MA 02215

Tel: (617) 353-7410  
Email: [mvogt@bu.edu](mailto:mvogt@bu.edu)  
<http://sites.bu.edu/marissavogt/>  
<https://github.com/marissav06/>

## Research interests

Planetary magnetospheres, ionospheres, and aurora; planetary science

## Education History

- 2006-2012      *University of California, Los Angeles – Los Angeles, CA*  
Ph.D., Geophysics and Space Physics, June 2012  
M.S., Geophysics and Space Physics, 2009
- 2002-2006      *Massachusetts Institute of Technology – Cambridge, MA*  
S.B. Earth, Atmospheric, and Planetary Sciences, 2006  
S.B. Physics, 2006

## Research Experience

- Nov. 2023 –      Senior Scientist, *Planetary Science Institute, Tucson, AZ* (remote)  
Present          Conducting research on planetary magnetospheres, ionospheres, and aurora using spacecraft mission data, ground- and space-based telescopes, and numerical modeling.
- April 2014 –      *Center for Space Physics, Boston University, Boston, MA*  
March 2024
  - *Visiting researcher, April 2024 - present*
  - *Senior Research Scientist, February 2021 – March 2024*
  - *Research Scientist, April 2018 – January 2021*
  - *NSF Postdoctoral Fellow, April 2016 – March 2018*
  - *Postdoctoral Research Assoc./Research Scientist, April 2014 – April 2016*Conducted research on planetary magnetospheres, ionospheres, and aurora (primarily Jupiter and Mars). Developed and wrote proposals to obtain external grant funding, presented results at domestic and international conferences, mentored students, and contributed to two ongoing NASA missions – as a Juno Participating Scientist and MAVEN science team member. NSF postdoctoral fellowship (2016-2018) to study the solar wind interaction with Jupiter’s magnetosphere and aurora.
- March 2012 –      *University of Leicester – Leicester, United Kingdom*  
March 2014      *Department of Physics and Astronomy*  
Postdoctoral Research Associate in Comparative Planetary Magnetospheres, under the supervision of Professor Emma J. Bunce.
- Sept. 2006 –      *University of California, Los Angeles – Los Angeles, CA*  
March 2012      *Department of Earth and Space Sciences*  
Graduate researcher and teaching assistant. Ph.D. thesis “The Structure and Dynamics of Jupiter’s Magnetosphere”, advised by Prof. Margaret G. Kivelson

## Honors, Awards, and Other Recognition

- Top Cited Article 2021-2022, AGU Advances, Bonfond et al., “Are dawn storms Jupiter’s auroral substorms”
- NASA Group Achievement Award, as part of the MAVEN Radio Occultation Science Experiment (ROSE) instrument team, 2019
- Editor’s Citation for Excellence in Refereeing, Geophysical Research Letters, 2019
- Editor’s Citation for Excellence in Refereeing, Geophysical Research Letters, 2018
- NASA Group Achievement Award, as part of the MAVEN science team, 2018
- Editor’s Citation for Excellence in Refereeing, Geophysical Research Letters, 2017
- NASA Early Career Fellowship, 2017
- NASA Group Achievement Award, as part of the MAVEN science team, 2016
- NASA Robert H. Goddard (RHG) Exceptional Achievement for Science award, as part of the MAVEN science team, 2016
- Prix Baron Nicolet, awarded to a distinguished researcher under the age of 40 in the field of aeronomy, from the Royal Academy of Sciences, Letters and Fine Arts of Belgium, 2012
- Outstanding Student Paper, Fall 2010 meeting of the American Geophysical Union, poster titled “Relating Jupiter’s auroral features to magnetospheric sources”
- Outstanding Student Paper, Fall 2008 meeting of the American Geophysical Union, oral presentation titled “Reconnection and flows in the Jovian magnetotail as inferred from magnetometer observations”

## Professional Activities and Service

- Planetary mission experience:
  - Juno Participating Scientist, selected 2019 (prime mission) & 2021 (extended mission)
  - MAVEN science team member, 2014 – present
- Team Leader (with Adam Masters), ISSI (International Space Science Institute) team “How does the Solar Wind Influence the Giant Planet Magnetospheres?”, 2015-2017
- Invited participant:
  - Europlanet workshop, “Uniting Planetary Models and Data Analysis Tools / Resources”, Kalamata, Greece, September 2018
  - ISSI workshop “Giant Planets Magnetodiscs and Aurorae”, Nov. 2012
  - Europlanet workshop “Aurora of the Giant Planets’ Systems”, Santorini, Greece, May 2012
  - ISSI team “Dynamics of Planetary Magnetotails”, 2010-2011 (as young scientist)
  - Europlanet workshop “Aeronomy of Jupiter’s and Saturn’s Systems”, Liège, Belgium, October 2010
- NASA ROSES Reviewer (executive secretary/panelist):
  - Cassini Data Analysis Program
  - Heliophysics Living with a Star
  - NASA Earth and Space Sciences Fellowship
  - Planetary Data, Analysis, Restoration, and Tools
  - Solar System Observations
  - Solar System Workings

### **Professional Activities and Service (continued)**

- Reviewer: *Journal of Geophysical Research — Space Physics*, *Icarus*, *Geophysical Research Letters*, *Annales Geophysics*, AGU Monograph Series
- Telescope Allocation Committee (TAC) member, James Webb Space Telescope, Space Telescope Science Institute
- Science Organizing Committee member, Magnetospheres of the Outer Planets conference, 2021 (virtual) and 2022 (Liège, Belgium)
- Co-convenor and session chair
  - AGU session “Magnetospheres in the Inner Solar System”, 2015-2021
  - EPSC session “Planetary Magnetospheres”, 2014
- Judge for Fall AGU meeting Outstanding Student Paper Award, 2014, 2015, 2017, 2018
- Participant in 2010 NASA/JPL Planetary Science Summer School, role: Principal Investigator, leader of a ~20-person team that spent a week drafting a mission proposal for a Ganymede observer.
- President (2009-2010) and Vice President for Event Planning (2007-2008), UCLA Earth and Space Sciences Student Organization

### **Invited Seminar Presentations (outside my home institution)**

- Whole Heliosphere and Planetary Interactions Colloquia, September 2020
- Massachusetts Institute of Technology, Cambridge, MA, March 2016
- Max-Planck-Institut für Sonnensystemforschung, Germany, March 2014
- Université de Liège, Belgium, November 2013
- Imperial College London, UK, October 2013
- Boston University, October 2013
- Mullard Space Science Laboratory, University College London, UK August 2012

### **Invited Conference Presentations (selected)**

**Vogt**, M. F., C. L. Flynn, P. Withers, L. Andersson, Z. Girazian, D. L. Mitchell, S. Xu, J. E. P. Connerney, and J. R. Espley, MAVEN Observations of the Effects of Crustal Magnetic Fields on the Mars Ionosphere, Talk presented at the Fall 2017 meeting of the American Geophysical Union, New Orleans, LA.

**Vogt**, M. F., E. J. Bunce, E. A. Kronberg, and C. M. Jackman, Jupiter’s Dynamic Magnetosphere, Talk presented at the Fall 2014 meeting of the American Geophysical Union, San Francisco, CA.

**Vogt**, M. F., E. J. Bunce, C. M. Jackman, M. G. Kivelson, and J. A. Slavin, Reconnection in Jupiter’s magnetotail: Examining the influence of solar wind driving, Talk presented at the Fall 2012 meeting of the American Geophysical Union, San Francisco, CA.

**Vogt**, M. F., M. G. Kivelson, K. K. Khurana, and R. J. Walker, Simulating the effect of centrifugal forces in Jupiter’s magnetosphere, Talk presented at the “Aurora of the Giant Planets’ Systems” Europlanet workshop, May 2012, Santorini, Greece.

Vogt, M. F., M. G. Kivelson, K. K. Khurana, R. J. Walker, B. Bonfond, D. Grodent, and A. Radioti, Improved mapping of Jupiter's auroral features to magnetospheric sources, Talk presented at the “Aeronomy of Jupiter’s and Saturn’s Systems” Europlanet workshop, October 2010, Liège, Belgium.

### Press Coverage

- “Female Scientists React Before—and After—NASA’s All-Women Spacewalk Was Canceled”, BU Today, April 2019, <http://www.bu.edu/today/2019/female-scientists-react-to-nasas-canceled-all-women-spacewalk/>
- “Jupiter’s Moons Leave Signature Spots in Its Aurorae”, by Ryan F. Mandelbaum, Gizmodo, 5 July 2018, <https://gizmodo.com/jupiters-moons-leave-signature-spots-in-its-aurorae-1827363383>
- “New Observations by NASA's Juno Spacecraft Are Shaking Up Theories About Jupiter’s Auroras”, by George Dvorsky, Gizmodo, 6 September 2017, <https://gizmodo.com/new-observations-by-nasas-juno-spacecraft-are-shaking-u-1800683820>
- “Solar storm on Jupiter makes brilliant X-ray auroras shine”, by Jason Thomson, Christian Science Monitor, 23 March 2016, <http://www.csmonitor.com/Science/2016/0323/Solar-storm-on-Jupiter-makes-brilliant-X-ray-auroras-shine>

### Teaching Experience

- Fall 2015      *Instructor, Engineering Physics I, Wentworth Institute of Technology*  
Freshman physics (classical mechanics) with calculus for engineering students. Textbook: Young & Freedman, University Physics, 14<sup>th</sup> edition. Adjunct faculty, taught lectures to 20 students, developed a syllabus, supervised a weekly lab session, wrote and graded homework and exams, assigned grades. Course materials posted online at:  
<http://sites.bu.edu/marissavogt/home/teaching/wentworth-physics-1250-fall-2015/>
- Winter 2011      *Teaching Assistant, ESS 8 (Earthquakes), UCLA*  
Supervised exercises in discussion section, ran review sessions, graded and assisted with homework.
- Fall 2007      *Teaching Assistant, ESS 9 (Solar System and Planets), UCLA*  
Supervised exercises in discussion section, ran review sessions, graded and assisted with homework.
- Spring 2006      *Undergraduate Teaching Assistant, 12.409 (Hands-On Astronomy), MIT*  
Taught students about planetary science, proper telescope usage, and observing skills.

## Education and Outreach Activities

- Undergraduate student supervisor
  - JP Barringer, SUPPR student at Boston University, summer 2019. JP's work involved data MAVEN data analysis from the Martian ionosphere.
  - Casey Flynn, Boston University, 2015 - 2018 (with Prof. Paul Withers). Casey's work involved MAVEN data analysis from the Martian ionosphere and led to a first-author paper in Geophysical Research Letters and co-authorship on 2 additional papers.
  - Michaela Moynihan, Boston University, Spring-Summer 2016 (with Prof. Michael Mendillo). Michaela's work involved analysis of MAVEN electron density measurements in the Martian ionosphere.
  - Jacob Hermann, REU student at Boston University, summer 2016 (with Prof. Paul Withers). Jacob's summer work included analysis of electron density profiles from the ionosphere of Venus. Jacob presented his work at the fall 2016 DPS meeting.
  - Szilard Gyalay, REU student at Boston University, summer 2015 (with Prof. Paul Withers). Szilard's summer work included research on the solar wind's influence on Jupiter's aurora. Szilard presented his work at the fall 2015 AGU meeting and was included as a coauthor on a paper published in JGR.
- Volunteer speaker (topics: planetary science, NASA's MAVEN mission, aurora):
  - "Meet a Scientist" presentation, Museum of Science, Boston, MA – 2023
  - Campus International School, a public school in Cleveland, OH – 2016
  - Shaker Road School, a private school in Concord, NH – 2015
  - Horizon Science Academy, a charter school in Cleveland, OH – 2014
  - "Mars and Beyond" event at the Museum of Science, Boston, MA – 2014
- Science Fair Judge, Driscoll Elementary School, Brookline, MA – 2023
- Mentor for BU's College Access & Student Success, 2021
- Mentor for Graduate Women at MIT student organization, 2016 - 2017

## Accepted Funding Proposals as PI

Project descriptions/science sections are available online at <http://sites.bu.edu/marissavogt/>

**Total: \$2,068,845**

- "Relating Jupiter's auroral features to magnetospheric source processes: New insights from Juno", NASA New Frontiers Data Analysis Program 2023. Total: **\$361,176** over 3 years.
- "Structure and Dynamics of Jupiter's Duskside Magnetosphere", NASA Juno Participating Scientist Program, selected 2021. Total awarded: **\$286,962** over 3 years
- "Juno Observations of Temporal Variability in Jupiter's Magnetosphere", NASA New Frontiers Data Analysis Program, 2019. Total awarded: **\$315,911** over 3 years.
- "Juno observations of magnetotail dynamics at Jupiter", NASA Juno Participating Scientist Program, selected 2019. Total amount awarded **\$104,956** over 3 years.
- "Magnetosphere-ionosphere coupling at Jupiter: Modeling the effects of temporal and local time variability", NASA Solar System Workings, 2016. Total amount awarded **\$344,378** over 3 years.
- "Effects of crustal fields on the Martian ionosphere as seen by MAVEN", NASA Mars Data Analysis Program, 2016. Total amount awarded **\$435,578** over 3 years.
- "To What Extent are Jupiter's Magnetosphere and Aurora Influenced by the Solar Wind?", National Science Foundation Atmospheric and Geospace Postdoctoral Research Fellowships (AGS-PRF), April 2016 – March 2018. Total awarded: **\$172,000**
- "Variability of Jupiter's main auroral emission and satellite footprints", PI Luke Moore (due

to BU institutional requirements; the proposal was developed and written by Co-I Vogt), HST Archival Research Proposal to STScI Cycle 24 (2016). Total: **\$147,884**.

### **Accepted Funding Proposals as Co-PI / Co-I**

- Co-PI/Team Leader (with Adam Masters) on a proposal to the International Space Science Institute (ISSI) for a 12-person team on the topic of “How does the Solar Wind Influence the Giant Planet Magnetospheres?”, to meet twice in Bern, Switzerland, awarded June 2015. Approximate amount ~**\$30,000** (120 per diems and 120 hotel nights).
- “The Ins and Outs of the Io Plasma Torus: understanding mass and energy transport using two decades of optical and radio observations”, PI Jeff Morgenthaler, Co-I Marissa Vogt, NASA Solar System Workings, 2016.
- “Archiving ionospheric electron density profiles from the Viking Orbiters”, PI Paul Withers, Co-I Marissa Vogt, NASA Planetary Data and Restoration Tools, 2015.
- “Plasma Energetics in Rotating Magnetospheres”, PI Margaret Kivelson, Co-I Marissa Vogt (unfunded international Co-I), NASA Outer Planet Research program, 2012.

### **Accepted Observing Proposals**

- “On the shoulders of Gas Giants: Observing Kronian X-rays with a varying external driver”, PI Dale Weigt, Co-I Marissa Vogt, Chandra Director’s Discretionary Time, 2020
- “Search for evidence of Ultra Low Frequency Waves as drivers of Jupiter’s X-ray emission”, PI Caitriona Jackman, Co-I Marissa Vogt, Chandra Cycle 22 General Observer Program (**\$27,199** funding for Co-I Vogt)
- “An experiment to detect the first exo-ionosphere, exo-magnetosphere, and exo-aurora from the H3+ emissions of exoplanet GJ 504b”, PI Marissa Vogt (with James O’Donoghue), NASA Keck observing time in April 2020 (approximately **\$10,000** budget) – *canceled due to COVID-19 pandemic*
- “Jupiter’s infrared aurora, ionosphere and upper atmosphere: direct mission support for the Juno Spacecraft”, PI Marissa Vogt (with Luke Moore), NASA Keck observing time in May 2019 (approximately **\$10,000** budget)
- “Ground-based support for Juno: Assessing Jupiter’s auroral response to known solar wind conditions”, PI James O’Donoghue, Co-I Marissa Vogt, NASA Keck observing time April 2016.

## Publication Statistics (as of June 2024)

- Publication statistics available via
  - Google Scholar: <https://scholar.google.com/citations?user=oYqPEyQAAAAJ&hl=en>
  - Thomson Reuters: <http://www.researcherid.com/rid/C-6237-2014>
  - NASA ADS: <https://bit.ly/marissavogtads>
  - ORCID: <https://orcid.org/0000-0003-4885-8615>
- H-index: 28 (Google scholar)

## Peer-Reviewed Book Chapters

4. Palmaerts, B., **Vogt, M. F.**, Krupp, N., Grodent, D. and Bonfond, B. (2017), “Dawn-Dusk Asymmetries in Jupiter's Magnetosphere”, in *Dawn-Dusk Asymmetries in Planetary Plasma Environments* (eds S. Haaland, A. Runov and C. Forsyth), John Wiley & Sons, Inc., Hoboken, NJ, USA. doi: 10.1002/9781119216346.ch24
3. Jackman, C. M., C. S. Arridge, N. André, F. Bagenal, J. Birn, M.P. Freeman, X. Jia, A. Kidder, S. E. Milan, A. Radioti, J. A. Slavin, **M. F. Vogt**, M. Volwerk, and A. P. Walsh (2014), Large-scale structure and dynamics of the magnetotails of Mercury, Earth, Jupiter and Saturn, *Space Sci. Rev.*, 182, 85-154.
2. Louarn, P., N. Andre, C. M. Jackman, S. Kasahara, E. A. Kronberg, and **M. F. Vogt** (2014), Magnetic reconnection and associated transient phenomena within the magnetospheres of Jupiter and Saturn, *Space Sci. Rev.*, doi:10.1007/s11214-014-0047-5.
1. **Vogt, M. F.**, and M. G. Kivelson (2012), Relating Jupiter's Auroral Features to Magnetospheric Sources, in *Auroral Phenomenology and Magnetospheric Processes: Earth and Other Planets*, Geophys. Monog. Ser., vol. 197, edited by A. Keiling et al., AGU, Washington, D.C., doi:10.1029/2011GM001181.

## Peer-Reviewed Research Papers

(names of undergraduate students mentored underlined)

68. Morgenthaler, J. P., Schmidt, C. A., **Vogt, M. F.**, Schneider, N. M., & Marconi, M. (2024). Jovian sodium nebula and Io plasma torus S<sup>+</sup> and brightnesses 2017–2023: Insights into volcanic versus sublimation supply. *Journal of Geophysical Research: Space Physics*, 129, e2023JA032081. <https://doi.org/10.1029/2023JA032081>
67. Rutala, M. J., Clarke, J. T., **Vogt, M. F.**, & Nichols, J. D. (2024). Variation in the Pedersen conductance near Jupiter's main emission aurora: Comparison of Hubble Space Telescope and Galileo measurements. *Journal of Geophysical Research: Space Physics*, 129, e2023JA032122. <https://doi.org/10.1029/2023JA032122>
66. Weigt, D. M., Jackman, C. M., Moral Pombo, D., Badman, S. V., Louis, C. K., Dunn, W. R., McEntee, S. C., Branduardi-Raymont, G., Grodent, D., **Vogt, M. F.**, Tao, C., Gladstone, G. R., Kraft, R. P., Kurth, W. S., and Connerney, J. E. P., (2023). Identifying the variety of Jovian X-ray auroral structures: Tying the morphology of X-ray emissions to associated magnetospheric dynamics. *Journal of Geophysical Research: Space Physics*, 128, e2023JA031656. <https://doi.org/10.1029/2023JA031656>

65. Wilson, R.J., **Vogt, M.F.**, Provan, G. et al. Internal and External Jovian Magnetic Fields: Community Code to Serve the Magnetospheres of the Outer Planets Community. *Space Sci Rev* 219, 15 (2023). <https://doi.org/10.1007/s11214-023-00961-3>
64. Promfu, T., Nichols, J. D., Wannawichian, S., Clarke, J. T., **Vogt, M. F.**, & Bonfond, B. (2022). Ganymede's auroral footprint latitude: Comparison with magnetodisc model. *Journal of Geophysical Research: Space Physics*, 127, e2022JA030712. doi:10.1029/2022JA030712
63. **Vogt, M. F.**, Bagenal, F., & Bolton, S. J. (2022). Magnetic field conditions upstream of Ganymede. *Journal of Geophysical Research: Space Physics*, 127, e2022JA030497. <https://doi.org/10.1029/2022JA030497>
62. **Vogt, M. F.**, Rutala, M., Bonfond, B., Clarke, J. T., Moore, L., & Nichols, J. D. (2022). Variability of Jupiter's main auroral emission and satellite footprints observed with HST during the Galileo era. *Journal of Geophysical Research: Space Physics*, 127, e2021JA030011.
61. Withers, P., Felici, M., Mendillo, M., **Vogt, M. F.**, Barbini, E., Kahan, D., et al. (2022). Observations of high densities at low altitudes in the nightside ionosphere of Mars by the MAVEN Radio Occultation Science Experiment (ROSE). *Journal of Geophysical Research: Space Physics*, 127, e2022JA030737. <https://doi.org/10.1029/2022JA030737>
60. Felici, M., Withers, P., **Vogt, M. F.**, Hensley, K. G., & Andersson, L. (2022). Electron densities in the ionosphere of Mars: Comparison of MAVEN/ROSE and MAVEN/LPW measurements. *Journal of Geophysical Research: Space Physics*, 127, e2021JA030155.
59. Blöcker, A., Kronberg, E. A., Grigorenko, E. E., Clark, G., Kozak, L., **Vogt, M. F.**, & Roussos, E. (2022). Plasmoids in the Jovian magnetotail: Statistical survey of ion acceleration using Juno observations. *Journal of Geophysical Research: Space Physics*, 127, e2022JA030460.
58. Greathouse, T., R. Gladstone, M. Versteeg, V. Hue, J. Kammer, R. Giles, M. Davis, S. J. Bolton, S. Levin, J. E. P. Connerney, J.-C. Gérard, D. Grodent, B. Bonfond, E. J. Bunce, and **M. F. Vogt** (2021), Local Time Dependence of Jupiter's Polar Auroral Emissions Observed by Juno UVS, *Journal of Geophysical Research: Planets*, 126, e2021JE006954. <https://doi.org/10.1029/2021JE006954>
57. Weigt, D. M., Jackman, C. M., **Vogt, M. F.**, Manners, H., Dunn, W. R., Gladstone, G. R., et al. (2021). Characteristics of Jupiter's X-ray auroral hot spot emissions using Chandra. *Journal of Geophysical Research: Space Physics*, 126, e2021JA029243.
56. Weigt, D. M., W. R. Dunn, C. M. Jackman, R. Kraft, G. Branduardi-Raymont, J. D. Nichols, A. D. Wibisono, **M. F. Vogt**, and G. R. Gladstone (2021), Searching for Saturn's X-rays during a rare Jupiter Magnetotail crossing using *Chandra*, *Monthly Notices of the Royal Astronomical Society*, Volume 506, Issue 1, September 2021, Pages 298–305, doi:10.1093/mnras/stab1680
55. Withers, P., M. Felici, M. Mendillo, L. Moore, **M.F. Vogt**, K. Oudrhiri, D. Kahan, E. Barbini, B.M. Jakosky (2021), Quick-look estimates of ionospheric properties from radio occultation data, *Advances in Space Research*, Volume 68, Issue 4, Pages 2038-2049, ISSN



0273-1177, <https://doi.org/10.1016/j.asr.2021.04.022>.

54. Guo, R. L., Z. H. Yao, D. Grodent, B. Bonfond, G. Clark, W. R. Dunn, B. Palmaerts, B. H. Mauk, **M. F. Vogt**, Q. Q. Shi, Y. Wei, J. E. P. Connerney, and S. J. Bolton (2021). Jupiter's double-arc aurora as a signature of magnetic reconnection: Simultaneous observations from HST and Juno. *Geophysical Research Letters*, 48, e2021GL093964. doi:10.1029/2021GL093964

53. Hue, V., Greathouse, T. K., Gladstone, G. R., Bonfond, B., Gérard, J.-C., **Vogt, M. F.**, et al. (2021). Detection and characterization of circular expanding UV-emissions observed in Jupiter's polar auroral regions. *Journal of Geophysical Research: Space Physics*, 126, e2020JA028971. <https://doi.org/10.1029/2020JA028971>

52. Haewsantati, K., B. Bonfond, S. Wannawichian, G. R. Gladstone, V. Hue, M. H. Versteeg, T. K. Greathouse, D. Grodent, Z. Yao, W. Dunn, J.-C. Gérard, R. Giles, J. Kammer, R. Guo, and **M. F. Vogt** (2021). Morphology of Jupiter's Polar Auroral Bright Spot Emissions via Juno-UVS Observations. *Journal of Geophysical Research: Space Physics*, 126, e2020JA028586. <https://doi.org/10.1029/2020JA028586>

51. Bonfond, B., Z. H. Yao, G. R. Gladstone, D. Grodent, J.-C. Gérard, J. Matar, B. Palmaerts, T. K. Greathouse, V. Hue, M. H. Versteeg, J.A. Kammer, R. S. Giles, C. Tao, **M. F. Vogt**, A. Mura, A. Adriani, B. H. Mauk, W. S. Kurth, and S. J. Bolton (2021), Are dawn storms Jupiter's auroral substorms, *AGU Advances*, 2, e2020AV000275. doi:10.1029/2020AV000275.

50. Tao, C., T. Kimura, E. A. Kronberg, F. Tsuchiya, G. Murakami, A. Yamazaki, **M. F. Vogt**, B. Bonfond, K. Yosihoka, I. Yoshikawa, Y. Kasaba, H. Kita, and S. Okamoto (2021), Variation of Jupiter's Aurora Observed by Hisaki/EXCEED: 4. Quasi-Periodic Variation, *J. Geophys. Res. Space Physics*, 126, e2020JA028575. <https://doi.org/10.1029/2020JA028575>

49. Withers, P., K. Hensley, J. Hermann, and **M. F. Vogt**, Recovery and validation of Venus ionospheric electron density profiles from Pioneer Venus Orbiter radio occultation observations, *Planetary Science Journal*, 1(78), doi:10.3847/PSJ/abcaf9

48. Withers, P., K. Hensley, J. Hermann, and **M. F. Vogt**, Recovery and validation of Venus neutral atmospheric profiles from Pioneer Venus Orbiter radio occultation observations, *Planetary Science Journal*, 1(79), doi:10.3847/PSJ/abc476

47. Yao, Z. H., B. Bonfond, G. Clark, D. Grodent, W. R. Dunn, & **M. F. Vogt**, et al. (2020). Reconnection- and dipolarization-driven auroral dawn storms and injections. *Journal of Geophysical Research: Space Physics*, 125, e2019JA027663. doi:10.1029/2019JA027663

46. Phipps, P. H., P. Withers, **M. F. Vogt**, D. R. Buccino, Y.-M. Yang, M. Parisi, D. Ranquist, P. Kollmann, and S. Bolton (2020), Where is the Io plasma torus? A comparison of observations by Juno radio occultations to predictions from Jovian magnetic field models, *Journal of Geophysical Research: Space Physics*, 125, e2019JA027633. doi:10.1029/2019JA027633

45. Withers, P., M. Felici, M. Mendillo, L. Moore, C. Narvaez, **M. F. Vogt**, K. Oudrhiri, D. Kahan & B. M. Jakosky (2020), The MAVEN Radio Occultation Science Experiment (ROSE), *Space Sci. Rev.*, 216, doi:10.1007/s11214-020-00687-6

44. Artemyev, A.V., Clark, G., Mauk, B., **Vogt, M. F.**, & Zhang, X.-J. (2020). Juno observations of heavy ion energization during transient dipolarizations in Jupiter magnetotail. *Journal of Geophysical Research: Space Physics*, 125, e2020JA027933. doi:10.1029/2020JA027933
43. Withers, P., M. Felici, C. Flynn, and **M. F. Vogt** (2020), Recovery and Validation of Mars Ionospheric Electron Density Profiles from Viking Orbiter Radio Occultation Observations, *Planet. Sci. J.*, 1, 14, doi:10.3847/psj/ab8fb2.
42. **Vogt, M. F.**, Connerney, J. E. P., DiBraccio, G. A., Wilson, R. J., Thomsen, M. F., Ebert, R. W., et al (2020). Magnetotail reconnection at Jupiter: A survey of Juno magnetic field observations. *Journal of Geophysical Research: Space Physics*, 125, e2019JA027486. <https://doi.org/10.1029/2019JA027486>
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### **Undergraduate Research Experience**

- Fall 2005-  
Summer 2006     *MIT Kavli Institute for Astrophysics and Space Research – Cambridge, MA*  
Undergraduate research and senior thesis working with Dr. Justin Kasper analyzing the structure of interplanetary shocks observed by both the WIND and ACE spacecraft.
- Summer 2005     *Jet Propulsion Laboratory, Pasadena, CA*  
SURF (Summer Undergraduate Research Fellowship) through Caltech/JPL under the direction of Dr. Glenn S. Orton at JPL. Reduction and analysis of infrared telescope data to study temperatures at different levels in Saturn's atmosphere. Work was presented in a poster at the Fall 2005 meeting of the American Geophysical Union.
- Summer 2004     *Space Science Center, University of New Hampshire – Durham, NH*  
Programming and solar wind data analysis with Professor Charles W. Smith. We compared recent data from the ACE spacecraft with historical records in order to understand the intensity of the most recent solar maximum. Results were published in *Space Weather*.

### **Skills, Personal Interests, and Activities**

- Programming skills: Proficient in IDL; experienced with C, Python, and MATLAB
- Journalism: Advisory Board member (2006 - present) and former News Editor for *The Tech*, MIT's student newspaper. Graduate student representative to the UCLA Student Media Communications Board, 2008-2010 (Chairperson 2008-2009).
- Local government: Town Meeting Member (elected legislative branch of Brookline municipal government) and member of the Brookline Pedestrian Advisory Committee, 2020-present; Trustee of the Public Library of Brookline, 2023-present
- Student Government and Leadership: Director of Communications for the UCLA Graduate Student Association, 2011-2012. Unit representative to University Apartment South Residents Association at UCLA, 2009-2012. Graduate student representative to the UCLA Academic Senate's Council on Planning and Budget, 2007-2008.