

# Phillip H. Phipps

## *Curriculum Vitae*

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Center for Space Physics, Boston University  
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### Education

Ph.D. Astronomy	2019
	Department of Astronomy, Boston University
M.A. Astronomy	2015
	Department of Astronomy, Boston University
B.S. Physics with Honors	2013
B.S. Applied Mathematics with Honors	North Carolina State University

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### Research Experience

Postdoctoral Researcher	May 2019 – Present
Advisor: Prof. Paul Withers	
Department of Astronomy, Boston University, Boston, MA	
Research on the Io Plasma Torus around Jupiter.	
Graduate Researcher	Summer 2015 – April 2019
Advisor: Prof. Paul Withers	
Department of Astronomy, Boston University, Boston, MA	
Research on the Io Plasma Torus around Jupiter.	
Graduate Researcher	Summer 2014 – May 2015
Advisor: Prof. John T. Clarke	
Department of Astronomy, Boston University, Boston, MA	
Image analysis of Jupiter and Saturn aurora.	
Undergraduate Researcher	Fall 2010 – Spring 2013
Advisor: Prof. John M. Blondin	
Department of Physics, NC State University, Raleigh, NC	
Parallelized Astrophysics hydrodynamic FORTRAN simulations of white dwarf accretion disks	

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### Teaching Experience

Lecturer, AS 102 – The Astronomical Universe	July 1- Aug 9 2019
Department of Astronomy	
Boston University, Boston, MA	
Teaching Fellow, AS202 – Principles of Astronomy I	Fall 2015
Department of Astronomy	
Boston University, Boston, MA	

Teaching Fellow, AS203 – Principles of Astronomy II Department of Astronomy Boston University, Boston, MA	Spring 2015
Teaching Fellow, AS202 – Principles of Astronomy I Department of Astronomy Boston University, Boston, MA	Fall 2014
Teaching Fellow, AS109 – Cosmology Department of Astronomy Boston University, Boston, MA	Spring 2014
Teaching Fellow, AS 105 – Alien Worlds Department of Astronomy Boston University, Boston, MA	Fall 2013
Physics Tutor Department of Physics NC State University, Raleigh, NC Tutored undergraduate physics for engineers and non-majors	Spring 2012 – Spring 2013

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### Outreach

Boston University Open Nights Helped run BU public open nights at Judson B. Coit Observatory	Spring 2015 – Present
Science for kids Helped run a science event run by the Center for Space Physics, Boston University	June 15, 2018
Science by the pint Event put on by Harvard Universities Science in the news to discuss science with the general public over a pint. <a href="http://sitn.hms.harvard.edu/science-by-the-pint/">http://sitn.hms.harvard.edu/science-by-the-pint/</a>	January 2016
Open night for Metropolitan College group Managed an open night for the Boston University honor society of metropolitan college.	December 2015
Lunar eclipse viewing Managed a BU public event for the viewing of the Lunar eclipse at Boston University's Coit Observatory.	September 2015

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### Observational Experience

*Lowell Observatory*, Happy Jack, Arizona, Discovery Channel Telescope, 4.3m Telescope  
*Judson B. Coit Observatory*, Boston University, Boston, MA, 14", 10", 8" reflectors and 6" refractor

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### Computer Experience

*Languages:* Python, MatLab, IDL, Fortran  
*Research tools:* NAIF/SPICE, DS9, MaximDL  
*Document Preparation:* LaTeX, Windows Office  
*Operating Systems:* Linux, Windows, Mac

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### Memberships

American Geophysical Union, Student Member	2016-2019
American Astronomical Society, Junior Member	2010-2019
Society of Physics Students	2009-2015

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### Awards/Grants

AAS International Travel Grant (\$2535.53)	April 2019
For travel to MOP 2019 in Sendai, Japan	
Magnetospheres of Outer Planets (MOP) Travel Grant (\$1500)	April 2017
For Travel to MOP 2017 meeting in Uppsala, Sweden	
JPL Summer 2017 Internship, June 26 <sup>th</sup> - Sept 2 <sup>nd</sup> (\$8000)	March 2017
Astronomy Department Teaching Award (\$250)	April 2016
Massachusetts Space Grant Consortium Grant (\$1800)	January 2016
AAS International Travel Grant (\$983)	April 2015
For travel to IAU meeting in Honolulu, Hawaii, August 2015	

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### Seminars

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| 1. Juno Observations of the Io plasma torus,<br>GSFC Solar System Exploration Spring Seminar Series | April 17, 2019   |
| 2. Juno Observations of the Io plasma torus, JPL seminar,   | October 15, 2018 |
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### Abstracts

- Phipps, P.H.**, Withers, P., Hinton, P. C., Bagenal, F., Buccino, D. R., Yang, Y-M., & Parisi, M. (2019), The Centrifugal Equator as Seen by Juno Radio Occultations of the Io Plasma Torus, Magnetospheres of the Outer Planets meeting, Sendai, Japan, 3-7 June.
  - Phipps, P.H.**, Withers, P., Buccino, D. R., Yang, Y-M., Hinton, P. C., & Bagenal, F. (2018), Variability in the Io Plasma Torus as Seen by Juno Radio Occultations, Abstract 438966 presented at 2018 Fall Meeting, AGU, Washington, DC, 10-14 Dec.
  - Phipps, P.H.**, Withers, P., Buccino, D. R., Yang, Y-M., Hinton, P. C., & Bagenal, F. (2018), Io plasma torus geometry from *Juno* radio occultations, Magnetospheres of Outer Planets meeting, Boulder, CO, 9-13 Jul
  - Phipps, P. H.**, Withers, P., Buccino, D. R., Yang, Y-M., & Hinton, P. C. (2017). Juno Perijove 1 radio occultation of the Io plasma torus, Abstract 279802 presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
  - Phipps, P.H.** & Withers, P. (2017), Radio occultations of the Io plasma torus with the *Juno* Spacecraft: A study of feasibility, Magnetospheres of Outer Planets meeting, Uppsala, Sweden, 12-16 June
  - Phipps, P.H.** & Withers, P. (2016). Feasibility of Juno radio occultations of the Io plasma torus, Abstract 178300 presented at 2016 Fall Meeting, AGU, San Francisco, Calif., 12-16 Dec.
  - Phipps, P.H.** & Clarke, J.T. (2015). Calculation of the Auroral Color Ratio of the Gas Giants Using Images, IAU General Assembly, Meeting #29, #2258018
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**Publications**

1. **Phipps, Phillip H.**, Withers, Paul, Buccino, Dustin R., Yang, Yu-Ming, and Parisi, Marzia (2019), Variations in the density distribution of the Io plasma torus as seen by radio occultations on Juno Perijoves 3, 6, and 8, *J. Geophys. Res. Space Physics*, 124, DOI: 10.1029/2018JA026297
  2. **Phipps, Phillip H.**, Withers, Paul, Buccino, Dustin R., and Yang, Yu-Ming (2018), Distribution of plasma in the Io plasma torus during *Juno* Perijove 1, *J. Geophys. Res. Space Physics*, 123, DOI:10.1029/2017JA025113
  3. **Phipps, Phillip H.** and Withers, Paul (2017), Radio occultations of the Io plasma torus by *Juno* are feasible, *J. Geophys. Res. Space Physics*, 122, DOI: 10.1002/2016JA023447
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