Graham M. **Doskoch**

PhD student, West Virginia University

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Education

West Virginia University — *Morgantown, West Virginia*
PhD in Physics and Astronomy (in progress) — *Est. graduation: Aug. 2026*

West Virginia University — *Morgantown, West Virginia*
M.S. in Physics and Astronomy — *May 2022*

Swarthmore College — *Swarthmore, Pennsylvania*
B.S. in Astrophysics and Mathematics — *May 2020*

Research Experience

Graduate Research Assistant — *West Virginia University*
Supervisor: Maura McLaughlin — *Aug. 2020 - Present*
- Research topics: pulsars (giant pulses, rotating radio transients, pulsar timing arrays); fast radio bursts

Summer REU student — *Nevis Labs, Columbia University*
Supervisor: Brian Humensky, Reshmi Mukherjee — *Summer 2019*
- Research topics: imaging atmospheric Cherenkov telescopes

Undergraduate Researcher — *Swarthmore College*
Supervisor: David Cohen — *May 2018 - Dec. 2019*
- Research topics: x-ray spectroscopy of massive stars

Honors and Awards

2020-2023 **University Provost Fellowship**, Competitive fellowship for incoming PhD students — *WVU*
2021 **H Arthur Weldon Prize**, Scholarship for academic excellence — *WVU*

Skills

Observing experience Green Bank Telescope, Green Bank Observatory 20m telescope
Software PRESTO, Heimdall, FETCH, PINT, Tempo
Languages Python, Bash, LaTeX

Lead author publications

A Statistical Analysis of Crab Pulsar Giant Pulse Rates — *Published in ApJ*
G. M. Doskoch, A. Basuroski, K. Halley, A. Sookram, I. Rodriguez-Ramos, V. Nahata, Z. Rahman, M. Zhang, A. Uhlmann, A. Lynch, N. Lewandowska, N. Miranda, A. Schmiedekamp, C. Schmiedekamp, M. A. McLaughlin, D. E. Reichart, J. B. Haislip, V. V. Kouprianov, S. White, F. Ghigo — *2024*
ApJ 973:87 arXiv: 2407.15996

Deriving Temperature Distributions and Mass-Loss Rates from Shocks in Massive Stars' Winds — *Published in Proc. of the 29th Ann. Undergrad. Symp. on Research in Astr.*
G. M. Doskoch, W. Parts — *2018*

Co-Author Publications

Improving undergraduate astronomy students' skills with research literature via accessible summaries: An exploratory case study with Astrobites-based reading assignments *Published in PRPER*

B. L. Lewis, A. R. Waggoner, E. Clarke, A. L. Crisp, M. Dodici, **G. M. Doskoch**, M. M. Foley, R. Golant, S. Grayson, S. Hegde, N. K. Cuestas, C. J. Law, R. R. Lefever, I. Mishra, M. Popinchalk, S. Sagynbayeva, S. L. Wong, W. Yan, K. L. Ingraham Dixie, K. Supriya *2025*

PRPER 21.010124 arXiv: 2309.05822 I performed correlation analyses and wrote relevant paper sections.

Chandra Grating Spectroscopy of Embedded Wind Shock X-ray Emission from O Stars Shows Low Plasma Temperatures and Significant Wind Absorption *Published in MNRAS*

D. Cohen, W. Parts, **G. M. Doskoch**, J. Wang, V. Petit, M. A. Leutenegger *2021*

MNRAS 503:715 arXiv: 2102.01500 I fit x-ray spectra and computed elemental abundances in the sources.

Current work

Timing and statistical analysis of twelve single pulse sources discovered in the PALFA survey *In prep.*

G. M. Doskoch, M. A. McLaughlin, *et al.* for the PALFA Collaboration

A study of rotating radio transients discovered at the Arecibo Observatory, including timing solutions and single pulse statistical analyses.

Presentations

The Petabyte Project: Pipeline, Data and Early Results

Fast Radio Burst Frontiers conference *March 2025*

Deriving Temperature Distributions and Mass-Loss Rates from Shocks in Massive Stars' Winds

29th Annual KNAC Symposium *Sept. 2018*

Teaching

Graduate Teaching Assistant *WVU*

ASTR 106L: Descriptive Astronomy *Spring 2024*

I taught the introductory component of an astronomy laboratory course for non-majors. I also developed the pulsar searching project forming the core of the second half of the course.

Undergraduate Teaching Assistant *Swarthmore*

PHYS 08: Electricity, Magentism and Waves; ASTR 16: Stars, ISM and Galaxies *Spring 2019, Fall 2018*

I ran problem sessions for two mid-level courses for majors.

Outreach

Mentor *WVU/Green Bank Observatory*

Pulsar Science Collaboratory *Feb. 2021 - Present*

I taught over a dozen high school and undergraduate students the fundamentals of single pulse searching and radio observations, and led a multi-year observing campaign culminating in a paper published in ApJ.

Graduate Planetarium Assistant *WVU*

WVU Planetarium *Spring 2024*

I ran biweekly planetarium shows for the public and school groups.

Writer

Astrobites *Jan. 2021 - Dec. 2023*

I wrote a series of articles about astronomy papers, targeted at a lay audience.

Service

Climate Representative, Secretary, Social Committee Chair *WVU*

WVU Physics and Astronomy Graduate Student Organization *2020-2024*

PAGSO represents and advocates graduate students within the department. As climate representative, I worked on diversity, equity and inclusion efforts within the department, including an analysis of the biannual climate survey.

Local Organizing Committee Member *University of Pittsburgh*

Fast Radio Burst Frontiers *March 2025*