

Whitney Powers

Curriculum Vitae

Department of Astrophysical and Planetary Sciences
University of Colorado Boulder
Whitney.Powers@colorado.edu

Professional Preparation

University of Colorado Boulder	Astrophysical and Planetary Sciences	Ph.D. Candidate
The Ohio State University	Physics and Astronomy	B.Sc. May 2019

Appointments

Research Assistant	University of Colorado Boulder	May 2019-
Undergraduate Research Assistant	Ohio State University	August 2018 - May 2019
DAAD RISE Intern	Forschungszentrum Jülich	May 2017 - August 2017
Undergraduate Research Assistant	James Cancer Center	January 2017 - August 2018

Publications

- **Powers, W. T.**, Anders, E. H., Brown, B. P., “Decoupling flow speed and turbulence with fully compressible internally heated convection”, 2022, *in prep*
- **Powers, W.** “High Mach Number Fully Compressible Convection in Stellar and Planetary Atmospheres”, 2021, *Masters Thesis, University of Colorado Boulder*

Invited Talks

- July 2022, “Internal Heating, why Convective Driving Models Matter”, CSH Seminar, Universität Bern
- Jun. 2022, “Internal Heating, why Convective Driving Models Matter”, CIERA Special Seminar, Northwestern University
- Feb. 2022, “High Mach Number Convection in Jupiter? The Importance of Convective Driving Models”, Physics Department Seminar, CSU Chico

Conference Talks

- **Powers, W.**, Brown, B. “High Mach number convection in stellar and planetary atmospheres”, 2021, *74th Annual Meeting of the APS Division of Fluid Dynamics*, T11.008
- **Powers, W.**, Anders, E., Brown, B., Oishi, J., Lecoanet, D. “Shock-producing Convection in Hot Jupiter Atmospheres”, 2020, *73rd Annual Meeting of the APS Division of Fluid Dynamics*, E05.00012

Conference Posters

- **Powers, W.**, Anders, E., Brown, B. “Fundamental Studies of Internally Heated Convection in Stars and Planets”, 2022, *Cool Stars 21*

- **Powers, W.**, Anders, E., Brown, B. “Why do some convection models predict high Mach number convection in Jupiter-like planets?”, 2022, Exoplanets 4

Workshops

- Dec. 2021 “Probes of Transport in Stars”, KITP, UC Santa Barbara

Fellowships

FINESST	NASA	2022 - 2025
Hale Graduate Fellowship	CU Boulder APS Department	2022-2025

Outreach

Access Network

The Access Network is an organization of student-led mentoring programs for students from underrepresented and marginalized backgrounds in STEM programs.

- **2020 Core Organizer Task Force** Created procedures for the rerecruitment and onboarding of new Core Organizers for the Access Network.
- **2018 Network Fellow** Represented the Polaris mentoring program in the organization and operations of the annual Access Network Meeting.
- **2017-2019 Polaris Leadership Board** Helped to organize the first two years of the Polaris mentoring program in the Physics and Astronomy departments at the Ohio State University

Scientific and Technical Experience

Whitney Powers studies the atmospheres of stars and gas-giant planets through computational models. She has extensive experience in computational modeling, and is adept at using high performance computing resources. She began working on high performance computing in her undergraduate studies, and now models solar convection with the Dedalus pseudospectral framework using NASA high performance computing resources. For her current project she studies the fundamental properties of internally driven convection and compares it to the more conventional boundary driven convection approach.