

Matthew S. B. Coleman

Postdoctoral Researcher
Curriculum Vitae

Institute for Advanced Study
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Education

- Ph.D Physics, University of California Santa Barbara June 2017
Dissertation: Convection Affects Magnetic Turbulence in White Dwarf Accretion Disks
Adviser: Omer Blaes
- M.A. Physics, University of California Santa Barbara March 2014
- B.S. Physics, *Summa Cum Laude*, University of California Santa Cruz June 2011
Concentration: Astrophysics
Minor: Mathematics
Thesis: The Evolution of Supernovae Embedded in Stellar Groups
Adviser: Enrico Ramirez-Ruiz

Professional Experience

- Institute for Advanced Study, Princeton, NJ Sept. 2017-Present
Member/Postdoctoral Researcher

Publications

- Convective Quenching of Field Reversals in Accretion Disc Dynamoes*
Coleman, M. S. B., Yerger, E., Blaes, O., Salvesen, G., & Hirose, S., 2017, MNRAS, 467, 2625
- Dwarf Nova Outbursts with Magnetorotational Turbulence*
Coleman, M. S. B., Kotko, I., Blaes, O., Lasota, J.-P., & Hirose, S., 2016, MNRAS, 462, 3710
- Convection Causes Enhanced Magnetic Turbulence in Accretion Disks in Outburst*
Hirose, S., Blaes, O., Krolik, J. H., **Coleman, M. S. B.**, & Sano, T., 2014, ApJ, 787, 1

Teaching Experience

- Mentored undergraduate senior thesis, UC Santa Barbara May 2015 - June 2016
With the help of my advisor, I mentored an undergraduate physics student, Evan Yerger, in performing scientific research which led to the undergraduate's senior thesis and a publication titled Convection Modifies Dynamoes in Accretion Disks.
- Physics 104, "Advanced Mechanics" Teaching Assistant; UC Santa Barbara Jan. - March 2014
Explained course concepts to students. Led discussion sections where I gave short lectures and assisted students with homework questions. Graded turned in homework problems and exams. Wrote homework solutions.
- Physics 120, "Physics of California" Teaching Assistant; UC Santa Barbara Sept. - Dec. 2013
- Physics 131, "Gravitation and Relativity" Teaching Assistant; UC Santa Barbara April - June 2013

Astronomy 1, “Basic Astronomy” Teaching Assistant; UC Santa Barbara	Sept. 2012 - March 2013 Sept. - Dec. 2011
Physics 101a “Introduction to Modern Physics” Tutor; UC Santa Cruz Explained complicated physics to students and helped them succeed in their coursework.	Sept. - Dec. 2009
Math tutor; Napa, CA Tutored both high school and middle school levels.	Jan. 2006 - June 2007
Chabot Space and Science Center Volunteer; Oakland, CA Operated telescopes and explained stellar phenomena to visitors of all ages. Demonstrated and interpreted age appropriate science and engineering experiments. Helped children understand basic scientific principles.	June - Sept. 2006

Honors & Awards

Highest Honors in the Major, UC Santa Cruz, 2011
College Honors, UC Santa Cruz, 2011
Dean’s Honor, UC Santa Cruz, 2008, 2009, 2010, 2011
Elmer A. Fridley Award, UC Santa Cruz, 2010
Campus Merit Hierarchical Systems Research Foundation Scholarship, UC Santa Cruz, 2009, 2010
Campus Merit Didden-Ilksen Scholarship, UC Santa Cruz, 2008
Campus Merit Miller Scholarship, UC Santa Cruz, 2007

Fellowships

Yzurdiaga Fellowship, UC Santa Barbara, 2011
Baddar Fellowship, UC Santa Barbara, 2011
Paxton Fellowship, UC Santa Barbara, 2011

Invited Talks

Convection Affects Magnetic Turbulence in White Dwarf Accretion Disks UCSC Astronomy Colloquium, Santa Cruz, CA	Nov. 2017
Convection Affects Magnetic Turbulence in White Dwarf Accretion Disks Princeton University MHD Group Meeting, Princeton, NJ	Sept. 2017
Convection Affects Magnetic Turbulence in White Dwarf Accretion Disks IAS Informal Seminar, Princeton, NJ	Sept. 2017
Convection Modifies MHD Turbulence in Accretion Disks KITP conference, Santa Barbara, CA	Feb. 2017
Dwarf Novae: The Hiccups of Vampire Stars Astronomy on Tap, public talk in Santa Barbara, CA	Oct. 2016
Understanding Dwarf Novae Copernicus & Hevelius Relativistic Astrophysics Meeting, Krakow, Poland	Dec. 2014

Service

Co-Chair of Theoretical Astrophysics Seminar at UCSB	March - June 2015
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