

Curriculum Vitae

EDUCATION

- Ph.D. Astrophysical, Planetary and Atmospheric Sciences (1995)
University of Colorado, Boulder CO
Advisor: Ellen G. Zweibel
Thesis: "The Seismology of Active Regions and the Solar Atmosphere"
- B.A. summa cum laude in Physics (1990)
University of Puget Sound, Tacoma WA

APPOINTMENTS

- 8/17–12/26 **Associate Research Professor**, Department of Astrophysical and Planetary Sciences, University of Colorado Boulder
- 7/19–present **Senior Research Associate**, Department of Applied Mathematics, University of Colorado Boulder
- 7/01–present **Senior Research Associate**, JILA, University of Colorado Boulder
- 1/08–12/12 **Assistant Research Professor**, Department of Astrophysical and Planetary Sciences, University of Colorado Boulder
- 7/04–12/07 **Lecturer**, Department of Astrophysical and Planetary Sciences, University of Colorado Boulder
- 12/97–7/01 **Research Associate**, JILA, University of Colorado Boulder
- 12/95–12/97 **Advanced Studies Program Postdoctoral Fellow**, High Altitude Observatory, National Center for Atmospheric Research

RESEARCH EXPERIENCE

- 2019–present **Senior Research Associate**, Department of Applied Mathematics, University of Colorado Boulder
Research Topics: Physics of rotating stars and planets
- 2001–present **Senior Research Associate**, JILA, University of Colorado Boulder
Research Topics: Physics of stellar convection zones and MHD waves in stellar coronae
- 1997–2001 **Research Associate**, JILA, University of Colorado Boulder
Research Topic: Helioseismology of the Sun's upper convection zone
- 1995–1997 **Advanced Studies Program Postdoctoral Fellow**, High Altitude Observatory, National Center for Atmospheric Research
Research Topic: Sunspot and active-region seismology
- 1/91–12/95 **Research Assistant** with Professor Ellen Zweibel, Department of Astrophysical, Planetary and Atmospheric Sciences, University of Colorado Boulder
Research Topic: Solar magnetohydrodynamics

- 7/90–12/90 **Graduate Research Assistant** with Dr. Robert Winglee, Department of Astrophysical, Planetary and Atmospheric Sciences, University of Colorado Boulder
Research Topic: Magnetotail instabilities
- 7/90–12/90 **Graduate Research Assistant** with Professor John McKim Malville, Department of Astrophysical, Planetary and Atmospheric Sciences, University of Colorado Boulder
Research Topic: The solar cycle
- 6/89–9/89 **Undergraduate Research Assistant** with Professor Alan Thorndike, Department of Physics, University of Puget Sound
Research Topic: River plume mixing in Commencement Bay

TEACHING EXPERIENCE

Primary Instructor:

Department of Astrophysical and Planetary Sciences, University of Colorado Boulder

- 2024 ASTR 5400: Introduction to Fluid Dynamics
- 2020 ASTR 5540: Mathematical Methods
- 2019 ASTR 5400: Introduction to Fluid Dynamics
- 2016 ASTR 1200: Stars and Galaxies, introductory astronomy for non-majors
- 2014 ASTR 5400: Introduction to Fluid Dynamic
- 2012 ASTR 5410: Fluid Instabilities, Waves, and Turbulence
- 2011 ASTR 5410: Fluid Instabilities, Waves, and Turbulence

Department of Applied Mathematics, University of Colorado Boulder

- 2023 APPM 2360: Introduction to Differential Equations with Linear Algebra
- 2020 APPM 2360: Introduction to Differential Equations with Linear Algebra

Co-Instructor:

Department of Astrophysical and Planetary Sciences, University of Colorado Boulder

- 2009 ASTR 5410: Fluid Instabilities, Waves, and Turbulence, with Juri Toomre
- 2018 ASTR 7500: Helio- and Asteroseismology, with Mark Rast

Guest Instructor:

Department of Astrophysical and Planetary Sciences, University of Colorado Boulder

- 2016 ASTR 5540: Mathematical Methods, two lectures, course organized by Juri Toomre
- 2016 ASTR 5400: Intro. to Fluid Dynamics, four lectures, course organized by Juri Toomre
- 2013 ASTR 7500: Solar and Stellar Magnetism, six lectures, course organized by Juri Toomre
- 2012 ASTR 5540: Mathematical Methods, eight lectures, course organized by Juri Toomre
- 2009 ASTR 5540: Mathematical Methods, eight lectures, course organized by Juri Toomre

High Altitude Observatory, National Center for Atmospheric Research

- 2005 *Local Helioseismology*, Summer School for the Solar Physics Division of the AAS

MENTORING AND SUPERVISION

- 2023–present **Ph.D. Thesis Advisor**, Whitney Powers (Graduate Researcher), Department of Astrophysical and Planetary Sciences, University of Colorado Boulder
- 2021–present **Supervisor**, Lydia Korre (Research Associate), APPM, University of Colorado Boulder
- 2022–present **Supervisor**, Jose Fuentes (Postdoctoral Researcher), APPM, University of Colorado Boulder
- 2021–present **Ph.D. Thesis Advisor**, Catherine Blume (Graduate Researcher), Department of Astrophysical and Planetary Sciences, University of Colorado Boulder
- 2021–2022 **Supervisor**, Maria Camisassa (Postdoctoral Researcher), APPM, University of Colorado Boulder
- 2011–2015 **Ph.D. Thesis Advisor**, Benjamin Greer, Department of Astrophysical and Planetary Sciences, University of Colorado Boulder, Ph.D. received Dec 2015
- 2010–2011 **Supervisor**, Swati Routh (Postdoctoral Researcher), JILA, University of Colorado Boulder
- 2005–2011 **Ph.D. Thesis Co-Advisor**, Nicholas Featherstone, Department of Astrophysical and Planetary Sciences, University of Colorado Boulder, Ph.D. received Jan 2011
- 2004 **Supervisor**, Zachary Ziegler (Undergraduate Student), Undergraduate Research Opportunities Program (UROP), University of Colorado Boulder
- 2003 **Supervisor**, Zachary Ziegler (Undergraduate Student), Undergraduate Student, University of Colorado Boulder

GRANT HISTORY

Principal Investigator:

- 2024–2026 “The Seismic Potential of the Sun’s Inertial Modes,” NASA solicitation 80NSSC24K0271, \$824,943; 1/01/24–12/31/26, Co-Investigator: Nicholas Featherstone
- 2023–2026 “Exploring Dynamo Processes in the Tachocline and Radiative Interior,” NASA grant 80NSSC23K1624, \$150,000, 9/01/23–8/31/26; Future Investigator: Catherine Blume
- 2021–2023 “Processes Shaping the Solar Meridional Circulation,” NASA grant 80NSSC20K0193, \$885,390, 3/9/21–12/31/23; Co-Investigators: Nicholas Featherstone, Benjamin Brown
- 2020–2022 “The Solar Dynamo Revealed,” NASA grant 80NSSC17K0008, \$1,389,068, 11/13/20–6/22/22; Co-Investigators: Nicholas Featherstone, Keith Julien, Geoff Vasil, Mark Miesch
- 2019–2022 “Exploiting torque balance applied to the torsional oscillations to helioseismically detect and assess submerged magnetic field,” NASA grant 80NSSC19K0267, \$524,936, 3/01/19–2/28/22; Co-Investigator: Juri Toomre
- 2018–2022 “Seismology of the Corona’s Magnetic Field,” NASA grant 80NSSC18K1125, \$600,000, 7/01/18–6/30/22; Co-Investigator: Rekha Jain
- 2014–2019 “Theoretical Advancements in the Seismology of Coronal Loops,” NASA grant NNX14AG05G, \$450,953, 3/25/14–3/24/19; Co-Investigator: Rekha Jain
- 2014–2018 “Subsurface Flow Evolution over the Solar Cycle Revealed by Modern Ring-Analysis Techniques,” NASA grant NNX14AC05G, \$460,141, 1/1/14–12/31/18; Co-Investigators: Nicholas Featherstone & Juri Toomre
- 2008–2011 “Helioseismic Tools that Incorporate Corrections Arising from Magnetic Active Regions,” NASA grant NNX08AQ28G, \$460,000, 5/19/08–5/18/11; Co-Investigators: Deborah Haber & Juri Toomre
- 2008–2011 “Helioseismic Probing of Flows Coupled with Evolving and Flaring Active Regions,” NASA grant NNX08AJ08G, \$437,902, 2/27/08–2/26/11; Co-Investigators: Deborah Haber & Juri Toomre
- 2005–2010 “Tools Enabling Rapid Mapping of Solar Subsurface Weather with Time-Distance Tomography,” NASA grant NNG05GM83G, \$661,929, 7/15/05–7/14/10; Co-Investigators: Deborah Haber & Juri Toomre
- 2002–2007 “Helioseismic Probing with GONG+ of Subsurface Flows and their Coupling to Magnetic Activity,” NSF grant ATM-0219581, \$498,007, 11/13/02–10/31/07; Co-Investigators: Deborah Haber & Juri Toomre
- 2002–2007 “Developing Rapid Helioseismic Mapping of Evolving Solar Subsurface Weather and Magnetic Structures for SDO,” NASA grant NAG5-12491, \$517,954, 8/15/02–8/14/07; Co-Investigators: Douglas Gough, Deborah Haber, Michael Thompson & Juri Toomre
- 2001–2005 “Origins of Spatial Variations in Helioseismic Frequency Shifts Associated with Solar Activity,” NASA grant NAG5-1F0917, \$263,249, 6/01/01–5/31/05; Co-Investigators: Douglas Gough, Deborah Haber, Michael Thompson & Juri Toomre

Co-Investigator:

- 2024–2026 “Magnetic Influence on Differential Rotation throughout the Solar Interior,” NASA grant 80NSSC24K0125, \$1,357,173; Principal Investigator: Nicholas Featherstone
- 2020–2022 “Solaris – Revealing the Mysteries of the Sun’s Poles,” NASA solicitation NNH19ZDA0130, Midex mission Phase B, Principal Investigator: Don Hassler
- 2020–2021 “Processes Shaping the Solar Meridional Circulation,” NASA grant 80NSSC20K0193, \$885,390; Principal Investigator: Nicholas Featherstone
- 2018–2021 “Seeking the Deep Origins of Sunspots,” NASA grant 80NSSC18K1127, \$600,000; Principal Investigator: Juri Toomre
- 2017–2020 “The Solar Dynamo Revealed,” NASA grant 80NSSC17K0008, \$1,389,068; Principal Investigator: Nicholas Featherstone
- 2011–2014 “Dynamic Origins of Cyclic Solar Activity,” NASA grant NNX11AJ36G, \$1,352,100; Principal Investigator: Juri Toomre
- 2009–2013 “Developing Physics-Based Procedures for Helioseismic Probing of Sunspots and Magnetic Active Regions,” NASA grant NNX09AB04G, \$2,800,000; Institutional Principal Investigator: Juri Toomre (JILA), Principal Investigator: Douglas Braun (NWRA/ CoRA)
- 2008–2012 “Solar Dynamo Probed with Simulations of Turbulent Convection, Magnetism and Shear,” NASA grant, NNX08AI57G, \$1,217,909; Principal Investigator: Juri Toomre
- 2007–2012 “Helioseismic Mapping of Subsurface Flows Near Solar Filaments,” NASA grant, NNX07AH82G, \$443,039; Principal Investigator: Deborah Haber
- 2007–2009 “Validation of Local Helioseismic Inversion Methods Using Realistic, Supergranulation-Scale Simulations,” NASA grant, \$185,233; Principal Investigator: Robert Stein (MSU)
- 2006–2007 “Helioseismic Probing of Subsurface Flows with High-Resolution Ring Analyses,” NASA grant NNG06GD97G, \$56,000; Principal Investigator: Deborah Haber
- 2005–2010 “Elements of the Solar Dynamo: MHD Simulations of Convection, Rotation, Shear and Magnetism,” NASA grant NNG05G124G, \$1,278,621; Principal Investigator: Juri Toomre
- 2005–2012 “Local Helioseismic Probing on Subsurface Dynamics with HMI,” NASA grant NAS5-02139, \$481,066; Principal Investigator: Juri Toomre
- 2003–2009 “Assessing Interactions between Solar Subsurface Weather (SSW) and Magnetism,” NASA grant NAG5-13520, \$825,204; Principal Investigator: Juri Toomre
- 2003–2008 “Framework to Interpret Solar Subsurface Weather: Global Simulations of Turbulent Dynamics of the Upper Reaches of the Solar Convection Zone,” NASA grant NAG5-12815, \$315,000; Principal Investigator: Juri Toomre
- 2006–2006 “Exploring Dynamical Implications of Solar Subsurface Weather,” NASA grant NAG5-11920, \$56,000; Principal Investigator: Deborah Haber
- 2002–2006 “Exploring Dynamical Implications of Solar Subsurface Weather,” NASA grant NNG06GD97G, \$487,932; Principal Investigator: Deborah Haber
- 1999–2003 “Global and Local Helioseismic Studies of Solar Convection Zone Dynamics Using SOI-MDI on SOHO,” NASA grant NRA NAG5-7996, \$685,000; Principal Investigator: Juri Toomre
- 1998–2000 “Sources of Original and Scattered p -Mode Energy,” NASA grant NRA 97-OSS-08, \$100,022; Principal Investigator: Timothy Brown

Principal Investigator (Supercomputing Resources Awarded Separately from a NASA Grant):

- 2018–2019 “Seismology of the Corona’s Magnetic Field,” HEX grant HEC-SMD-17-1579, 100K SBUs (2.8 million core -hours)
- 2017–2018 “Modeling Support for Deep Helioseismic Flow Measurement,” NASA HEC augmentation award SMD-16-7469, 9.0 million processor hours, 11/1/17–12/31/18
- 2016–2017 “Modeling Support for Deep Helioseismic Flow Measurement,” NASA HEC grant SMD-16-7469, 9.8 million core-hours, 11/1/16–09/30/17
- 2016 “Modeling Support for Deep Helioseismic Flow Measurement,” NASA HEC grant SMD-16-6913, 1.6 million core-hours, 04/30/16–10/31/16
- 2015–2016 “Modeling Support for Deep Helioseismic Flow Measurement,” NASA HEC grant SMD-15-6478, 4.2 million core-hours, 11/01/15–04/30/16
- 2015–2016 “Modeling Support for Deep Helioseismic Flow Measurement,” NASA HEC grant SMD-15-5894, 3.6 million core-hours, 05/01/15–06/30/16
- 2014–2015 “Modeling Support for Deep Helioseismic Flow Measurement,” NASA HEC grant SMD-14-4892, 4.9 million core-hours, 5/1/14–6/30/15

SERVICE WORK

Service to the University of Colorado Boulder:

Department of Astrophysical and Planetary Sciences

- 2021–present Member of the Comprehensive Examination Committee for three graduate students in APS (Catherine Blume, Imogen Cresswell, Cole Tamburri)
- 2010–present Member of the Thesis Committee for seven graduate students (Piyush Agrawal, Evan Anders, Kyle Augustson, Conner Bice, Nicholas Featherstone, Loren Matilsky, Ryan Orvedahl)
- 2010–2018 Member of the Research Comprehensive Examination Committee for nine graduate students in APS (Karan Molaverdikhani, Benjamin Greer, Christopher Chronopoulos, Daniel Gole, Marcus Piquette, Ryan Ovredahl, Daniel Everding, Loren Matilsky, & Connor Bice)
- 2010–2019 Collaborated on the writing of ten graduate-level Comprehensive Exams (fluid dynamics and mathematical methods questions)

Department of Physics

- 2016 Member of the Masters Comprehensive Examination (II) Committee for Andrew Hess

Department of Chemistry

- 2021 Member of the Oral Examination Committee for Margarita Reza

Laboratory for Atmospheric and Space Physics

- 2018 Internal Science Review Panel for a proposal to NASA by PI T. Woods

Service to the Profession:

- 2004–present Reviewed 37 papers for scientific journals and proceedings: two for Astronomy & Astrophysics, 16 for the Astrophysical Journal, 13 for the Astrophysical Journal Letters, four for Solar Physics, one for Monthly Notices of the Royal Astronomical Society, and one for a conference proceeding
- 2004–present Reviewed 58 grant proposals for NASA: 13 for the Solar and Heliospheric Physics (SHP) program, 14 for the Living with a Star (LWS) program, 13 for the Heliophysics Guest Investigator (HGI) program, and 18 for the Heliophysics Supporting Research program (HSR).
- 2010–present Member of the Science Team for the Helioseismic and Magnetic Imager (HMI) aboard the Solar Dynamics Observatory (SDO)
- 2012 Served as the external Ph.D. Thesis Examiner for Marie Elizabeth Newington, Monash University, Melbourne, Australia
- 2009 Member of a NASA grant review panel: Strategic Resource and Technology (SRT) program

COMMUNITY OUTREACH

- 2015 **Grade School Presentation**, “Grand Tour of the Planets,” 2nd-grade science class, BASIS Oro Valley, Oro Valley, Arizona; Teacher: Jennifer Mattes
- 2021 **Appeared in a Documentary**, “Science Friction,” 2022 release, Director: E. Emery, Discussed the responsibilities of a scientist when interacting with the public

PRESENTATIONS

Invited Presentations:

- “Meridional flow through the lens of helioseismology,” COFFIES DSC Workshop on the Sun’s Near-Surface Shear Layer, November 2023
- “The Tyranny of Sound: Sound-Proofing the Fluid Equations,” GAFD Seminar, University of Colorado Boulder, Department of Applied Mathematics, September 2023
- “Rotation and Convection: How the Coriolis Force Can Lead to Travelling Wave Convection,” Astrophysics Seminar, University of Exeter, Exeter UK, July 2023
- “Trapping of Thermal Rossby Waves within the Sun’s Convection Zone,” Fall Meeting of the American Geophysical Union, Chicago, December 2022
- “Thermal Rossby Waves in a Stratified Atmosphere,” LWS Focused Science Team meeting, Boulder, July 2022
- “Thermal Rossby Waves within the Sun’s Convection Zone,” UK MHD Meeting, Sheffield UK, June 2022
- “Using the Morphology and Temporal Evolution of the Sun’s High-Latitude Convection as a Probe of its Dynamo State,” Fall Meeting of the American Geophysical Union, New Orleans, December 2021
- “Convective Flows at High-Latitude (and what they might say about the Sun’s dynamo state),” Solar Orbiter – Dynamo and Solar Cycle Remote Sensing Working Group, Max Planck Institute, Germany, Remote, September 2021
- “Do Coronal Loops Oscillate in Isolation?” School of Mathematics and Statistics, University of Sheffield, Sheffield, UK, Remote, May 2021
- “Regimes of Rotating Convection,” Geophysical/Astrophysical Fluid Dynamics Seminar, Dept. of Applied Mathematics, University of Colorado, Boulder, Colorado, April 2020
- “Are Coronal-Loop Oscillations Confined to the Visible Loop?” 16th annual meeting of the Asia Oceania Geoscience Society, Singapore, July 2019
- “Helioseismology,” Geophysical/Astrophysical Fluid Dynamics Seminar, Dept. of Applied Mathematics, University of Colorado, Boulder, Colorado, February 2019
- “Solar Convection under the Influence of Rotation,” Solar Focus Series, National Solar Observatory, Boulder, Colorado, December 2017
- “Solar Convection in the Rotationally Constrained Regime,” School of Mathematics and Statistics, University of Sheffield, Sheffield, UK, January 2017
- “Helioseismic Imaging of Supergranulation within the Upper 30 Mm of the Convection Zone,” National Solar Observatory, Boulder, Colorado, October 2016.
- “What’s Happening inside the Sun,” LWS / SDO Workshop, Squaw Valley, California, May 2011.
- “3D Helioseismic Inversions of Ring-Analysis Flow Measurements,” GONG 2010, Aix-en-Provence, France, June 2010.
- “Measuring Meridional Circulation Deep within the Sun,” IAU Symposium 271, Nice, France, June 2010.
- “Subsurface Circulations Established by Active Regions,” SHINE 2009, Wolfville, Nova Scotia, Canada, Aug 2009.
- “Subsurface Circulations within Active Regions,” HAO Seminar, High Altitude Observatory, Boulder, Colorado, April 2009.

- “The Generation of Coronal-Loop Waves below the Photosphere by p -Mode Forcing,” Departmental Seminar, Applied Mathematics, University of Sheffield, UK, January 2008.
- “Ring Analysis,” Solar Physics Division Summer School on Helioseismology, Boulder, Colorado, 2005.
- “Doppler Velocity and Intensity Measurements of p -Mode Surface Amplitudes,” University of California, Northridge, California, 1998.

Oral Presentations:

- “Global Confinement of the Solar Tachocline by a Dynamo Magnetic Field,” Hindman, B.W., Matilsky, L., Featherstone, N.A., & Toomre, J., Triennial Earth-Sun Summit (TESS) meeting, Bellevue, WA, August 2022
- “Numerical/Theoretical Modeling of Solar Meridional Circulation,” Hindman, B.W., Featherstone, N.A., Brown, B.P., Korre, L., & Camisassa, M., LWS Focused Science Team Meeting, July 2021
- “Using Observations of High-Latitude Flows to Ascertain the Sun’s Convective Regime,” Hindman, B.W., Featherstone, N.A., Lamb, D., & Brown, B.P., Fall Meeting of the American Geophysical Union, Online, December 2020.
- “Regimes of stellar convection as a function of rotation rate and Rayleigh number,” StellarHydro Days V, University of Exeter, Exeter, United Kingdom, June 2019.
- “The Scaling Law for Rotating Stellar Convection in the High-Rayleigh-Number Regime,” Hindman, B.W. & Featherstone, N.A., Fall Meeting of the American Geophysical Union, Washington D.C., December 2018.
- “Rotational Influence on Stellar Convection,” Hindman, B.W., Faculty Research Talk, University of Colorado, Boulder, Colorado, October 2018.
- “Rotational Influence on Stellar Convection,” Hindman, B.W., Faculty Research Talk, University of Colorado, Boulder, Colorado, October 2017.
- “Helioseismic Imaging of Supergranulation throughout the Sun’s Near-Surface Shear Layer,” Hindman, B.W. & Greer, B.J., & Toomre, J., NSO, Boulder, Colorado, Oct 2016.
- “Helioseismic Imaging of Supergranulation throughout the Sun’s Near-Surface Shear Layer,” Hindman, B.W. & Greer, B.J., & Toomre, J., American Astronomical Society—Solar Physics Division, Boulder, Colorado, May–June 2016.
- “Convective Energy Transport in the High-Rayleigh-Number Regime,” Hindman, B.W. & Featherstone, N., NASA LWS Workshop on Solar Dynamo Frontiers: Helioseismology, 3D Modeling, and Data Assimilation, HAO, Boulder, Colorado, June 2015.
- “Are some coronal loop oscillations interference fringes?” Hindman, B.W. & Rekha, J., Solar Physics Discussion Group, NSO & LASP, Boulder, Colorado, December 2014.
- “Center-to-limb systematics for MDI,” Hindman, B.W., HMI Workshop, Stanford University, Palo Alto, California, Jul 2014.
- “High-Resolution Ring Analysis,” Hindman, B.W., Greer, B., Featherstone, N., & Toomre, J., 50th Anniversary of Helioseismology, Tucson, Arizona, May 2013.
- “Acoustic Imaging of the Solar Interior,” Hindman, B.W., Faculty Research Talk, University of Colorado, Boulder, Colorado, Oct 2013.
- “Acoustic Imaging of the Solar Interior,” Hindman, B.W., Faculty Research Talk, University of Colorado, Boulder, Colorado, Oct 2012.
- “Spatial Windowing in Ring Analysis,” Hindman, B.W. & Greer, B., LWS Workshop, NSO, Tucson, Arizona, Mar 2012.

- “Acoustic Imaging of the Solar Interior,” Hindman, B.W., Faculty Research Talk, University of Colorado, Boulder, Colorado, Oct 2011.
- “Acoustic Imaging of the Interior of the Sun,” Hindman, B.W., Faculty Research Talk, University of Colorado, Boulder, Colorado, Jan 2010.
- “New 3-D inversion modules for ring-diagram data,” HMI Science Team Meeting, Stanford, California, September 2009.
- “Subsurface Circulations Established by Active Regions,” SHINE 2009, Wolfville, Nova Scotia, Canada, August 2009.
- “Local Helioseismology,” Hindman, B.W., Faculty Research Talk, University of Colorado, Boulder, Colorado, Jan 2008.
- “Subsurface Flows and the Evolution of Solar Filaments,” SOHO Workshop, Giardini Naxos, Sicily, Italy, May 2006.
- “Solar Subsurface Flows,” GONG 2008 / SOHO XXI, Boulder, Colorado, October 2008.
- “Helioseismic Flow Comparisons,” SDO Team Meeting, Napa, California, March 2008
- “Subsurface Flows Underlying a Filament,” Boulder Solar Day, High Altitude Observatory, Boulder, Colorado, May 2006.
- “Solar Subsurface Weather: Recent Measurements of Flows Using Ring-Diagram Analysis,” AAS meeting, Albuquerque, New Mexico, 2002.
- “Comparing Local Frequency Shifts Measured through Ring–Diagram Analyses with Global Frequency Shifts,” 10th SOHO Workshop, Santa Cruz de Tenerife, Spain, October 2 2000.
- “Local p -Mode Frequency Shifts Used as Tracers of Solar Activity,” 9th SOHO Workshop, Stanford, California, July 1999.
- “Acoustic Power Maps of Solar Active Regions,” Joint SOHO/GONG Meeting, Stanford, California, December 1997.

Poster Presentations (since 2010):

- Hindman, B.W., Jain, R., & Blume, C. 2023, “A unifying model of mixed inertial modes in the Sun,” *AGU Fall Meeting 2023*, abstract id. SH13D-27110
- Hindman, B.W., Fuentes, J.R., Cumming, A., & Anders, E. 2023, “Rotation decreases convective mixing in gas giants,” *AGU Fall Meeting 2023*, abstract id. P23F-3107
- Blume, C., Hindman, B.W., & Matilsky, L.I. 2023, “Inertial Oscillations in a solar-like simulation,” *AGU Fall Meeting 2023*, abstract id. P23G-3114
- Dikpati, M., Braun, D.C., Featherstone, N.A., Hindman, B.W., Komm, R., Liu, Y., Upton, L., Wang, H. 2023, “Implications of solar flows and waves for shaping the activity cycle,” *AGU Fall Meeting 2023*, abstract id. SH13D-2810
- Hassler, D. et al. 2023, “Solaris: A focused solar polar mission,” *AGU Fall Meeting 2023*, abstract id. SH32-10
- Blume, C., Hindman, B.W., & Matilsky, L.I. 2023, “Inertial Oscillations in a solar-like simulation,” *SHINE 2023 Workshop*, abstract id. 016
- Fuentes, J.R., Hindman, B.W., Zhao, J., Blume, C., Camisassa, M., Featherstone, N.A., Hartlep, T., Matilsky, L.I., Korre, L. 2023, “Meridional circulation through the lens of helioseismology,” *SHINE 2023 Workshop*, abstract id. 020
- Hassler, D.M. et al. 2023, “Solaris: A focused solar polar mission,” *SHINE 2023 Workshop*, abstract id. 017

- Dikpati, M., Braun, D.C., Featherstone, N.A., Hindman, B., Komm, R., Liu, Y., Upton, L., & Wang, H. "Observations and Simulations of Solar Flows and Their Roles in Magnetic Activity Patterns at the Surface", *AGU Fall Meeting 2022*, abstract id. SH15D-1515
- Blume, C., Hindman, B.W., Matilsky, L., Korre, L., & Featherstone, N.A. 2022, "Confining the thermal spread of the tachocline", *AGU Fall Meeting 2022*, abstract id. SH15D-1501
- Hindman, B.W. & Jain, R. 2022, "Radial Trapping of Thermal Rossby Waves within the Sun's Convection Zone," Triennial Earth-Sun Summit (TESS) meeting 2022, abstract id. 341
- Stejko, A., Kosovichev, A.G., Featherstone, N.A., Guerrero, G., Hindman, B., Matilsky, L., & Warnecke, J. 2022, "Using time–distance helioseismology to constrain simulations of meridional circulation in the Sun, *AGU Fall Meeting 2022*, abstract id. SH14B-03
- Blume C., Hindman, B.W., & Matilsky, L. 2022, "Rossby Waves in the Radiative Interior," Triennial Earth-Sun Summit (TESS) meeting 2022, abstract id. 211
- Dikpati, M., Braun, D., Featherstone, N., Hindman, B., Komm, R., Liu, Y., Scherrer, P., Upton, L., & Wang, H. 2021, "Global Solar Flows and their Impact on Magnetic Activity," *AGU Fall Meeting 2021*, abstract id. SH55D-1872
- Hindman, B.W., Featherstone, N.A., & Julien, K. 2019, "Morphological Regimes of Rotating Convection in Stratified Spherical Shells," *AGU Fall Meeting 2019*, abstract id. NG43A-0890
- Matilsky, L.I., Hindman, B.W., & Toomre, J. 2018, "Exploring the influence of density contrast on solar near-surface shear," *20th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun*, id. 49
- Matilsky, L.I., Hindman, B.W., Toomre, J., & Featherstone, N. 2018, "The role of rotation in convective heat transport: an application to low-mass stars," *AAS Meeting #232*, id. 306.03
- Greer, B, Hindman, B., & Toomre, J. 2015, "High-res ring-diagram analysis of solar subsurface flows," *Advances in the Seismology of the Sun and Stars*, Mumbai, India.
- Greer, B., Hindman, B., & Toomre, J. 2014, "Measuring the solar meridional circulation using local helioseismology," *AGU Fall Meeting 2014*, abstract id.SH41B-4143
- Hindman, B.W. & Jain, R. 2014, "Interpreting coronal-loop oscillations as the modes of a 2D waveguide," *AGU Fall Meeting 2014*, abstract id.SH13A-4072
- Featherstone, N.A., Hindman, B.W., Thompson, M.J., & Toomre, J. 2011, "Probing subsurface flows around sunspots with 3-dimensional ring inversions," *SHINE 2011*, id. 17

PUBLICATIONS

Refereed Journal Articles:

- Blume, C., Hindman, B.W., & Matilsky, L.I. 2024, “Inertial waves in a nonlinear simulation of the Sun’s convection zone and radiative interior,” *ApJ*, submitted, ([arXiv:2312.14270](https://arxiv.org/abs/2312.14270))
- Fuentes, J.R., Hindman, B.W., Zhao, J., Blume, C., Camisassa, M., Featherstone, N.A., Hartlep, T., Korre, L., Matilsky, L.I. 2024, “Assessing the observability of deep meridional flow cells in the solar interior,” *ApJ*, 961, 78, ([arXiv:2308.07513](https://arxiv.org/abs/2308.07513))
- Matilsky, L.I., Brummell, N.H., Hindman, B.W., & Toomre, J. 2024, “Confinement of the solar tachocline by a non-axisymmetric dynamo,” *ApJ*, in press, ([arXiv:2311.10202](https://arxiv.org/abs/2311.10202))
- Hindman, B.W. & Julien, K. 2024, “Low-frequency internal gravity waves are pseudo-incompressible,” *ApJ*, 960, 64, ([arXiv:2309.10079](https://arxiv.org/abs/2309.10079))
- Fuentes, J.R., Anders, E.H., Cumming, A., & Hindman, B.W. 2023, “Rotation reduces mixing of composition gradients in Jupiter and other gas giants,” *ApJL*, 950, L4, ([arXiv:2305.09921](https://arxiv.org/abs/2305.09921))
- Hindman, B.W. & Fuentes, J.R. 2023, “Dwindling surface cooling of a rotating Jovian planet leads to a convection zone that grows to a finite depth,” *ApJL*, 957, L23, ([arXiv:2310.16124](https://arxiv.org/abs/2310.16124))
- Hindman, B.W. & Jain, R. 2023, “Overstable convective modes in a polytropic stellar atmosphere,” *ApJ*, 943, 127, ([arXiv:2305.07064](https://arxiv.org/abs/2305.07064))
- Jain, R. & Hindman, B.W. 2023, “Latitudinal propagation of thermal Rossby waves in the solar convection zone,” *ApJ*, 958, 48, ([arXiv:2309.12903](https://arxiv.org/abs/2309.12903))
- Hindman, B.W. & Jain, R. 2022, “Radial trapping of thermal Rossby waves within the convection zones of low-mass stars,” *ApJ*, 932, 68, ([arXiv:2205.02346](https://arxiv.org/abs/2205.02346))
- Matilsky, L.I., Hindman, B.W., Featherstone, N.A., Blume, C., & Toomre, J. 2022, “Confinement of the solar tachocline by non-axisymmetric dynamo magnetic field,” *ApJL*, 940, L50, ([arXiv:2206.12920](https://arxiv.org/abs/2206.12920))
- Stejko, A.M., Kosovichev, A., Featherstone, N.A., Guerrero, G., Hindman, B.W., Matilsky, L.I., & Warnecke, J. 2022, “Constraining global solar models through helioseismic analysis,” *ApJ*, 934, 161, ([arXiv:2204.05207](https://arxiv.org/abs/2204.05207))
- Hindman, B.W. & Jain, R. 2021, “Do coronal loops oscillate in isolation?” *ApJ*, 291, 29, ([arXiv:2108.04362](https://arxiv.org/abs/2108.04362))
- Hindman, B.W., Featherstone, N.A., & Julien, K. 2020, “Morphological classification of the convective regimes in rotating stars,” *ApJ*, 898, 120
- Matilsky, L.I., Hindman, B.W., & Toomre, J. 2020, “Revisiting the Sun’s strong differential rotation along radial lines,” *ApJ*, 898, 111, ([arxiv:2004.00208](https://arxiv.org/abs/2004.00208))
- Nagashima, K., Birch, A.C., Schou, J., Hindman, B.W., & Gizon, L. 2020, “An improved multi-ridge fitting method for ring-diagram helioseismic analysis,” *A&A*, 633, A109, ([arxiv:1911.07772](https://arxiv.org/abs/1911.07772))
- Allian, F., Jain, R., & Hindman, B.W. 2019, “A new analysis procedure for detecting periodicities within complex solar coronal arcades,” *ApJ*, 880, 3, ([arxiv:1902.06644](https://arxiv.org/abs/1902.06644))
- Matilsky, L.I., Hindman, B.W., & Toomre, J. 2019, “The role of downflows in establishing solar near-surface shear,” *ApJ*, 871, 217, ([arXiv:1810.00115](https://arxiv.org/abs/1810.00115))
- Hindman, B.W. & Jain, R. 2018, “A novel approach to resonant absorption of the fast MHD eigenmodes of a coronal arcade,” *ApJ*, 858, 6, ([arXiv:1803.08948](https://arxiv.org/abs/1803.08948))
- Orvedahl, R.J., Calkins, M.A., Featherstone, N.A., & Hindman, B.W. 2018, “Prandtl-number effects in high-Rayleigh-number spherical convection,” *ApJ*, 856, 13, ([arXiv:1803.07035](https://arxiv.org/abs/1803.07035))
- Featherstone, N.A. & Hindman, B.W. 2016a, “The spectral amplitude of stellar convection and its scaling in the high-Rayleigh-number regime,” *ApJ*, 818, 32, ([arXiv: 1511.02396](https://arxiv.org/abs/1511.02396))
- Featherstone, N.A. & Hindman, B.W. 2016b, “The emergence of supergranulation as a natural consequence of rotationally-constrained interior convection,” *ApJL*, 830, L15, ([arXiv: 1609.05153](https://arxiv.org/abs/1609.05153))

- Greer, B.J., Hindman, B.W., & Toomre, J. 2016b, “Helioseismic imaging of supergranulation throughout the Sun’s near-surface shear layer,” *ApJ*, 824, 128
- Greer, B.J., Hindman, B.W., & Toomre, J. 2016a, “Helioseismic measurement of the Rossby number in the Sun’s near-surface shear layer,” *ApJ*, 824, 4
- Hindman, B.W. & Jain, R. 2015, “Eigenmodes of 3-D magnetic arcades in the Sun’s corona,” *ApJ*, 814, 105, ([arXiv: 1511.09411](#))
- Greer, B.J., Hindman, B.W., Featherstone, N.A., & Toomre, J. 2015, “Helioseismic imaging of fast convective flows throughout the near-surface shear layer,” *ApJL*, 803, L17, ([arXiv: 1504.00699](#))
- Jain, R., Maurya, R.A., & Hindman, B.W. 2015, “Fundamental-mode oscillations of two coronal loops within a solar magnetic arcade,” *ApJL*, 804, L19, ([arXiv:1504.07822](#))
- Gascoyne, A., Jain, R., & Hindman, B.W. 2014, “Energy loss of solar p modes due to the excitation of magnetic sausage tube waves: Importance of coupling the upper atmosphere,” *ApJ*, 789, 109, ([arXiv:1405.0130](#))
- Greer, B., Hindman, B.W., & Toomre, J. 2014, “Multi-ridge fitting for ring-diagram helioseismology,” *SoPh*, 289, 2823, ([arXiv:1402.5166](#))
- Hindman, B.W. & Jain, R. 2014, “An interpretation of flare-induced and decayless coronal-loop oscillations as interference patterns,” *ApJ*, 784, 103, ([arXiv: 1312.1922](#))
- Jain, R., Gascoyne, A., Hindman, B.W., & Greer, B. 2014, “Five-minute oscillation power within magnetic elements in the solar atmosphere,” *ApJ*, 796, 72, ([arXiv:1405.0695](#))
- Hindman, B.W. & Jain, R. 2013, “Equilibrium models of coronal loops that involve curvature and buoyancy,” *ApJ*, 778, 174, ([arXiv: 1308.0620](#))
- Hindman, B.W. & Jain, R. 2012, “Axisymmetric Scattering of p Modes by Thin Magnetic Tubes,” *ApJ*, 746, 66, ([arXiv: 1106.5078](#))
- Jain, R. & Hindman, B.W. 2012, “What can be learned from the seismology of a coronal loop using only a handful of frequencies?” *A&A*, 545, A138.
- Featherstone, N.A., Hindman, B.W. & Thompson, M.J. 2011, “Ring-analysis measurements of sunspot outflows,” in *Proc. GONG 2010 – SoHO 24: A new era of seismology of the Sun and solar-like stars*, J. Phys. Conference Series vol. 271, 012002.
- Gascoyne, A., Jain, R. & Hindman, B.W. 2011, “Sensitivity of p-Mode Absorption on Magnetic Region Properties and Kernel Functions,” *A&A*, 526, 93.
- Jain, R., Gascoyne, A. & Hindman, B.W., 2011, “Interaction of p modes with an ensemble of thin magnetic-flux tubes,” *MNRAS*, 415, 1276.
- Jain, R., Gascoyne, A. & Hindman, B.W. 2011, “Axisymmetric absorption of p modes by an ensemble of thin, magnetic-flux tubes,” in *Proc. GONG 2010 – SoHO 24: A new era of seismology of the Sun and solar-like stars*, J. Phys. Conference Series vol. 271, 012016.
- Miesch, M.S. & Hindman, B.W. 2011, “Gyroscopic Pumping in the Solar Near-Surface Shear Layer,” *ApJ*, 743, 79, ([arXiv:1106.4107](#))
- Routh, S., Haber, D.A., Hindman, B.W., Bogart, R.S. & Toomre, J., 2011, “The Influence of Tracking Rate on Helioseismic Flow Inferences,” in *Proc. GONG 2010 – SoHO 24: A new era of seismology of the Sun and solar-like stars*, J. Phys. Conference Series vol. 271, 012014.
- Gough, D. & Hindman, B.W. 2010, “Helioseismic detection of deep meridional flow,” *ApJ*, 714, 960, ([arXiv:0911.2013](#))
- Moradi, H., Baldner, C., Birch, A.C., Braun, D.C., Cameron, R.H., Duvall, T.L., Jr., Gizon, L., Haber, D., Hanasoge, S.M., Hindman, B.W., Jackiewicz, J., Khomenko, E., Komm, R., Rajaguru, P., Rempel, M., Roth, M., Schlichenmaier, R., Schunker, H.J., Spruit, H.C., Strassmeier, K.G., Thompson, M.J.

- & Zharkov, S. 2010, "Modeling the Subsurface Structure of Sunspots," *SoPh*, 267, 1, ([arXiv:0904.1575](#))
- Gordovskyy, M., Jain, R. & Hindman, B.W. 2009, "The role of mode mixing in the absorption of p-modes," *ApJ*, 694, 1602.
- Hindman, B.W., Haber, D.A. & Toomre, J. 2009, "Subsurface circulations within active regions," *ApJ*, 698, 1749, ([arXiv:0904.1575](#))
- Jain, R., Hindman, B.W., Braun, D.C. & Birch, A.C. 2009, "Absorption of p modes by thin magnetic flux tubes," *ApJ*, 695, 325.
- Hindman, B.W. & Jain, R. 2008, "The generation of coronal loop waves below the photosphere by p-mode forcing," *ApJ*, 667, 769, ([arXiv:0805.1942](#))
- Birch, A.C., Gizon, L., Hindman, B.W. & Haber, D.A. 2007, "The linear sensitivity of ring diagrams to local flows," *ApJ*, 662, 730.
- Komm, R., Howe, R., Hill, F., Miesch, M., Haber, D.A. & Hindman, 2007, "Divergence and vorticity of subsurface flows derived from ring-diagram analysis of MDI and GONG data," *ApJ*, 667, 571.
- Hindman, B.W., Haber, D.A. & Toomre, J. 2006, "Helioseismically determined near-surface flows underlying a quiescent filament," *ApJ*, 653, 725.
- Howe, R., Komm, R.W., Gonzalez-Hernandez, I., Hill, F., Ulrich, R., Haber, D.A., Hindman, B.W., Schou, J. & Thompson, M.J., 2006, "Large-scale zonal flows near the solar surface," *SoPh*, 235, 1.
- Mason, D., Komm, R.W., Hill, F., Howe, R., Haber, D.A. & Hindman, B.W., 2006, "Flares, magnetic fields, and subsurface vorticity: a survey of GONG and MDI data," *ApJ*, 645, 1543.
- Hindman, B.W., Gough, D.O., Thompson, M.J. & Toomre, J., 2005, "Helioseismic ring analyses of artificial data computed for two-dimensional shearing flows," *ApJ*, 621, 512.
- Haber, D.A., Hindman, B.W., Toomre, J. & Thompson, M.J. 2004, "Organized subsurface flows near active regions," *SoPh*, 220, 371.
- Hindman, B.W., Gizon, L., Duvall, T.J., Jr., Haber, D.A. & Toomre, J. 2004, "Comparison of solar subsurface flows assessed by ring and time-distance analyses," *ApJ*, 613, 1253.
- Howe, R., Komm, R.W., Hill, F., Haber, D.A. & Hindman, B.W. 2004, "Activity-related changes in local solar acoustic mode parameters from Michelson Doppler Imager and Global Oscillations Network Group," *ApJ*, 608, 562.
- Haber, D.A., Hindman, B.W., Toomre, J., Bogart, R.S., Larsen, R.M. & Hill, F., 2002, "Evolving submerged meridional circulation cells within the upper convection zone revealed by ring-diagram analysis," *ApJ*, 570, 855.
- Haber, D.A., Hindman, B.W., Toomre, J., Bogart, R.S., Thompson, M.J. & Hill, F., 2000, "Solar shear flows deduced from helioseismic dense-pack samplings of ring diagrams," *SoPh*, 192, 335.
- Hindman, B.W., Haber, D.A., Toomre, J. & Bogart, R.S., 2000, "Local fractional frequency shifts used as tracers of magnetic activity," *SoPh*, 192, 363.
- Hindman, B.W. & Brown, T.M., 1998, "Acoustic power maps of solar active regions," *ApJ*, 504, 1029.
- Hindman, B.W., Jain, R. & Zweibel, E.G., 1997, "The surface amplitudes and frequencies of p-mode oscillations in active regions," *ApJ*, 476, 392.
- Bogdan, T.J., Hindman, B.W., Cally, P.S. & Charbonneau, P., 1996, "Absorption of p-modes by slender magnetic flux tubes and p-mode lifetimes," *ApJ*, 465, 406.
- Hindman, B.W., Zweibel, E.G. & Cally, P.S., 1996, "Driven acoustic oscillations within a vertical magnetic field," *ApJ*, 459, 760.

Jain, R., Hindman, B.W. & Zweibel, E.G., 1996, “The influence of magnetism on p-mode surface amplitudes,” *ApJ*, 464, 476.

Hindman, B.W. & Zweibel, E.G., 1994, “The effects of a hot outer atmosphere on acoustic–gravity waves,” *ApJ*, 436, 929.

Proceedings Papers:

Nagashima, K., Birch, A.C., Schou, J., Hindman, B., & Gizon, L. 2018, “Towards improved multi-ridge fitting method for ring-diagram analysis,” in *Proc. 2018 SDO Science Workshop: Catalyzing Solar Connections*, id.50

Birch, A., Duvall, T., Gizon, L., Hanasoge, S., Hindman, B., Nagashima, K., & Sreenivasan, K. 2018, “Revisiting helioseismic constraints on subsurface convection,” in *Proc. 2018 SDO Science Workshop: Catalyzing Solar Connections*, id.50

Matilsky, L.I., Hindman, B.W., & Toomre, J. 2018, “Exploring the influence of density contrast on solar near-surface shear,” in *Proc. of 20th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun*, ed. S.J. Wolk, id. 49, ([arXiv:1811.00665](https://arxiv.org/abs/1811.00665))

Greer, B., Hindman, B.W., Toomre, J. 2013, “Center-to-Limb Velocity Systematic in Ring-Diagram Analysis,” in *Proc. NSO Workshop #17: Fifty Years of the Seismology of the Sun and Stars*, eds. K. Jain, S. Tripathy, F. Hill, and A. Pevtsov, ASP Conference Series vol. 478, 199

Jain, R., Hindman, B.W., Braun, D.C. & Birch, A.C. 2009, “Absorption of p modes by magnetic plage,” in *Proc. SOHO 21 / GONG 2008: Solar-Stellar Dynamos as Revealed by Helio- and Asteroseismology*, (eds. M. Dikpati, T. Arentoft, I. Gonzalez-Hernandez, C. Lindsey, F. Hill), ASP Conference Series vol. 416, 55.

Howe, R., Haber, D.A., Hindman, B.W., Komm, R., Hill, F. & González-Hernández, I., 2008, “Helioseismic Frequency Shifts in Active Regions,” in *Proc. NSO Workshop #24 – Subsurface and Atmospheric Influences on Solar Activity*, (eds. R. Howe, R.W. Komm, K.S. Balasubramaniam, G.J.D. Petrie), ASP Conference Series vol. 383, 305.

Burtseva, O., González-Hernández, I., Hill, F., Howe, R., Jain, K., Kholikov, S., Komm, R., Leibacher, J., Toner, C., Tripathy, S., Haber, D., Hindman, B., Ladenkov, O. & Chou, D.-Y., 2006, “MDI and GONG inferences of the changing Sun,” in *Proc. SOHO 17 – 10 Years of SOHO and Beyond*, (ed.H. Lacoste & L. Ouwehand), ESA SP-617, 41.

Featherstone, N.A., Haber, D.A., Hindman, B.W. & Toomre, 2006, “Helioseismic probing of giant cell flows,” in *Beyond the Spherical Sun*, (ed. K. Fletcher), ESA SP-624, 133.

Haber, D.A., Hindman, B.W., Toomre, J. & Bogart, R.S., 2006, “Large-scale circulations using ring-analysis,” in *Beyond the Spherical Sun*, (ed. K. Fletcher), ESA SP-624, 45.

Hindman, B.W., Haber, D.A. & Toomre, J., 2006, “Subsurface convective flows within active regions,” in *Beyond the Spherical Sun*, (ed. K. Fletcher), ESA SP-624, 11.

Brown, B.P., Haber, D.A., Hindman, B.W. & Toomre, J., 2004, “Variations of solar subsurface weather in the vicinity of active regions,” in *Helio- and Asteroseismology: Towards a Golden Future*, (ed. D. Danesy), ESA SP-559, 345.

Featherstone, N.A., Haber, D.A., Hindman, B.W. & Toomre, J., 2004, “Time-distance helioseismology: a fourier transform method and measurement of Reynolds stresses,” in *Helio- and Asteroseismology: Towards a Golden Future*, (ed. D. Danesy), ESA SP-559, 428.

Haber, D.A., Hindman, B.W., Toomre, J., Bogart, R.S. & Thompson, M.J., 2004, “Subphotospheric flows near active region NOAA 10486,” in *Helio- and Asteroseismology: Towards a Golden Future*, (ed. D. Danesy), ESA SP-559, 148.

- Haber, D.A. & Hindman, B.W., 2004, "Solar meridional flows: recent findings," in *Highlights of Astronomy*, International Astronomical Union, (ed. O. Engvold), JD12, vol. 13, 44.
- Hindman, B.W., Featherstone, N.A., Haber, D.A., Musman, S. & Toomre, J., 2004, "Comparison of local helioseismic techniques applied to MDI Doppler data," in *Helio- and Asterioseismology: Towards a Golden Future*, (ed. D. Danesy), ESA SP-559, 460.
- Howe, R., Gonzalez-Hernandez, I., Komm, R.W., Hill, F., Haber, D.A. & Hindman, B.W., 2004, "A tale of two regions: acoustic power maps and magnetic activity in AR 10486 and AR 10488," in *Helio- and Asterioseismology: Towards a Golden Future*, (ed. D. Danesy), ESA SP-559, 480.
- Howe, R., Komm, R.W., Gonzalez-Hernandez, I., Hill, F., Haber, D.A. & Hindman, B.W., 2004, "Local frequency shifts from GONG and MDI," in *Helio- and Asterioseismology: Towards a Golden Future*, (ed. D. Danesy), ESA SP-559, 484.
- Komm, R., Howe, R., Gonzalez-Hernandez, I., Hill, F., Haber, D., Hindman, B. & Corbard, T., 2004, "Solar subsurface flows and vorticity," in *Helio- and Asterioseismology: Towards a Golden Future*, (ed. D. Danesy), ESA SP-559, 520.
- Corbard, T., Toner, C., Hill, F., Hanna, K.D., Haber, D.A., Hindman, B.W. & Bogart, R.S., 2003, "Ring-diagram analysis with GONG++," in *Proc. of SOHO 12 / GONG++ Local and Global Helioseismology: The Present and Future*, (ed. H. Sawaya-Lacoste), ESA SP-517, 255.
- Haber, D.A., Hindman, B.W. & Toomre, J., 2003, "Interaction of solar subsurface flows with major active regions," in *Proc. of SOHO 12 / GONG++ Local and Global Helioseismology: The Present and Future*, (ed. H. Sawaya-Lacoste), ESA SP-517, 103.
- Hindman, B.W., Gizon, L., Haber, D.A., Duvall, Jr., T. & Toomre, J., 2003, "Comparison of near-surface flows assessed by ring-diagram and f-mode time-distance analyses," in *Proc. of SOHO 12 / GONG++ Local and Global Helioseismology: The Present and Future*, (ed. H. Sawaya-Lacoste), ESA SP-517, 299.
- Toner, C.G., Haber, D., Corbard, T., Bogart, R., & Hindman, B., 2003, "An Image Merge for GONG+," in *Proc. of SOHO 12 / GONG++ Local and Global Helioseismology: The Present and Future*, (ed. H. Sawaya-Lacoste), ESA SP-517, 405.
- Barban, C., Howe, R., Hill, F., Komm, R.W., Leibacher, J., Toner, C., Bogart, R., Braun, D., Haber, D., Hindman, B. & Lindsey, C., 2002, "MDI and GONG inferences of the changing solar interior," in *Proc. SOHO 11 Symposium: From Solar Min to Max: Half a Solar Cycle with SOHO*, (ed. A. Wilson), ESA SP-508, 55.
- Haber, D.A., Hindman, B.W., Toomre, J., Bogart, R.S. & Hill, F., 2001, "Daily variations of large-scale subsurface flows and global synoptic flow maps from dense-pack ring-diagram analyses," in *Proc. SOHO 10/GONG 2000 Workshop, Helio- and Astero-seismology at the Dawn of the Millenium*, (eds. A. Eff-Darwich & A. Wilson), ESA SP-464, 209.
- Haber, D.A., Hindman, B.W., Toomre, J., Bogart, R.S. & Hill, F., 2001, "Development of multiple cells in meridional flows and evolution of mean zonal flows from ring-diagram analyses," *Proc. SOHO 10/GONG 2000 Workshop, Helio- and Astero-seismology at the Dawn of the Millenium*, (eds. A. Eff-Darwich & A. Wilson), ESA SP-464, 213.
- Haber, D.B., Hindman, B.W., Toomre, J., Bogart, R.S. & Hill, F., 2001, "Subsurface flows with advancing solar cycle using dense-pack ring-diagram analyses," in *IAU 2000 Workshop: Recent Insights into the Physics of the Sun and Heliosphere Highlights from SOHO and Other Space Missions*, (eds. P. Brekke, B. Fleck, & J.B. Gurman), ASP Conference Series, Vol. 200, 2001, 211.
- Hindman, B.W., Haber, D.A., Toomre, J. & Bogart, R.S., 2001, "Comparing local frequency shifts measured through ring-diagram analyses with global frequency shifts," in *Proc. SOHO 10/GONG 2000 Workshop, Helio- and Asteroseismology at the Dawn of the Millenium*, (eds. A. Eff-Darwich & A. Wilson), ESA SP-464, 143.

- Hindman, B.W., Haber, D.H., Toomre, J. & Bogart, R.S., 2001, “Fractional frequency shifts of local helioseismic modes with magnetic activity using ring-diagram analysis,” in IAU 2000 Workshop: Recent Insights into the Physics of the Sun and Heliosphere Highlights from SOHO and Other Space Missions, (eds. P. Brekke, B. Fleck, & J.B. Gurman), ASP Conference Series, Vol. 200, 2001, 215.
- Haber, D.A., Hindman, B.W., Toomre, J., Bogart, R.S., Schou, J. & Hill, F., 1998, “Subphotospheric convective flows determined by ring–diagram analyses of SOI–MDI observations,” in SOHO 6/GONG 98 Workshop: Structure and Dynamics of the Interior of the Sun and Sun–like Stars, (eds. S. Korzennik & A. Wilson), ESA SP-418, 791.
- Hindman, B.W., Zweibel, E.G. & Cally, P.S., 1995, “Driven Acoustic Oscillations Within a Vertical Magnetic Field,” in Fourth SOHO Workshop: Helioseismology, (eds. J.T. Hoeksema, V. Domingo, B. Fleck, & B. Battrick), ESA SP-376, 77.
- Jain, R., Hindman, B.W. & Zweibel, E.G., 1995, “Changes in the Upper Turning Point Due to Magnetism,” in Fourth SOHO Workshop: Helioseismology, eds. J.T. Hoeksema, V. Domingo, B. Fleck, & B. Battrick, ESA SP-376, 63.
- Hindman, B.W. & Zweibel, E.G., 1994, “The Effects of a Hot Outer Atmosphere on Acoustic-Gravity Waves,” in GONG 1994: Helio– and Asteroseismology From the Earth and Space, eds. (R.K. Ulrich, E.J. Rhodes, & W. Däppen), 366.

Data and Code Repositories

- Anders, E., Fuentes, R., Cumming, A., & Hindman, B.W., 2023, “evanhandlers/rotation_reduces_entrapment: Code Release,” <https://zenodo.org/record/7950969>
- Featherstone, N.A., Hindman, B.W., & Matilsky, L. 2020, Rayleigh simulation library, <https://osf.io/j275z/>
- Hindman, B. W., Featherstone, N. A., & Julien, K. 2020, Morphological classification of the convective regimes in rotating stars, <https://osf.io/qbt32/>

Doctoral Thesis:

- Hindman, B.W., 1995, “The seismology of active regions and the solar atmosphere,” Ph.D. Dissertation, University of Colorado at Boulder.

Unique ArXiv Papers:

- Hindman, B.W. & Jain, R. 2012, “Kink oscillations of a curved, gravitationally stratified, coronal loop,” unpublished elsewhere, ([arXiv: 1209.5734](https://arxiv.org/abs/1209.5734))
- Hindman, B.W. 2012, “An Improved Method for Fitting p-Mode Profile Asymmetries,” unpublished elsewhere, ([arXiv: 1112.4790](https://arxiv.org/abs/1112.4790))
- Featherstone, N.A. et al. 2023, “The Puzzling Structure of Solar Convection: Window into the Dynamo,” White paper, United States National Academies Solar and Space Physics (Heliophysics) Decadal Survey, ([arXiv:2305.08823](https://arxiv.org/abs/2305.08823))
- Hassler, D.M. et al. 2023, “Solaris: A Focused Solar Polar Discovery-class Mission to achieve the Highest Priority Heliophysics Science Now,” White paper, United States National Academies Solar and Space Physics (Heliophysics) Decadal Survey, ([arXiv:2301.07647](https://arxiv.org/abs/2301.07647))