

Henry (Trae) Winter III

Phone: (406) 994-2443

FAX: (406) 994- 4452

Email: winter@solar.physics.montana.edu

Physics Department

Montana State University

Department of Physics, EPS 264

Bozeman, MT 59717-3840

OBJECTIVE:

To earn a Ph.D. in physics with a focus on solar physics in order to pursue a career in the observation and theoretical modeling of solar phenomena.

EDUCATION:

Montana State University, Ph.D. Candidate, Physics, currently enrolled.

University of Memphis, Master of Sciences, Physics, Graduation Date: 12/15/01.

University of Memphis, Bachelor of Sciences, Psychology with a Minor in Physics,
Graduation Date: 12/19/98.

EMPLOYMENT HISTORY:

January 2002-Present: Graduate Research Assistant, MSU Department of Physics, Solar Physics Group.

August 2004-April 2006: Manager, Space Public Outreach Team, Montana Space Grant Consortium.

May 2005-August 2005: Research supervisor for NSF sponsored Research Experiences for Undergraduates program, MSU Department of Physics, Solar Physics Group.

August 2001-December 2001: Teaching Assistant, University of Memphis Physics Department, Memphis, TN.

May 2001-August 2001: Research Intern, NASA Goddard Spaceflight Center, Greenbelt, MD.

May 2000 – August 2000: Research Intern, Lockheed Martin Solar & Astrophysics Laboratory, Palo Alto, CA.

May 1997-May 2001: Research Assistant, University of Memphis Solar Physics Lab, Memphis, TN.

August 1997-May 2000: Teaching Assistant, University of Memphis Physics Department Astronomy Lab, Memphis, TN.

May 1997-March 1998: Assistant to the editors for Many Faces of the Sun.

AWARDS:

Outstanding Student Paper Award, 2005 Joint Assembly of the American Geophysical Union, Solar Physics Section, “Improving Flare Simulations by Combining Hydrodynamics Modeling with Stochastic Particle Transport”.

Outstanding Student Paper Award, 2005 Joint Assembly of the American Geophysical Union, SPA – Heliospheric Section, ‘Education & Public Outreach in Montana, Supporting the Solar Dynamics Observatory’.

REFEREED PUBLICATIONS:

Combining Hydrodynamics Modeling with Test Particle Tracking to Improve Flare Simulations: Winter, H.D., Martens, P.C.H., Rettenmayer, J. 2005, ASP Conference Series, The New Solar Physics with Solar-B Mission, Proceedings of the Sixth Solar-B Science Meeting (Submitted).

Analysis of a Coronal Loop on the Limb: Cirtain, J. W., Martens, P.C.H, Winter, H.D., 2003, *Advances in Space Research*, Volume 32, Issue 6, p. 1117-1121

Coronal Abundances from SERTS/Yohkoh SXT Data Obtained Using the Forward Folding Technique: Schmelz, J.T., Winter, H.D., Marino, C.P. (2002), *Advances in Space Research*, **30**, 61-66.

Combining SXT and CDS Observations to Investigate Coronal Abundances: Winter, H.D., and Cirtain, J. W. 2002, Multi-Wavelength Observations of Coronal Structure and Dynamics -- Yohkoh 10th Anniversary Meeting, *COSAPAR Colloquia Series*, **13**, 93-94.

Observational Constraints on Coronal Heating Models Using Coronal Diagnostics Spectrometer and Soft X-Ray Telescope Data: Schmelz, J.T., Scopes, R. T., Cirtain, J. W., Winter, H. D., and Allen, J. D. 2001, *Apj*, **556**, 896.

Emission Measure Distribution for an Active Region Using Coordinated SERTS and Yohkoh SXT Observations: Schmelz, J.T., Saba, J.L.R., Strong, K.T., Winter, H.D., and Brosius, J.W. 1999, *Apj*, **523**, 432-443.

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Using Forward-Folding of SERTS and Yohkoh SXT Data to Estimate the Electron Densities of Coronal Plasma: Schmelz, J.T., and Winter, H.D. (1999), 8th SOHO workshop, "Plasma Dynamics and Diagnostics in the Solar Transition Region and Corona", ESA SP-446, 593-597.

Multi-Thermal Plasma Distributions from SERTS and Yohkoh SXT Observations: Saba, J.L.R., Schmelz, J.T., and Winter, H.D. 1998, *EOS*, **79**, 17, S290.

SELECTED PRESENTATIONS / POSTERS:

Quiescent Loop Heating Profiles with AIA (*Invited Talk*): Winter, H.D., Neal, K., Rettenmayer, J., Martens, P.C.H. 2006, HMI/AIA Science Teams Meeting 2006.

Combining Hydrodynamics Modeling with Test Particle Tracking to Improve Flare Simulations: Winter, H.D., Martens, P.C.H., Rettenmayer, J. 2005 6-th Solar-B Science Meeting, Kyoto, Japan.

TRACE and SXT Responses to Flare Simulations Using Combined Non-Thermal Particle and Hydrodynamic Modeling: Winter, H. D., Martens, P. Rettenmayer, J. 2005, AGU Fall Meeting
Improving Flare Simulations by Combining Hydrodynamics Modeling with Stochastic Particle Transport: Winter, H. D. Martens, P. 2005, AGU Spring Meeting.

Education & Public Outreach in Montana, Supporting the Solar Dynamics Observatory: Winter, H. D. McKenzie, D. E. 2005, AGU Spring Meeting.

An Hour in the Life of Coronal Loops: Cirtain, J. W., Scott, J. T., Martens, P. C. H., Winter, H. D. 2004, American Astronomical Society Meeting #205

Fourier Modeling of DEM Distributions: Winter, H.D., and Martens, P.C.H. 2002, Coronal Loops Workshop, Orsay, France.

Differential Emission Measure Error Analysis: Winter, H.D., and Martens, P.C.H. 2002, American Astronomical Society Meeting #200.

IDL Tutorial: Winter, H.D. 2002, Given to undergraduate students attending the MSU Department of Physics summer REU program.

Differential Emission Measure Analysis of the Solar Corona: Winter, H.D., Cirtain, J. W., Martens, P.C.H. 2002, Montana Academy of Sciences Annual Meeting.

Combining SXT and CDS Observations to Investigate Coronal Abundances: Winter, H.D., and Cirtain, J. W. 2002, Multi-Wavelength Observations of Coronal Structure and Dynamics -- Yohkoh 10th Anniversary Meeting.

Comparing Active Region Plasma Parameters Using Differential Emission Measure Techniques: Winter, H.D., Schmelz, J.T., & Medlin, D.A. 2001, American Geophysical Union, Spring Meeting 2001, abstract #SH41B-22, 441B22.

Solar Sail Mission Concepts: Winter, H.D., Alexander, D., McInnes, C. R., 2000, Solar Physics Division American Astronomical Society SPD Meeting #, *BAAS*, **32**, 227 .

Estimating Electron Densities of Coronal Plasma Using Forward-Folding: Winter, H.D., Schmelz, J.T., and Saba, J.L.R. 1999, *BAAS*, **31**, 850.

PROFESSIONAL MEMBERSHIPS:

American Astronomical Society Member

American Geophysical Union Member

REFERENCES:

Dr. Piet Martens, Research Professor, Department of Physics, Montana State University,
PO BOX 173840 Bozeman, MT 59717-3840

email: martens@solar.physics.montana.edu , phone: (406) 994-7049, fax: (406) 994-4452

Dr. David McKenzie, Assistant Research Professor, Department of Physics, Montana State University,
PO BOX 173840 Bozeman, MT 59717-3840

email: mckenzie@solar.physics.montana.edu , phone: (406) 994-7843, fax: (406) 994-4452

Dr. Donna Minton, Deputy Director Montana Space Grant Consortium, MSGC, 416 Cobleigh Hall,
P.O. Box 173835, Montana State University, Bozeman, MT 59717-3835

email: martens@physics.montana.edu , phone: (406) 994- 4223, fax: (406) 994- 4452