

## **Charles C. Kankelborg**

Department of Physics  
Montana State University  
Bozeman, MT 59717-3840  
Phone: 406-994-7853  
FAX: 406-994-4452  
kankel@montana.edu

## **Education**

Ph.D., September 1996 Department of physics, Stanford University, Stanford, CA. Dissertation: "Multispectral observations of coronal X-ray bright points"

B.S. (summa cum laude, Phi Beta Kappa, Sigma Pi Sigma, Phi Kappa Phi), June 1989  
Department of Physics, University of Puget Sound, Tacoma, WA Honors thesis: "Instabilities of turbulent vortex wakes"

## **Research Interests**

Solar magnetic activity; Coronal loops; X-ray bright points; Image analysis; UV spectroscopy, optics, and instrument design; space instrumentation; signal and image processing; inverse problems.

## **Relevant Experience**

2017 - present: Co-Investigator, *Multi-slit Spectroscopic Explorer*, NASA SMEX Phase A.

2015 - present: Principal Investigator, *EUV Snapshot Imaging Spectrograph (ESIS)* sounding rocket investigation, NASA Heliophysics LCAS.

2014 - present: Professor, Department of Physics, Montana State University

2008 - present: Co-Investigator, *Interface Region Imaging Spectrograph*, NASA Heliophysics Small Explorer mission. Responsible for spectrograph optics.

2001 - 2015: Principal Investigator, *Multi-Order Solar EUV Spectrograph (MOSES)* sounding rocket investigation, NASA Heliophysics LCAS.

2007 - 2014: Associate Professor, Department of Physics, Montana State University

2001 - 2007: Assistant Professor, Department of Physics, Montana State University

April 2001 - August 2001: Research Scientist, Department of Physics, Montana State University, Bozeman, MT.

## **Service**

Dr. Kankelborg has served on a variety of NASA review panels, including Solar Probe Plus Standing Review Board (Aug 2009 - Sep 2010), TMC reviews for two major space missions, SR& T, GI, Moo, LCAS, and MIDEX science review. He has also served on review panels for the US National Science Foundation and the Swiss SNF.

2012-2016: NASA Sounding Rocket Working Group.

2011-2013, Judge for the National Solar Spectrograph Competition. Public outreach program for the NASA *IRIS* mission.

2009-2012: NASA Heliophysics Subcommittee.

April 2012 - 2015: Montana Space Grant Consortium Advisory Board

Referee for The Astrophysical Journal, Solar Physics, and others. Chaired poster and oral sessions at AAS/SPD meetings.

Member, American Geophysical Union

Associate Member, Solar Physics Division of the American Astronomical Society

Member, American Scientific Affiliation

## Awards

Spring, 2012: MSU Society of Physics Students Undergraduate Level Instructor Award.

2012: Kavli Frontiers of Science meeting, invited participant.

2011 and 2006: George Tuthill award (outstanding graduate level instructor, selected by the physics graduate students).

2010: Charles & Nora Wiley Faculty Award for Meritorious Research.

Presidential Early Career Award for Scientists & Engineers (PECASE), awarded December 19, 2008 at the White House, “for the development of novel instrumentation for imaging spectroscopy in Solar Physics; and for mentoring undergraduate and graduate students involved in experiments on sounding rockets.”

## Selected Publications

Dr. Kankelborg is author or co-author of three dozen refereed and 145 total publications.

1. “Using local correlation tracking to recover solar spectral information from a slitless spectrograph”, Charles C. Kankelborg Hans T. Courrier, *Journal of Astronomical Telescopes, Instruments, and Systems*, **4**, 4-11, (2018).
2. “Fast Differential Emission Measure Inversion of Solar Coronal Data”, J. Plowman, C. Kankelborg, and P. Martens, *ApJ*, **771**, 2, (2013).
3. “Exploring the Interface Between the Sun’s Surface and Corona”, Charles Kankelborg, *Physics Today*, **65**, 72-73, (2012).
4. “Data inversion for the Multi-Order Solar Extreme-Ultraviolet Spectrograph”, J. L. Fox, C. C. Kankelborg, and T. R. Metcalf, In *Optical Spectroscopic Techniques and Instrumentation for Atmospheric and Space Research V.*, Larar, Allen M.; Shaw, Joseph A.; Sun, Zhaobo., eds. *Proc. SPIE*, volume 5157, pages 124–132, (2003).
5. “Evidence of Separator Reconnection in a Survey of X-Ray Bright Points”, D. W. Longcope, C. C. Kankelborg, J. L. Nelson, and A. A. Pevtsov, *ApJ*, **553**, 429–439, (2001).
6. “Forward modeling of the coronal response to reconnection in an X-ray bright point”, C. Kankelborg and D. Longcope, *Sol. Phys.*, **190**, 59–77, (1999).