Chris Lowder

CONTACT

Mathematical Sciences
Durham University
Durham, DH1 3LE, United Kingdom

Mobile: +44 (0) 7497 356988
Office: +44 (0) 191 334 3087
E-mail: chris.lowder@durham.ac.uk

EDUCATION

Montana State University, Bozeman, Montana, United States

PhD Physics, June 2015

M.S. Physics, May 2011

Georgia Institute of Technology, Atlanta, Georgia, United States

B.S., Physics, December 2007

PUBLICATIONS

Lowder, C., Qiu, J., Leamon, R. & Liu, Y. *Measurements of EUV Coronal Holes and Open Magnetic Flux.* ApJ 783, 142 (2014).

Lowder, C., Qiu, J., & Leamon, R. *Coronal Holes and Open Magnetic Flux over Cycles 23 and 24.* (accepted)

Lowder, C., Qiu, J., Leamon, R., & Longcope, D. *Connecting Coronal Holes and Open Magnetic Field.* (in preparation).

Lowder, C., Qiu, J., & Leamon, R., *Transient Coronal Dimmings and connection to Heliospheric Open Flux.* (in preparation).

Lowder, C., Yeates, A., *Magnetic Flux Rope Identification and Characterization from Observationally-Driven Solar Coronal Models.* (in preparation).

CONFERENCE PROCEEDINGS

Magnetic Flux Rope Identification and Characterization from Observationally-Driven Solar Coronal Models UK National Astronomy Meeting (2016).

Connecting Coronal Holes and Open Magnetic Field via Numerical Modeling and Observations. Triennial Earth-Sun Summit / SPD (2015).

A Comparison of EUV Coronal Hole Measurements and Modeled Open Magnetic Field -or- How I learned to stop worrying and love the potential magnetic field. GSU Colloquium Series (2014).

Full Surface Automated Coronal Hole Detection and Characterization to Constrain Global Magnetic Field Models. AAS Meeting 220 (2012).

Transient coronal holes : A statistical study of coronal dimming regions. The Origin, Evolution, and Diagnosis of Solar Flare Magnetic Fields and Plasmas (2010).

Coronal Mass Ejections : A Study of Structural Evolution and Classification. AAS Meeting 210 (2007).

COMPUTING

Proficient : Python, IDL, LaTeX, OpenMPI, Fortran
Familiar : C++, Octave, MATLAB, OpenCL
Experience in large-scale parallel computing projects and databases

RESEARCH EXPERIENCE

Durham University, Durham, United Kingdom
Department of Mathematical Sciences

Postdoctoral Research Associate **August 2015 to Present**

- Working with Anthony Yeates on modelling solar flux rope eruption and detection.

Montana State University, Bozeman, Montana, United States
School of Physics

Graduate Research Assistant **August 2009 to August 2015**

- Worked with Dr. Jiong Qiu and Dr. Robert Leamon in analyzing coronal dimming
- Designed automated code to detect and characterize coronal holes from SDO and STEREO EUV data to constrain global models of open magnetic field
- Developed flux transport model to study evolution of far-side open magnetic field