



Smithsonian Astrophysical Observatory

EDWARD DELUCA

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EDUCATION Ph.D. Astrophysics, 1986, *University of Colorado, Boulder, CO*
B.A. Astronomy, 1979, *Wesleyan University, Middletown, CT*

APPOINTMENT Smithsonian Astrophysical Observatory, Cambridge, MA
Senior Astrophysicist 2012 - present

PREVIOUS APPOINTMENTS
SAO, Cambridge, MA - Supervisory Astrophysicist 2006 - 2012
SAO, Cambridge, MA - Astrophysicist 1993 - 2006
IfA, University of Hawaii, Honolulu, HI - Astronomer 1990 - 1993
Dept. of Astronomy, University of Chicago, Chicago, IL - Postdoc 1987 - 1990
ASP, NCAR, Boulder, CO - Postdoctoral 1986 - 1987

COMMITTEES & HONORS
Hinode Science Working Group 2005 - present
LWS Targeted Research & Technology Steering Committee 2010 - 2011
Solar-C International Sub-Working Group Co-Chair for NGXT 2009 - 2011
NASA Advisory Council Heliophysics Sub-Committee 2006 - 2010
American Astronomical Society Solar Physics Division Chair 2003 - 2006
NASA Sun-Earth Connection Roadmap Team 2002
Compton Lecturer, University of Chicago Spring 1989

RESEARCH INTERESTS
Theory of magnetic field generation in the Sun and stars; coronal heating via magnetic reconnection and MHD turbulence; magnetic flux emergence in the Sun and stars; the nature and origin of coronal fine structure; state-of-the-art X-Ray and EUV instrumentation.

MANAGEMENT EXPERIENCE
US PI Hinode X-Ray Telescope (XRT). Hinode is a strategic solar mission in low earth orbit. It is an international collaboration between the US, Japan, UK and Norway. The XRT team includes scientists from nine different institutions in the US and Japan.
Co-I, Project Scientist pre-launch, Solar Dynamics Observatory (SDO) Atmospheric Imaging Array (AIA), NASA strategic mission. SDO launched in February 2010. Responsible for developing the testing program for entrance filters, SAO representative to the science working group, helped define the fundamental science questions that would be addressed by the mission. Helped to secure the SAO archive of SDO data.
Co-I, Project Scientist Interface Region Imaging Spectrograph, NASA Small Explorer. SAO has built the UV telescope feed for the spectrograph. Will help define the science goals for this mission. Will help develop the Mission Operations and Data Analysis (MODA) plans. Will organize the SAO contributions to science and operations.
Co-I SAO Project Scientist, Transition Region and Coronal Explorer, NASA Small Explorer. Responsible for entrance filter testing and installation, helped define the science goals for the missions, trained and organized the telescope operators, helped lead the science working group. TRACE images are still highest resolution images ever made of the solar corona.

RESEARCH GRANTS
PI & Team Leader Living with a Start Focus Science Topic - Jets & Plumes in the Solar Atmosphere. A four year research effort starting Fall 2011. NASA HQ requested that I lead a group of five independently funded groups to study physical processes that form jets and plumes in the chromosphere and corona. (2011 - 2015)
PI Non-Potential Structure of Active Regions, NASA Grant. A four year research effort has resulted in the most accurate magnetic models of active regions. (2007 - 2010)
PI Influence of Coronal Abundance Variations, NASA Grant. A three year research project exploring the relationship between the variable solar coronal abundances and imaging in narrow EUV and broad X-Ray passbands. (2005 - 2009)