



Cumulative Bio-Bibliography

University of California, Santa Cruz

July 31, 2012

David Smith

Professor of Physics

Biobib last revised: July 1, 2012

RESEARCH INTERESTS

Solar, terrestrial, and cosmic sources of x-rays and gamma-rays

EMPLOYMENT HISTORY

2008 - Present Associate Research Scientist, 0% appointment, University of California, Berkeley
 2007 - present Associate Professor of Physics, University of California, Santa Cruz
 2003 - 2007 Assistant Professor of Physics, University of California, Santa Cruz
 2001 Lecturer, Introductory Mechanics for Scientists and Engineers, University of California, Berkeley
 1997 Lecturer, Introductory Mechanics for Scientists and Engineers, University of California, Berkeley
 1996 - 2003 Assistant Research Physicist, Space Sciences Laboratory, University of California, Berkeley
 1993 - 1996 Faculty Research Associate in Astronomy, University of Maryland
 1986 - 1993 Graduate Research Assistant, University of California, Berkeley
 1985 - 1986 Graduate Teaching Assistant, University of California, Berkeley
 1982 - 1985 Undergraduate Research Assistant, Massachusetts Institute of Technology

EDUCATION

1993 Ph.D., Physics, University of California, Berkeley, 1993
 1989 M.A., Physics, University of California, Berkeley, 1989
 1985 S.B., Physics, Massachusetts Institute of Technology, 1985

HONORS AND AWARDS

2006 **Honorary Lecturership:** Parker Lecturer, Solar Physics Division of the American Astronomical Society
 2003 **Award:** NASA Group Achievement Award for the Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) Satellite
 1992 **Award:** NASA Group Achievement Award for Antarctic Balloon Campaign, University of California, Berkeley

GRANTS

6/1/10 - 5/31/12 Collaborator, DARPA, NIMBUS program, Technical area - Lightning (subcontract form Florida Tech) \$58,923
 7/1/10 - 6/30/11 Principal Investigator, NSF: Observations of high-energy radiation from lightning \$34,999
 7/1/09 - 8/31/12 Principal Investigator, NSF, Analysis of Terrestrial Gamma-ray Flashes \$442,790

1/1/09 - 12/31/11	Principal Investigator, NASA, Unification of state-transition behaviors in black-hole candidates \$215,016
6/08 - 3/15	Co-Investigator, NASA RBSP Missions of Opportunity, BARREL mission-of-opportunity for RBSP, Phase B/C/D Subcontract from Dartmouth College \$1,501,381
3/08 - 3/09	Principal Investigator, NASA, Low-level and Quiescent Emission of Supergiant Fast X-ray Transients \$16,723
4/08 - 5/12	Principal Investigator, NASA, Duskside Relativistic Electron Precipitation (DREP) Events and Outer Belt Electron Losses \$239,628
10/08 - 9/12	Co-Investigator, NASA, Gamma-Ray Imager/Polarimeter for Solar flares (GRIPS) Subcontract from U. C. Berkeley \$166,025
7/07 - 7/09	Principal Investigator, NASA, Supergiant Fast X-ray Transients: New Candidates and Characterization of Quiescence \$27,576
10/07 - 3/09	Principal Investigator, NASA, RXTE Cycle 12 Observations of Black-hole Candidates \$29,045
6/06 - 6/07	Principal Investigator, UCSC Committee on Research, "Prototype preamplifier for germanium strip detectors" Committee on Research Special Research Grant \$12,624
9/06 - 9/09	Principal Investigator, NSF, "Development of ADELE -- the Airborne Detector for Energetic Lightning Emissions" NSF Major Research Instrumentation award -- limited submission \$467,220
9/06 - 9/07	Principal Investigator, NASA RXTE Guest Investigator, "Monitoring Black Hole Candidates..." \$32,982
2/06 - 2/08	NASA/Smithsonian Astrophysical Observatory -- Chandra guest investigator, "Unveiling A New Class of Fast Transient Binaries" \$30,365
1/07 - 1/08	NASA XMM-Newton guest investigator, "Supergiant Fast X-ray Transients: A new class of massive X-ray binaries" \$29,727
10/06 - 10/11	NASA -- Radiation Belt Storm Probes call for instrumentation, "BARREL" balloon array for Radiation Belt Storm Probes Subcontract. PI is Prof. Robyn Millan, Dartmouth. \$53,532
5/01/05 - 4/30/08	NASA Sun-Earth Connection Guest Investigator Program, "Advanced Topics in Solar Gamma-Ray Imaging and Spectroscopy About half of this money is going to UCB as a subcontract. \$289,619
7/05 - 7/06	NASA RXTE guest investigator (cycle 10), "Monitoring black hole candidates.." \$40,000
01/05 - 12/06	NASA APRA, ROSS, "RHESSI Observations of Accreting Pulsars and the Crab Nebula" About half of this money is going to UCB as a subcontract. \$83,518
2004	Chandra Guest Investigator Program, "Monitoring the Morphology of the Micro-quasars GRS1758-258 and 1E1740.72942" \$24,689
2004	Chandra Guest Investigator Program, "A Search for Emission Lines in the Micro-Quasar GRS1758-258" \$24,010
2004	ROSSI X-ray Timing Explorer Guest Investigator Program, Cycle 9, "Monitoring Black Hole Candidates 1E 1740.7-2942, GRS 1758-258, and LMC X-3" \$11,350
2003 - ongoing	Subcontract from U. C. Berkeley from the NASA contract for the RHESSI Small Explorer satellite, "Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI)" \$245,387
2003	ROSSI X-ray Timing Explorer Guest Investigator Program, Cycle 8, "Monitoring Black Hole Candidates 1E 1740.7-2942, GRS 1758-258, GX 339-4, and LMC X-3" \$23,604
2003 - 2005	NSF Division of Polar Programs, "Balloon Observations of MeV Electron Precipitation" Originally awarded at UCB for \$643,278. The PI title was transferred to Dr. George Parks of UCB when I left, but I maintained direction of the project. A small subcontract was written to UCSC in 2004 (\$7633). \$7,633
2002 - 2004	NSF Division of Atmospheric Sciences/Magnetospheric Physics, "Development and Test Flight of a Small, Automated Balloon Payload for Observations of Terrestrial X-Rays" This grant and all earlier ones were at one of my previous positions, not at UCSC. \$39,421
2002 - 2003	CALSPACE, "Prototype Gamma-Ray Spectrometer for a New Generation of Balloon Instruments for Magnetospheric/Atmospheric Studies" \$10,000
2001 - 2003	NASA Chandra X-ray Observatory Guest Investigator Program, "XTE J1739-302 in Quiescence" \$22,608
2001 - 2003	NASA Discovery Mission Office, "Mercury MESSENGER Gamma-Ray Spectrometer development" \$277,054

2001 - 2002	UC Berkeley: Space Sciences Laboratory and Lockheed Martin Advanced Technology Center Mini-grant Program (CALSPACE), "Evaluation of a Three-axis Magnetometer for Balloon Applications" \$9,977
2000 - 2002	NASA Chandra X-ray Observatory Guest Investigator Program, "Is GRS 1758-258 Really a Microquasar?" \$12,000
1996 - 2002	NASA Long-Term Space Astrophysics Program Grant, "Galactic Black Holes and Positron Annihilation Radiation" \$185,000
1996 - 1997	NASA Compton Gamma-Ray Observatory (CGRO) Guest Investigator Program Grant, "Positron Annihilation in GRS 1915+105" \$25,000
1996 - 1997	NASA Rossi X-Ray Timing Explorer Guest Investigator Program, "Monitoring Observations of Black Hole Candidates 1E 1740.7-2942 and GRS 1758-258" \$19,600
1996 - 1997	NASA Rossi X-Ray Timing Explorer Guest Investigator Program, "Target of Opportunity Observations of Black Hole Candidates GRS 1758-258 and 1E 1740.7-2942" \$7,000
1996 - 1996	NASA Rossi X-Ray Timing Explorer Guest Investigator Program, "Deep and Monitoring Observations of Galactic Black-Hole Candidates 1E 1740.7-2942 and GRS 1758-258" \$20,000
1996 - 1996	NASA Rossi X-Ray Timing Explorer Guest Investigator Program, "Target of Opportunity Observations of Galactic Black-Hole Candidates 1E 1740.7-2942 and GRS 1758-258" \$11,301
1994 - 1995	NASA Compton Gamma-Ray Observatory (CGRO) Guest Investigator Program, "Measurement of MEV Continuum Sources with BATSE" \$30,220

WRITINGS AND CREATIVE ACTIVITIES IN PROGRESS

Journal Articles

- 50c **Submitted:** S. A. Matthews + 3 authors + D. M. Smith + 26 authors, Solar Particle Acceleration Radiation and Kinetics (SPARK): a mission to understand the nature of particle acceleration, *Experimental Astronomy* PEER REVIEWED
- 1b **In Press:** L. Ruhlen, D. M. Smith, & J. Swank, "The Nature and Cause of Spectral Variability in LMC X-1", *ApJ*, *accepted*. arXiv1107.5100. PEER REVIEWED
- 2a **In Press:** D. M. Smith + 21 authors, "A terrestrial gamma-ray flash observed from an aircraft.", *J. Geophys. Res.*, doi:10.1029/2011JD016252 PEER REVIEWED
- 49b **Under Revision:** M. Comess, D. M. Smith, R. Selesnick, R. Millan, and J. Sample, "Duskside relativistic electron precipitation as measured by SAMPEX: a statistical survey", submitted to *J. Geophys. Res.* PEER REVIEWED
- In Progress:** D. M. Smith, C. Markwardt, J. Swank, and I. Negueruela, "Fast X-ray transients toward the Galactic bulge with the Rossi X-ray Timing Explorer", to be submitted to *MNRAS*, expected submission October 2011.
- In Progress:** J. G. Sample et al., First Observations of MeV Electron Precipitation from Multiple Balloon-borne Spectrometers, *to be submitted to Geophys. Res. Lett.*

Other Publications

- 3c **In Press:** J. R. Dwyer and D. M. Smith, "Terrestrial Gamma-Ray Flashes", *Scientific American*, scheduled for the April 2012 issue. INVITED

PUBLICATIONS AND SCHOLARLY WORK

Contributions to Books

- 4a 2010 D. M. Smith, "Hard x-ray and gamma-ray detectors", chapter contributed to *Observing Photons in Space*, M.C.E. Huber, A. Pauluhn, J.L. Culhane, J.G. Timothy, K. Wilhelm, and A. Zehnder (eds.). ISSI Scientific Reports Series, ESA/ISSI. ISBN 978-92-9221-938-8, 2010, p. 345-364 INVITED

Journal Articles

- 5a 2011 Smith, D. M. + 17 authors: "The rarity of terrestrial gamma-ray flashes", *Geophys. Res. Lett.* 38, L08807 PEER REVIEWED

- 6c 2011 G. Lu, S. Cummer, J. Li, F. Han, D. M. Smith, and B. W. Grefenstette: Characteristics of broadband lightning emissions associated with terrestrial gamma ray flashes, *J. Geophys. Res.* 116, A03316 PEER REVIEWED
- 7a 2011 D. M. Smith: Comment on "Terrestrial gamma-ray flashes caused by neutron bursts above thunderclouds [J. Appl. Phys. 105, 083301 (2009)]", *J. Appl. Phys.* 109, 026101 PEER REVIEWED
- 8d 2011 Briggs, M. S. + 12 authors + D. M. Smith: "Electron-positron beams from terrestrial lightning observed with Fermi GBM", *Geophys. Res. Lett.*, 38, L02808 PEER REVIEWED
- 9c 2010 Shao, X.-M., T. Hamlin, and D. M. Smith, A Closer Examination of Terrestrial Gamma-ray Flash-Related Lightning Processes, *J. Geophys. Res.* 115, A00E30 PEER REVIEWED
- 10a 2010 Smith, D. M., B. J. Hazelton, B. W. Grefenstette, J. R. Dwyer, R. H. Holzworth, and E. H. Lay, Terrestrial gamma-ray flashes correlated to storm phase and tropopause height, *J. Geophys. Res.* 115, A00E49 PEER REVIEWED
- 11c 2010 Splitt, M. E., S. M. Lazarus, D. Barnes, J. R. Dwyer, H. K. Rassoul, D. M. Smith, B. J. Hazelton, and B. W. Grefenstette, Thunderstorm Characteristics Associated With RHESSI Identified Terrestrial Gamma-Ray Flashes, *J. Geophys. Res.* 115, A00E38 PEER REVIEWED
- 12d 2010 V. Connaughton + 15 authors + D. M. Smith, "Associations between Fermi Gamma-ray Burst Monitor terrestrial gamma ray flashes and sferics from the World Wide Lightning Location Network", *J. Geophys. Res.* 115, A12307 PEER REVIEWED
- 13d 2010 M. Briggs, + 12 authors, + D. M. Smith, + 3 authors, "First results on terrestrial gamma ray flashes from the Fermi Gamma-ray Burst Monitor", *J. Geophys. Res.* 115, A07323 PEER REVIEWED
- 14c 2010 G. Lu, R. Blakeslee, J. Li, D. M. Smith, + 6 authors, "Lightning mapping observation of a terrestrial gamma-ray flash", *Geophys. Res. Lett.* 37, L11806 PEER REVIEWED
- 15c 2010 J. R. Dwyer & D. M. Smith, Comment on "'Seed' electrons from muon decay for runaway mechanism in the terrestrial gamma ray flash production," by G. Paiva et al., *J. Geophys. Res.* 115, D10207 PEER REVIEWED
- 16d 2010 K. Hurley + 30 authors + D. M. Smith + 2 authors, "The Interplanetary Network Supplement to the BeppoSAX Gamma-ray Burst Catalogs", *Ap. J. Suppl.* 191, 179
- 17d 2010 K. Hurley + 15 authors + D. M. Smith + 21 authors, "A new analysis of the short-duration, hard-spectrum GRB 051103, a possible extragalactic soft gamma repeater giant flare", *MNRAS* 403, 342 PEER REVIEWED
- 18b 2010 S.-C. Tang and D. M. Smith, "GEANT4 Simulations of Gamma-ray Emission from Accelerated Particles in Solar Flares", *Ap. J.* 721, 1174 PEER REVIEWED
- 19d 2010 Torrejón, J. M.; Negueruela, I.; Smith, D. M.; Harrison, T. E., Near-infrared survey of high mass X-ray binary candidates, *Astronomy and Astrophysics* 510, id.A61 PEER REVIEWED
- 20c 2010 Dwyer, J. R., D. M. Smith, M. A. Uman, Z. Saleh, B. W. Grefenstette, B. J. Hazelton, and H. K. Rassoul, Estimation of the fluence of high-energy electron bursts produced by thunderclouds and the resulting radiation doses received in aircraft, *J. Geophys. Res.*, 115, D09206 PEER REVIEWED
- 21c 2009 Shih, A. Y.; Lin, R. P.; Smith, D. M., RHESSI Observations of the Proportional Acceleration of Relativistic >0.3 MeV Electrons and >30 MeV Protons in Solar Flares, *Astrophysical Journal* 698, L152-L157 PEER REVIEWED
- 22b 2009 Hazelton, B. J.; Grefenstette, B. W.; Smith, D. M.; Dwyer, J. R.; Shao, X.-M.; Cummer, S. A.; Chronis, T.; Lay, E. H.; Holzworth, R. H., Spectral dependence of terrestrial gamma-ray flashes on source distance, *Geophysical Research Letters* Volume 36, CiteID L01108 PEER REVIEWED
- 23b 2009 Grefenstette, B. W.; Smith, D. M.; Hazelton, B. J.; Lopez, L. I., First RHESSI terrestrial gamma ray flash catalog, *Journal of Geophysical Research* 114, A02314 PEER REVIEWED
- 24b 2009 Rampy, Rachel A.; Smith, David M.; Negueruela, Ignacio, IGR J17544-2619 in Depth With Suzaku: Direct Evidence for Clumpy Winds in a Supergiant Fast X-ray Transient, *The Astrophysical Journal* 707, 243-249 PEER REVIEWED
- 25c 2009 Fürst, Felix; Wilms, Jörn; Rothschild, Richard E.; Pottschmidt, Katja; Smith, David M.; Lingenfelter, Richard, Temporal variations of strength and location of the South Atlantic Anomaly as measured by RXTE, *Earth and Planetary Science Letters* 28, 125-133 PEER REVIEWED

- 26c 2008 M. Kokorowski et al., Magnetospheric electric field variations caused by storm-time shock fronts, *Advances in Space Research* 42, 181-191 PEER REVIEWED
- 27b 2008 B. W. Grefenstette, D. M. Smith, J. R. Dwyer, G. J. Fishman, Time evolution of terrestrial gamma-ray flashes, *Geophysical Research Letters* 35, L06802 First author is my student. PEER REVIEWED
- 28c 2008 J. R. Dwyer, B. W. Grefenstette, D. M. Smith, High-energy electron beams launched into space by thunderstorms, *Geophysical Research Letters* 35, L02815 PEER REVIEWED
- 29d 2008 Blay, P.; Martínez-Núñez, S.; Negueruela, I.; Pottschmidt, K.; Smith, D. M.; Torrejón, J. M.; Reig, P.; Kretschmar, P.; Kreykenbohm, I., INTEGRAL long-term monitoring of the Supergiant Fast X-ray Transient XTE J1739-302, *Astronomy and Astrophysics* 489, 669-676 PEER REVIEWED
- 30a 2007 D. M. Smith, D. M. Dawson, and J. H. Swank, Hysteresis of spectral evolution in the soft state of black hole binary LMC X-3, *The Astrophysical Journal* 669, 1138-1142 PEER REVIEWED
- 31c 2007 R. M. Millan, R. P. Lin, D. M. Smith, and M. P. McCarthy, Observation of relativistic electron precipitation during a rapid decrease of trapped relativistic electron flux, *Geophysical Research Letters* 34, L10101 PEER REVIEWED
- 32c 2007 S. E. Boggs et al., The giant flare of 2004 December 27 from SGR 1806-20, *The Astrophysical Journal* 661, 458-467 PEER REVIEWED
- 33d 2007 U. S. Inan et al., Massive disturbance of the daytime lower ionosphere by the giant gamma-ray flare from magnetar SGR 1806-20, *Geophysical Research Letters* 34, L08103 PEER REVIEWED
- 34d 2007 J. O. Goldsten et al., The MESSENGER gamma-ray and neutron spectrometer, *Space Science Reviews* 131, 339-391 PEER REVIEWED
- 2006 G. J. Hurford et al., Gamma-Ray Imaging of the 2003 October/November Solar Flares, *ApJL* 664, L93-L96 PEER REVIEWED
- 2006 K. Pottschmidt et al., INTEGRAL and RXTE monitoring of GRS 1758-258 in 2003 and 2004. A transition from the dim soft state to the hard state, *A&A* 452, 285-294 PEER REVIEWED
- 2006 M. Stanley et al., A link between terrestrial gamma-ray flashes and intracloud lightning discharges, *Geophys. Res. Lett.* vol 33, issue 6, CiteID L06803 PEER REVIEWED
- 2006 I. Negueruela et al., The Optical Counterpart to the Peculiar X-Ray Transient XTE J1739-302, *ApJ* 638, 982-986 PEER REVIEWED
- 2006 D. M. Smith et al., XTE J1739-302 as a Supergiant Fast X-Ray Transient, *ApJ* 638, 974-981 PEER REVIEWED
- 2006 S. E. Boggs and D. M. Smith, Search for Neutron-Capture Gamma-Ray Lines from A0535+26 in Outburst, *ApJ* 637, L121-L124 PEER REVIEWED
- 2006 U. Inan et al., "Terrestrial Gamma-ray Flashes and Lightning Discharges,," *Geophys. Res. Lett.* 33, L18802 PEER REVIEWED
- 35d 2006 M. Kokorowski et al., "Rapid fluctuations of stratospheric electric field following a solar energetic particle event," *Geophysical Research Letters* 33, L20105 PEER REVIEWED
- 36c 2006 E. Williams et al., Lightning Flashes Conducive to the Production and Escape of Gamma Radiation to Space, *Journal of Geophysical Research* 111, D16209 PEER REVIEWED
- 37d 2006 C. Wigger, W. Hajdas, A. Zehnder, K. Hurley, E. Bellm, S. Boggs, M. Bandstra, & D. M. Smith, "Spectral analysis of GRBs measured with RHESSI", *Il Nuovo Cimento B*, vol. 121, 1117 PEER REVIEWED
- 2005 J. R. Dwyer and D. M. Smith, A comparison between Monte Carlo simulations of runaway breakdown and terrestrial gamma-ray flash observations, *Geophysical Research Letters* Volume 32, Issue 22, CiteID L22804 PEER REVIEWED
- 2005 K. Hurley, S. E. Boggs, D. M. Smith, et al., An exceptionally bright flare from SGR 1806-20 and the origins of short-duration γ -ray bursts, *Nature* 434, 1098-1103 PEER REVIEWED
- 2005 S. Cummer et al., Measurements and implications of the relationship between lightning and terrestrial gamma ray flashes, *Geophys. Res. Lett.* 32, CiteID L08811 PEER REVIEWED
- 2005 M. del Santo et al., 1E 1740.7-2942: Temporal and spectral evolution from INTEGRAL and RXTE observations, *A&A* 433, 613-617 PEER REVIEWED
- 2005 D. M. Smith et al., Terrestrial Gamma-Ray Flashes Observed up to 20 MeV, *Science* 307, 1085-1088 PEER REVIEWED

- 2005 F. A. Harrison et al., Development of the HEFT and NuSTAR focusing telescopes, *Experimental Astronomy* 20, 131-137 PEER REVIEWED
- 2004 G. H. Share et al., RHESSI e⁺-e⁻ Annihilation Radiation Observations: Implications for Conditions in the Flaring Solar Chromosphere, *ApJL* 615, L169-L172 PEER REVIEWED
- 2004 A. A. Zdziarski et al., "GX 339-4: the distance, state transitions, hysteresis and spectral correlations", *MNRAS* 351, 791-807 PEER REVIEWED
- 2004 J. M. Miller et al., "Chandra/High Energy Transmission Grating Spectrometer Spectroscopy of the Galactic Black Hole GX 339-4: A Relativistic Iron Emission Line and Evidence for a Seyfert-like Warm Absorber", *ApJ* 601, 450-465 PEER REVIEWED
- 2003 D. M. Smith, *Ap. J. Letters* 589, 55-58 "The Reuven Ramaty High Energy Solar Spectroscopic Imager Observation of the 1809 keV Line from Galactic 26Al, D. M. Smith PEER REVIEWED
- 2003 Pottschmidt, K. et al., "Long term variability of Cygnus X-1. I. X-ray spectral-temporal correlations in the hard state", *A&A* 407, 1039 PEER REVIEWED
- 2003 W. A. Heindl, J. A. Tomsick, R. Wijnands, and D. M. Smith, "Extended Emission from Cygnus X-3 Detected with Chandra", *Ap. J.* 588, L97-100 PEER REVIEWED
- 2003 R. P. Lin et al., "RHESSI Observations of Particle Acceleration and Energy Release in an Intense Solar Gamma-Ray Line Flare", *Ap. J. Letters* 595 Number, L69-76 PEER REVIEWED
- 2003 G.J. Hurford et al., "First Gamma-Ray Images of a Solar Flare,", *Ap. J. Letters* 595 Number, L77-81 PEER REVIEWED
- 2003 D. M. Smith et al., "High-Resolution Spectroscopy of Gamma-Ray Lines from the X-Class Solar Flare of 2002 July 23", *Ap. J. Letters* 595 Number 2, L81-84 PEER REVIEWED
- 2003 G. H. Share et al., "High-Resolution Observation of the Solar Positron-Electron Annihilation Line", *Ap. J. Letters* 595 Number 2, L85-88 PEER REVIEWED
- 2003 G. H. Share et al., "Directionality of Flare-accelerated α -Particles at the Sun", *Ap. J. Letters* 595 Number 2, L89-92 PEER REVIEWED
- 2003 R. J. Murphy et al., "Physical Implications of RHESSI Neutron-Capture Line Measurements", *Ap. J. Letters* 595 Number 2, L93-96 PEER REVIEWED
- 2003 E. P. Kontar et al., "An Explanation for Non-Power-Law Behavior in the Hard X-Ray Spectrum of the 2002 July 23 Solar Flare", *Ap. J. Letters* 595 Number 2, L123-124 PEER REVIEWED
- 2002 G. H. Share et al., RHESSI Observation of Atmospheric Gamma Rays from Impact of Solar Energetic Particles on 21 April 2002, *Solar Physics* v. 210, issue 1, 357-372 PEER REVIEWED
- 2002 R.M Millan, R.P. Lin, D.M. Smith, K.R. Lorentzen, and M.P. McCarthy, "X-ray observations of MeV electron precipitation with a balloon-borne germanium spectrometer", *Geophys. Res. Lett.* 29, 47-1 PEER REVIEWED
- 2002 W.A. Heindl and D.M. Smith, "Chandra High Resolution Camera observations of GRS 1758-258", *Ap. J. Letters* 578, L125-128 PEER REVIEWED
- 2002 D.M. Smith, W.A. Heindl, and J.H. Swank, "Orbital and Super-Orbital Periods of 1E 1740.7-2942 and GRS 1758-258", *Ap. J. Letters* 578 L129-132 PEER REVIEWED
- 2002 D.M. Smith, W.A. Heindl, and J.H. Swank, "Two Different Long-term Behaviors in Black-Hole Candidates: Evidence for Two Accretion Flows?", *Ap. J.* 569, 362 PEER REVIEWED
- 2002 D.M. Smith et al., "The RHESSI Spectrometer", *Solar Physics* v. 210, 33-60 PEER REVIEWED
- 2002 M. McConnell, J.M. Ryan, D.M. Smith, R.P. Lin, and A.G. Emslie, "RHESSI as a hard x-ray polarimeter", *Solar Physics* v. 210, 125-142 PEER REVIEWED
- 2002 G. Hurford et al., *Solar Physics* v. 210, 61-86 "The RHESSI Imaging Concept" PEER REVIEWED
- 2002 R.P. Lin et al., "The Reuven Ramaty High Energy Solar Spectroscopic Imager", *Solar Physics* v. 210, 3-32 R.P. Lin et al. PEER REVIEWED
- 2002 D.W. Curtis, P. Berg, D. Gordon, P.R. Harvey, D.M. Smith, and A. Zehnder, "The RHESSI Spacecraft Instrument Data Processing Unit", *Solar Physics* v. 210, 115-124 PEER REVIEWED
- 2001 D.M. Smith, W.A. Heindl, C.B. Markwardt, and J.H. Swank, "A Transition to the Soft State in GRS 1758-258", *Ap. J.* 544, L41

- 2000 K.R. Lorentzen, M.P. McCarthy, G.K. Parks, J.E. Foat, R.M. Millan, D.M. Smith, R.P. Lin and J.P. Treilhou, J., "Precipitation of relativistic electrons by interaction with electromagnetic ion cyclotron waves", *Geophys. Res.* 105, 5381
- 2000 D. Lin, I.A. Smith, E.P. Liang, T. Bridgman, D.M. Smith, J. Marti, P. Durouchoux, I.F. Mirabel, & L.F. Rodriguez, "Simultaneous Observations of GRS 1758-258 in 1997 by VLA, IRAM, SEST, RXTE, and OSSE: Spectroscopy and Timing", *Ap. J.* 532, 548
- 2000 K. Pottschmidt, J. Wilms, M.A. Nowak, W.A. Heindl, D.M. Smith, & R. Staubert, "Temporal Evolution of X-ray Lags in Cygnus X-1", *A&A.* 357, L17
- 1999 D.S. Main, D.M. Smith, W.A. Heindl, J. Swank, M. Leventhal, I.F. Mirabel, & L.F. Rodriguez, "Long-term X-ray Monitoring of 1E 1740.7-2942 and GRS 1758-258", *Ap. J.* 525, 901
- 1998 J.E. Foat, R.P. Lin, D.M. Smith, F. Fenrich, R. Millan, I. Roth, K.R. Lorentzen, M.P. McCarthy, G.K. Parks, & J.P. Treilhou, "First Detection of a Terrestrial MeV X-ray Burst", *Geo. Res. Lett.* 25, 4109
- 1998 W. A. Heindl & D. M. Smith, "The X-ray Spectrum of SAX J1808.4-3658", *Ap. J. Letters* 506, L35
- 1998 L.X. Cheng, M. Leventhal, D. M. Smith, N. Gehrels, J. Tueller, & G. Fishman, "BATSE All-Sky Search for Transient Gamma-Ray Lines between 300 and 550 keV", *Ap. J.* 503, 809
- 1998 D. M. Smith, D. Main, F. Marshall, J. Swank, W. A. Heindl, M. Leventhal, J. J. M. in't Zand, & J. Heise, "XTE J1739-302: An Unusual New X-ray Transient", *Ap. J. Letters* 501, L181
- 1997 W. R. Purcell, L. X. Cheng, D. D. Dixon, R. L. Kinzer, J. D. Kurfess, M. Leventhal, M. A. Saunders, J. G. Skibo, D. M. Smith, & J. Tueller, "OSSE Mapping of Galactic 511 keV Positron Annihilation Line Emission", *Ap. J.* 491, 725
- 1997 D. M. Smith, W. A. Heindl, J. Swank, M. Leventhal, I. F. Mirabel, & L. Rodriguez, "X-ray Timing of 1E 1740.7-2942 and GRS 1758-258", *Ap. J. Letters* 489, L51
- 1997 W. Cui, W. A. Heindl, J. H. Swank, D. M. Smith, E. H. Morgan, R. Remillard, F. E. Marshall, "RXTE Observations of a New X-ray Transient: GRS 1737-31", *Ap. J. Letters* 487, L73
- 1997 L. X. Cheng, M. Leventhal, D. M. Smith, W. r. Purcell, J. Tueller, A. Connors, D. Dixon, R. L. Kinzer, & J. G. Skibo, "A Maximum Entropy Map of the 511 keV Positron Annihilation Line Emission Distribution Near the Galactic Center", *Ap. J. Letters* 481, L43
- 1996 D. M. Smith, M. Leventhal, R. Cavallo, N. Gehrels, J. Tueller, and G. Fishman, "All-Sky Search for Transient Sources Near 0.5 MeV with the Burst and Transient Source Experiment (BATSE)", *Ap. J.* 471, 783
- 1996 D. M. Smith, M. Leventhal, R. Cavallo, N. Gehrels, J. Tueller, and G. Fishman, "Limits on Reported Transient Emission Events near 0.5 MeV from the Crab and 1E 1740.7-2942", *Ap. J.* 458, 576
- 1995 D. M. Smith, R. P. Lin, K. A. Anderson, K. Hurley, and C. M. Johns, "High-Resolution Spectra of 20-300 keV hard X-rays from Electron Precipitation over Antarctica", *Journal of Geophysical Research*, 100 19, 675
- 1995 D. M. Smith, M. Leventhal, N. Gehrels, J. Tueller, W. N. Johnson, R. L. Kinzer, J. D. Kurfess, M. s. Strickman, D. A. Grablesky, W. R. Purcell, M. P. Ulmer, and G. V. Jung, "Search for Compton-Backscattered Annihilation Radiation from the Galactic Center with OSSE", *Ap. J.* 443, 117
- 1993 D. M. Smith, R. P. Lin, P. Feffer, S. Slassi, K. Hurley, J. Matteson, H. B. Bowman, R. M. Pelling, M. Briggs, D. Gruber, L. E. Peterson, R. E. Lingenfelter, P. von Ballmoos, I. Malet, M. Niel, G. Vedrenne, P. Durouchoux, P. Wallyn, C. Chapuis, C. Cork, D., "Compton-Backscattered Annihilation Radiation from the Galactic Center Region", *Ap. J.* 414, 165
- 1993 P. Durouchoux, P. Wallyn, C. Chapuis, J. Matteson, H. B. Bowman, R. M. Pelling, L. E. Peterson, R. E. Lingenfelter, R. P. Lin, D. M. Smith, P. Feffer, K. Hurley, G. Vedrenne, P. von Ballmoos, and I. Malet, "New Constraints on the Positron Annihilation Media from the Direction of the Galactic Center Based on the 511 keV Line Profiles", *Ap. J.* 403, 621
- 1993 C. G. L. Chapuis, P. Wallyn, Ph. Durouchoux, J. Matteson, B. Bowman, M. Briggs, D. Gruber, L. Peterson, R. Lingenfelter, C. Cork, D. Landis, P. Luke, N. Madden, D. Malone, R. Pehl, M. Pollard, R. Lin, D. Smith, P. Feffer, K. Hurley, G. Vedrenne, M. Niel "Observation of SN 1987A with the Gamma-Ray Spectrometer HEXAGONE", *Ap. J.* 403, 332
- 1991 R. P. Lin, K. Hurley, D. Smith, and R. Pelling, "A Search for Hard X-ray Microflares near Solar Minimum", *Solar Physics* 135, 57

Papers in Conference Proceedings

- 38d 2010 K. Hurley + 13 authors + D. M. Smith + 24 authors, "The Third Interplanetary Network", *AIP Conference Proceedings*, Volume 1279, pp. 330-333
- 39d 2010 S. Martinez-Nunez, I. Negueruela, J. Torrejon, P. Blay, and D. M. Smith, "The X-Ray Behavior of Supergiant Fast X-Ray Transients: An INTEGRAL View", *High Energy Phenomena in Massive Stars*, ASP Conference Series, Vol. 422, Edited by Josep Martí, Pedro L. Luque-Escamilla, and Jorge A. Combi. San Francisco: Astronomical Society of the Pacific, p.253
- 40d 2009 E. Bellm, M. Bandstra, S. Boggs, W. Hadas, K. Hurley, D. M. Smith, & C. Wigger, "Time-resolved spectroscopy of RHESSI GRBs", *Sixth Huntsville Symposium. AIP Conference Proceedings*, Volume 1133, pp. 31-33
- 41d 2009 K. Hurley et al., The Status and Future of the Third Interplanetary Network, *GAMMA-RAY BURST: Sixth Huntsville Symposium. AIP Conference Proceedings* 1133, 55-57
- 42a 2009 Terrestrial Gamma-Ray Flashes, Relativistic Runaway, and High-Energy Radiation in the Atmosphere (invited review paper), *Coupling of thunderstorms and lightning discharges to near-Earth space: Proceedings of the Workshop, Corte (France), 23-27 June 2008*, AIP, 1118, 34-45 PEER REVIEWED, INVITED
- 43c 2008 I. Negueruela et al., Supergiant fast x-ray transients and other wind accretors, *A population explosion: the nature and evolution of x-ray binaries in diverse environments*, AIP, 1010, 252-256
- 44d 2008 E. Bellm et al., RHESSI Spectral fits of Swift GRBs, *Gamma-ray bursts 2007: proceedings of the Santa Fe Conference*, AIP, 1000, 154-157
- 45c 2008 I. Negueruela et al., Supergiant fast x-ray transients: a common behavior or a class of objects?, *Proceedings of the 6th INTEGRAL workshop, "The Obscured Universe," Moscow 2006*, ESA, ESA SP622, 255 PEER REVIEWED
- 46c 2007 M. Del Santo et al., Long-term monitoring of the BHC 1E 1740.7-2942, *Proceedings of the 6th INTEGRAL Workshop "The Obscured Universe," July 2006*, ESA, ESA SP-622 PEER REVIEWED
- 47c 2006 K. Pottschmidt et al., GRS 1758-258 with INTEGRAL and RXTE: another dim soft state, A. Wilson, *Proceedings of the X-ray Universe 2005, September 2005, El Escorial, Madrid, Spain*, ESA, 283
- 2006 I. Negueruela, D. M. Smith, P. Reig, S. Chaty, and J. M. Torrejon, Supergiant fast x-ray transients: a new class of high mass x-ray binaries unveiled by INTEGRAL, A. Wilson, *Proceedings of The X-ray Universe 2005, September 2005, El Escorial, Madrid, Spain* 165 PEER REVIEWED
- 48d 2006 E. Kalemci, J. A. Tomsick, R. E. Rothschild, and D. M. Smith, The effect of dust scattering on the timing properties of black holes, *Proceedings of the VI Microquasar Workshop: Microquasars and Beyond, September 2006, Como, Italy* 80.1
- 2005 D. M. Smith, Invited review paper, "Puzzles and Potential for gamma-ray line observations of solar flare ion acceleration," *Experimental Astronomy, proceedings of the "gamma-wave" workshop*, Springer-Verlag, 20, 65-73 PEER REVIEWED, INVITED

Other Publications

- 2007 **Rapid Communications (telegrams):** 2007-8 various ATEL 1493: "XMM-Newton and Swift observations of the supergiant fast x-ray transient SAX J1818.6-1703" ATEL 1268: "XMM-Newton localization of the fast x-ray transient XTE J1901+014" ATEL 1164: "RXTE and Swift discovery of the intermittent source XTE J1704-445"; ATEL 1122: "LMC X-3 enters a faint hard state" ATEL 999: "RXTE PCA pointed observations of IGR J11215-5952"; ATEL 994: "Renewed low-level activity of GX 339-4," R. E. Rutledge and D. Fox, *The Astronomer's Telegram*
- 2006 **rapid communications (telegrams):** various "X-ray activity in GX 339-4," ATEL #707; "Outburst of IGR J11215-5952 Observed with RXTE," ATEL #766; "End of outburst of IGR J11215-5952; possible pulsations," ATEL #773, "Optical counterpart to SAX J1818.6-1703," ATEL #831, *The Astronomer's Telegram*, n/a
- 2006 **Conference proceedings:** J. D. Bowen et al. "Pre-flight calibration of the prototype Nuclear Compton Telescope," in *Proceedings of SPIE, Space Telescopes and Instrumentation II: Ultraviolet to Gamma Ray*, Martin J. L. Turner, Günther Hasinger, Editors 6266, doi 10.1117/12.672252

- 2006 **Conference proceedings:** S. Boggs et al. "The Advanced Compton Telescope," in *Proceedings of SPIE, Space Telescopes and Instrumentation II: Ultraviolet to Gamma Ray*, Martin J. L. Turner, Günther Hasinger, Editors 6266, doi:10.1117/12.670605
- 2005 **Conference Proceedings:** W. Hajdas et al. "IREM Observations of the Initial Spike from the SGR1806-20 Giant Flare" *ASTROPHYSICAL SOURCES OF HIGH ENERGY PARTICLES AND RADIATION. AIP Conference Proceedings* 801, 304-305
- 2005 **Conference proceedings:** W. Coburn et al. "First results from the balloon flight of the NCT prototype,," *UV, X-Ray, and Gamma-Ray Space Instrumentation for Astronomy XIV. Edited by Siegmund, Oswald H. W. Proceedings of the SPIE* 5898, 13-21
- 2005 **rapid communications (telegrams):** various "Optical counterpart to IGR J16465-4507," ATEL #429; "State transition of GX 339-4," ATEL #455; "HD 306414 and IGR J11215-5952," ATEL #470; "Outburst Evolution and Pulse Period of 1A 0535+262," ATEL #557, n/a
- 2004 **Conference proceedings:** C. Wigger et al. Observing Gamma Ray Bursts with the RHESSI satellite, *Nuclear Physics B Proceedings Supplements* 132, 331-334
- 2004 **Conference proceedings:** W. Hajdas et al. "Spacecraft Activation and South Atlantic Anomaly Profiles Measured with RHESSI Satellite," *Radiation and its Effects on Components and Systems, RADECS 2003, Proceedings of the 7th European Conference, held 15-19 September 2003 in Noordwijk, The Netherlands. Edited by K. Fletcher. ESA SP-536, ESA/ESTEC, 2004.* 607
- 2004 **Conference proceedings:** C. B. Wunderer et al. "Modelling of the Detector Background Spectrum for the Low-Earth Orbit GE Spectrometer RHESSI with MGGPOD," *Proceedings of the 5th INTEGRAL Workshop on the INTEGRAL Universe (ESA SP-552). 16-20 February 2004, Munich, Germany. Scientific Editors: V. Schönfelder, G. Lichti & C. Winkler* 913
- 2004 **Conference proceedings:** C. B. Wunderer et al. "A Preliminary Exposure-Map Based Comparison of SPI and RHESSI 26Al Flux Measurements," *Proceedings of the 5th INTEGRAL Workshop on the INTEGRAL Universe (ESA SP-552). 16-20 February 2004, Munich, Germany. Scientific Editors: V. Schönfelder, G. Lichti & C. Winkler* 909-912
- 2004 **Conference proceedings:** W. Hajdas et al. "RHESSI Satellite as Efficient Gamma Ray Burst Detector," *Proceedings of the 5th INTEGRAL Workshop on the INTEGRAL Universe (ESA SP-552). 16-20 February 2004, Munich, Germany. Scientific Editors: V. Schönfelder, G. Lichti & C. Winkler* 805
- 2004 **Conference proceedings:** M. Del Santo et al. "INTEGRAL Monitoring of the Black-Hole Candidate 1E 1740.7-2942," *Proceedings of the 5th INTEGRAL Workshop on the INTEGRAL Universe (ESA SP-552). 16-20 February 2004, Munich, Germany. Scientific Editors: V. Schönfelder, G. Lichti & C. Winkler* 201
- 2004 **Conference proceedings:** D. M. Smith "Gamma-Ray Line Observations with RHESSI," *Proceedings of the 5th INTEGRAL Workshop on the INTEGRAL Universe (ESA SP-552). 16-20 February 2004, Munich, Germany. Scientific Editors: V. Schönfelder, G. Lichti & C. Winkler* 45
- 2004 **Conference Proceedings:** D. M. Smith "RHESSI Results on Gamma-Ray Lines from Diffuse Radioactivity", *NewAstRev* 48, 87-91 PEER REVIEWED
- 2004 **Conference Proceedings:** D.M. Smith, L. Huss, W. A. Heindl, and J.H. Swank "Relative timing of changes in spectrum, luminosity, and fast variability in persistently luminous black-hole candidates", *AIP Conf. Proc. #714*, 105-108 AIP Conf. Proc. #714, 105-108 (2004) PEER REVIEWED
- 2004 **Conference Proceedings:** D. M. Smith, G. J. Hurford, and S. E. Boggs "Rotating Modulation Collimator Imagers", *NewAstRev* 48, 209-213 PEER REVIEWED
- 2004 **Conference Proceedings:** S. E. Boggs et al. "Overview of the Nuclear Compton Telescope", *NewAstRev* 48, 251 PEER REVIEWED
- 2004 **Conference Proceedings:** R. P. Lin et al. "The Reuven Ramaty high-energy solar spectroscopic imager (RHESSI) mission", *Proc. SPIE*, Volume 5171, 38-52
- 2004 **Conference Proceedings:** W. Coburn et al. "Preliminary laboratory performance of the NCT prototype flight electronics", *Proc. SPIE*, Volume 5171, 131-138
- 2004 **Conference Proceedings:** McConnell, M. L. et al. "Hard X-ray solar flare polarimetry with RHESSI", *AdSpR* 34, 462-466
- 2004 **rapid communication:** C. B. Markwardt et al. "RXTE Detection of 1E 1740.7-2942," *ATEL* #258, n/a

- 2004 **rapid communication:** D. M. Smith et al. "Renewed X-ray activity in GX 339-4", *ATEL #231*, n/a
- 2004 **rapid communication:** D. M. Smith and W.A. Heindl "Correction to ATEL #182 (XTE J1739-302)", *ATEL #218*, n/a
- 2004 **rapid communications (telegrams):** Smith, S. K. Bushart "Confirmation of the Transition to the Very High State in GX 339-4," *ATEL #322, The Astronomer's Telegram*, n/a
- 2004 **rapid communication:** "Circumstantial evidence for a blue supergiant companion of IGR J16465-4507," *ATEL #338, The Astronomer's Telegram*, n/a
- 2003 **Conference proceedings:** R. P. Lin et al. "First Gamma-Ray Images of a Solar Flare" in *Proceedings of the 28th International Cosmic Ray Conference. July 31-August 7, 2003. Trukuba, Japan. Under the auspices of the International Union of Pure and Applied Physics (IUPAP). Editors: T. Kajita, Y. Asaoka, A. Kawachi, Y. Matsubara and M. Sasak* 3203
- 2003 **Conference proceedings:** R. J. Murphy et al. "RHESSI Observation of the Solar Annihilation Line" in *Proceedings of the 28th International Cosmic Ray Conference. July 31-August 7, 2003. Trukuba, Japan. Under the auspices of the International Union of Pure and Applied Physics (IUPAP). Editors: T. Kajita, Y. Asaoka, A. Kawachi, Y. Matsubara and M. Sasak* 3199
- 2003 **Conference proceedings:** R. J. Murphy et al. "Physical Implications of RHESSI Neutron Capture-Line Measurements" in *Proceedings of the 28th International Cosmic Ray Conference. July 31-August 7, 2003. Trukuba, Japan. Under the auspices of the International Union of Pure and Applied Physics (IUPAP). Editors: T. Kajita, Y. Asaoka, A. Kawachi, Y. Matsubara and M. Sasak* 3195
- 2003 **Conference proceedings:** R. J. Murphy et al. "Solar Gamma-Ray Lines at High Resolution with RHESSI" in *Proceedings of the 28th International Cosmic Ray Conference. July 31-August 7, 2003. Trukuba, Japan. Under the auspices of the International Union of Pure and Applied Physics (IUPAP). Editors: T. Kajita, Y. Asaoka, A. Kawachi, Y. Matsubara and M. Sasak* 3187
- 2003 **rapid communication:** D. M. Smith et al. "Prompt shutoff of XTE J1739-302", *ATEL #186*, n/a
- 2003 **rapid communication:** D. M. Smith and W. A. Heindl "XTE J1739-302", *ATEL #182*, n/a
- 2003 **rapid communication:** Smith, E. Kalemci, J. A. Tomsick, W. A. Heindl "State Transition of GX 339-4," *ATEL #120*, n/a
- 2002 **Conference Proceedings:** D. M. Smith, et al. "Non-solar astronomy with the Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI)", *SPIE Conf. Proc.*, "X-ray and Gamma-Ray Telescopes and Instruments for Astronomy", #4851
- 2002 **rapid communications (telegrams):** Smith et al. "Outburst of GX 339-4", *ATEL #85*, n/a
- 2002 **rapid communications (telegrams):** Smith et al. "Black-Hole Candidate 1E 1740.7-2942 Enters a Faint Soft State", *ATEL #94*, n/a
- 2002 **rapid communications (telegrams):** Smith et al. "State Changes in GX 339-4", *ATEL #95*, n/a
- 2001 **Conference Proceedings:** M. L. McConnell, D. M. Smith, A. G. Emslie, R. P. Lin, & J. R. Ryan "Prospects for Hard X-Ray Solar Flare Polarimetry with HESSI", *The proceedings "Multi-Wavelength Observations of Coronal Structure and Dynamics—Yohkoh 10th Anniversary Meeting" (2001)*
- 2001 **Conference Proceedings:** K. Pottschmidt, J. Wilms, R. Staubert, M.A. Nowak, W.A. Heindl, and D.M. Smith "Cygnus X-1 from RXTE: monitoring the short term variability", *Adv. Sp. Res.* 28, 493 PEER REVIEWED
- 2001 **Conference Proceedings:** W. A. Heindl & D. M. Smith, "Chandra Observations of GRS 1758-258", *"The high Energy Universe at Sharp Focus: Chandra Science," ASP Conference Series*, ? PEER REVIEWED
- 2001 **rapid communications (telegrams):** Smith et al. "Black-Hole Candidate GRS 1758-258 Enters an 'Off' State", *ATEL #66*, n/a
- 2001 **rapid communications (telegrams):** Smith et al. "A Sudden State Change in 1E 1740.7-2942", *ATEL #69*, n/a
- 2000 **Conference Proceedings:** S. E. Boggs, R. P. Lin, B. R. Dennis, N. W. Madden, P. von Ballmoos, K. Thomsen, G. J. Hurford, K. C. Hurley, D. M. Smith, P. Jean, J. Knoedlseder, and R. M. Millan "Cyclone Hard X-ray Observatory", *Proc. SPIE, "X-Ray and Gamma-Ray Instrumentation for Astronomy XI"* 4140, 166-177 PEER REVIEWED

- 2000 **Conference Proceedings:** D. M. Smith, R. P. Lin, P. Turin, D. W. Curtis, J. H. Primbsch, R. D. Campbell, R. Abiad, C. Cork, E. Hull, D. Landis, N. W. Madden, D. malone, R. Pehl, & R. Schwartz "The HESSI Spectrometer", *"High Energy Solar Physics: Anticipating HESSI," ASP Conference Series, ed. R. Ramaty & N. Mandzhavidze* 206, 92 PEER REVIEWED
- 2000 **Conference Proceedings:** K. Pottschmidt, J. Wilms, R. Staubert, M. A. Nowak, J. B. Dove, W. A. Heindl, & D. M. Smith "Monitoring the Short-Term Variability of Cyg X-1", *Proceedings of the ESO Black Hole Workshop, "Black Holes in Binaries and Galactic Nuclei"* 109-113 PEER REVIEWED
- 2000 **Conference Proceedings:** D. M. Smith, R. P. Lin, J. McTiernan, A. S. Slassi-Sennou, and K. Hurley, "Extra-Solar Astrophysics with the High Energy Solar Spectroscopic Imager (HESSI)", *Proceedings of the 5th Compton Symposium, AIP, #510, 671-675* PEER REVIEWED
- 2000 **Conference Proceedings:** M. Hernanz, D. M. Smith, J. Fishman, A. Hermon, J. Gomez-Gomar, J. Jose, J. Isern, & P. Jean, "BATSE Observations of Classical Novae", *Proceedings of the 5th Compton Symposium, AIP, #510, 82-86* PEER REVIEWED
- 2000 K. Pottschmidt, J. Wilms, R. Staubert, M. A. Nowak, J. B. Dove, W. A. Heindl, & D. M. Smith "Monitoring the Short-Term Variability of Cyg X-1: Spectra and Timing," *Proceedings of the 5th Compton Symposium, AIP, #510, 109-113* PEER REVIEWED
- 1999 **Conference Proceedings:** D. M. Smith, R. P. Lin, J. McTiernan, & A. S. Slassi-Senou "Astrophysics with the HESSI," *The proceedings of the 3rd INTEGRAL Science Workshop, The Extreme Universe, ?* PEER REVIEWED
- 1999 **rapid communications (telegrams):** Smith, Heindl, & Swank "GRS 1758-258", *IAUC #7266, n/a*
- 1998 **Conference Proceedings:** R. P. Lin et al. "High-Energy Solar Spectroscopic Imager (HESSI) Small Explorer Mission for the Next (2000) Solar Maximum," *Proc. SPIE, Missions to the Sun II, C. M. Korendyke, Ed. 3442, p. 2-12* PEER REVIEWED
- 1998 **rapid communications (telegrams):** Smith et al. "1E 1740.7-2942", *IAUC #6963, n/a*
- 1997 **invited review paper, conference proceedings:** D. M. Smith, W. R. Purcell, and M. Leventhal "Galactic e+/e- annihilation line radiation" *Proc. 4th Compton Symposium, AIP Conf. Proceedings 410, 208-217* INVITED
- 1997 **Conference Proceedings:** D. M. Smith, M. Leventhal, L. X. Cheng, J. Tueller, N. Gehrels, I. F. Mirabel, L. Rodriguez, & W. Purcell "OSSE Upper Limit on Positron Annihilation from the GRS 1915+105," *AIP Proc., Proceedings of the 4th Compton Symposium, ed. C. D. Dermer, M. S. Strickman, & J. D. Kurfess, #410, 902-906* PEER REVIEWED
- 1997 **Conference Proceedings:** D. M. Smith, M. Leventhal, L. X. Cheng, M. Leventhal, J. tueller, N. Gehrels, & G. Fishman, "A BATSE Measurement of the Galactic Positron Annihilation Flux," *AIP Proc., Proceedings of the 4th Compton Symposium, ed. C. D. Dermer, M. S. Strickman, & J. D. Kurfess, #410, 1012-1015* PEER REVIEWED
- 1997 **rapid communications (telegrams):** Marshall & Smith "GRS 1737-31", *IAUC #6603, n/a*
- 1997 **rapid communications (telegrams):** Cui et al. "GRS 17374-31", *IAUC #6604, n/a*
- 1997 **rapid communications (telegrams):** Smith et al. "XTE J1739-302", *IAUC #6748, n/a*
- 1997 **rapid communications (telegrams):** "XTE J1739-302", *IAUC #6757, n/a*
- 1996 **Conference Proceedings:** D. M. Smith, M. Leventhal, R. Cavallo, N. Gehrels, J. Tueller, and G. Fishman "BATSE Observations of Galactic Positron-Annihilation Radiation", *Proceedings of the 3rd Compton Symposium, A. & A. Suppl. 120, 361* PEER REVIEWED
- 1996 **Conference Proceedings:** J. Tueller, N. Gehrels, M. Leventhal, D. M. Smith, and W. R. Purcell "High-Resolution OSSE Scanning Observations of the Galactic Center 511 keV Source", *Proceedings of the 3rd Compton Symposium, A. & A. Suppl. 120, 369* PEER REVIEWED
- 1993 **Conference Proceedings:** Ph. Durouchoux et al. "High Energy Observation of the Galactic Center Region 511 keV and 26Al lines with HEXAGONE", *Proceedings of the Toulouse International Colloquium on Recent Advances in High Energy Astronomy, A. & A. Suppl. 97, 185* PEER REVIEWED
- 1993 **Conference Proceedings:** D. M. Smith et al. "Annihilation Radiation and Associated Continuum from the Galactic Center Region", *ICRC, Calgary, ?* PEER REVIEWED

- 1993 **Dissertation:** "A Hard X-ray and Gamma-Ray Observation of the Galactic Center Region", University of California, Berkeley, ? Ph. D. Dissertation, dissertation advisor Robert P. Lin PEER REVIEWED
- 1993 **Conference Proceedings:** P. T. Feffer et al. "Preliminary Results from the High Resolution Gamma-ray and hard X-ray Spectrometer (HIREGS) Long Duration Balloon Flight in Antarctica", *Proceedings of the Toulouse International Colloquium on recent Advances in High Energy Astronomy, A. & A. Suppl.* 97, 31 PEER REVIEWED
- 1993 **Conference Proceedings:** D. M. Smith et al. "HEXAGONE Observation of the Galactic Center Gamma-Ray Continuum", *Proceedings of the Toulouse International Colloquium on recent Advances in High Energy Astronomy, A. & A. Suppl.* 97, 199 PEER REVIEWED
- 1991 **Newsletter article:** D. M. Smith and R. P. Lin "Gamma-Ray and Hard X-Ray Spectroscopy on a Long-Duration Balloon Flight in Antarctica," *Soundings (NASA Office of Space Science and Applications newsletter)* 1, 6 PEER REVIEWED
- 1991 **Conference Proceedings:** J. Matteson et al. "An Observation of Annihilation Radiation from the Galactic Center Region with a New High Resolution Gamma-Ray Spectrometer", *Proceedings of the International Symposium on Gamma-Ray Line Astrophysics, ed. N. Prantzos and Ph. Durouchoux, Gif sur Yvette: Editions Frontieres, ?* PEER REVIEWED
- 1991 **Conference Proceedings:** J. Matteson et al. "An Observation of Annihilation Radiation from the Galactic Center Region", *Advances in Space Research (XXVII COSPAR Meeting), ?* PEER REVIEWED
- 1991 **Conference Proceedings:** I. Malet et al. "Observation of the Galactic 1809 keV Gamma-Ray Line with the HEXAGONE Spectrometer", *Proceedings of the International Symposium on Gamma-Ray Line Astrophysics, ed. N. Prantzos and Ph. Durouchoux, Gif sur Yvette: Editions Frontieres, ?* PEER REVIEWED
- 1991 **Conference Proceedings:** C. Chapis et al. "Observations of the 511 keV Annihilation Line in the Direction of the Galactic Center with HEXAGONE", *HEXAGONE, Proceedings of the International Symposium on Gamma-ray Line Astrophysics, ed. N. Prantzos and Ph. Durouchoux, Gif sur Yvette: Editions Frontieres, ?* PEER REVIEWED
- 1990 **Conference Proceedings:** J. Matteson et al. "An Observation of SN1987A with the New High Resolution Gamma-Ray Spectrometer", *Supernovae, edited by S. E. Woosley, Springer-Verlag, ?* PEER REVIEWED
- 1990 **Conference Proceedings:** J. Matteson et al. "Observations of SN1987A and the Galactic Center with a New High Resolution Gamma-Ray Spectrometer", *Proc. XXI Int'l. Cosmic Ray Conf. Adelaide, Australia, University of Adelaide, 174, ? Paper no. OG 4.4-2,2* PEER REVIEWED
- 1989 **Conference Proceedings:** P. Feffer, D. Smith, R. Campbell, J. Primbsch, R. Lin, P. Luke, N. Madden, R. Pehl, and J. Matteson "Pulse Shape Discrimination for Background Rejection in Germanium Gamma-Ray Detectors," *EUV, X-Ray, and Gamma-Ray Instrumentation for Astronomy and Atomic Physics, SPIE Proc. 1159, ed. C. hailey and O. Siegmund, Bellingham, WA, Soc. Photo Optical Instrumentation Engineers, p. 287* PEER REVIEWED
- 1989 **rapid communications (telegrams):** Matteson et al. "Galactic Center Annihilation Radiation", *IAUC #4889, n/a*
- 1988 **Conference Proceedings:** D. M. Smith, M. Shapshak, R. Campbell, J. H. Primbsch, R. P. Lin, P. N. Luke, N. W. Madden, and R. H. Pehl "Pulse Shape Discrimination for Background Rejection in Germanium Detectors", *Nuclear Spectroscopy of Astrophysical Sources AIP Conf. Proc. 170, ed. N. Gehrels and G. Share, New York, American Inst. of Physics, p. 484* PEER REVIEWED
- 1988 **Conference Proceedings:** A. Parsons, B. Sadoulet, S. Weiss, D. Smith, K. Hurley, R. P. Lin, and G. Smith "The Gas Scintillation Drift Chamber as a Hard X-Ray Detector", *Nuclear Spectroscopy of Astrophysical Sources, AIP Conf. Proc. 170, ed. N. Gehrels and G. Share, New York, American Inst. of Physics, p. 478* PEER REVIEWED
- 1988 **Conference Proceedings:** R. P. Lin, D. W. Curtis, P. Harvey, K. Hurley, J. H. Primbsch, D. M. Smith, R. M. Pelling, and F. Duttweiler "A High Resolution Gamma-Ray and Hard X-Ray Spectrometer for Solar Flare Observations in Max-91," *Max '91: Flare Research at the Next Solar Maximum, ed. R. Cangield, Greenbelt, MD, NASA Goddard Space Flight Center, p. 262* PEER REVIEWED
- 1987 **Conference Proceedings`:** R. P. Lin, D. W. Curtis, J. H. Primbsch, P. R. Harvey, W. K. Levedahl, D. M. Smith, R. M. Pelling, F. Duttweiler, and K. Hurley, "A Long-Duration Balloon Payload for Hard X-Ray and Gamma-ray Observations of the Sun", *Recent Advances in the*

Understanding of Solar Flares: Proc. of the U.S.-Japan Seminar, April 1987, ed. H. Hudson and K. Kai, Solar Physics 113, 333 PEER REVIEWED

UNIVERSITY SERVICE

Academic Senate Service

10/2010 - 9/2011 Chair, committee on preparatory education; scheduled to continue in this role for 2011/12 year.
 Fall 2009 - Spring 2010 Member of Committee on Preparatory Education

Service to the Division

Fall 2009 - Spring 2011 Chair of DCAP for PSci (2-year term)
 9/08 - 9/09 Divisional CAP representative

Service to the Department

5/11 Presented talk on high-energy solar physics to SPS
 Spring 2010 Chair of short-lived committee to review intermediate & upper-division laboratories.
 Fall 2009 - Ongoing Chair of undergraduate academic advising committee for Physics
 Fall 2009 Presented talk on lightning to SPS
 9/08 - 9/09 Departmental committees: colloquium committee and undergrad. curriculum committee.
 9/07 - 9/08 Departmental committees: undergrad. curriculum.
 9/06 - 9/07 Departmental committees: graduate recruitment and faculty search
 5/06 - 5/06 Presented lecture on atmospheric electricity to the Society of Physics Students
 9/05 - 9/06 Departmental committees: Undergraduate curriculum committee and community committee

Service to the University

10/2010 - 9/2011 Member, systemwide Preparatory Education committee. Scheduled to continue in this role for the 2011/2012 year.

Other Service to the Campus

Fall 2010 - ongoing Faculty advisor to tango club.
 Fall 2009 - Spring 2010 Faculty advisor to swing dance club
 2/16/06 - 2/16/06 Presented summary of the APS/AAS/AAPT New Faculty Workshop at the UCSC Center for Teaching Excellence Teaching and Learning Symposium.
 8/06 - 9/06 Search committee for new SCIPP office assistant.
 2/05 - continuing Teaching ballroom dance recreation class (1 hour per week) for OPERS and serving as advisor for student ballroom dancing club.

OUTSIDE PROFESSIONAL ACTIVITIES

Papers Presented at Professional Meetings

8/11 "High Energy Radiations from Thunderstorms", invited review talk at the meeting of the International Commission on Atmospheric Electricity, Rio de Janeiro. INVITED
 7/11 "Status of RHESSI and ADELE observations of TGFs", contributed talk at the TGF workshop in Huntsville, AL.
 6/11 "Solar observations with NuSTAR", contributed poster at the meeting of the Solar Physics Division of AAS, Las Cruces, NM.
 6/11 "Reconciling balloon and spacecraft observations of relativistic electron precipitation in anticipation of BARREL/RBSP", invited talk at the joint CEDAR/GEM meeting, Santa Fe, NM. INVITED

- 1/11 "Beyond TGFs: stepped leaders and continuous relativistic breakdown in thunderclouds with ADELE", contributed talk at the URSI meeting in Boulder, CO. Co-author on one other talk at this meeting.
- 9/11 "Observations of Fast X-ray Transients with the RXTE/PCA Galactic Bulge Scan Program", contributed talk at the High Energy Astrophysics Division of AAS, to be given in September 2011.
- 12/10 "Stepped leaders observed in ground operations of ADELE", contributed poster at the Fall meeting of the American Geophysical Union. Co-author on 7 other posters or talks at this meeting.
- March 2010 Contributed poster on the accretion states of binary black holes, 2010 meeting of the High Energy Astrophysics Division of the AAS
- 5/10 "Simultaneous fitting of multiple accelerated-ion parameters in RHESSI gamma-ray flare spectra", contributed talk, Solar Physics Division of the AAS, May 2010, Miami.
- December 2009 Invited talk on new results from the ADELE instrument on gamma-rays from lightning, Fall 2009 meeting of the AGU. Co-author on 11 other talks or posters at this meeting. INVITED
- May 2009 Talk on RHESSI observations of TGFs at the Chapman conference on thunderstorms and the ionosphere
- 6/08 Invited keynote talk, "The World of TGFs," at Workshop on the Coupling of Thunderstorms to Near Earth Space, Corsica INVITED
- 5/08 Invited talk on gamma-rays from lightning, Japan Geoscience Union meeting. INVITED
- 12/08 "Statistical comparisons of RHESSI Terrestrial Gamma-ray Flashes and WLLN-detected lightning," contributed poster at the Fall 2008 meeting of the American Geophysical Union. Co-author on 9 other talks or posters at this meeting.
- 7/07 Invited talk at the Union of Radio Science International meeting, Ottawa INVITED
- 7/07 Invited talk on terrestrial gamma-ray flashes at the International Union of Geodesy and Geophysics meeting, Perugia. Also presented contributed talk on solar flares. INVITED
- 12/07 Contributed poster on "Unusual RHESSI TGFs" at the Fall AGU meeting, San Francisco. Also co-author on several presentations by my students and others.
- 12/06 Invited talk on terrestrial gamma-ray flashes at the American Geophysical Union meeting, San Francisco. Also a contributed poster on another aspect of the same topic, and co-author on numerous other posters and presentations. INVITED
- 10/06 Contributed talk on x-ray binaries at the High Energy Astrophysics Division meeting of the AAS; also co-author on contributed posters by two of my students (Hazelton, Matthews).
- 6/28/06 Presented invited "Parker Lecture" at the 2006 meeting of the Solar Physics Division of AAS: "High Energy Spectroscopy of Solar Flares" INVITED
- 7/2/06 Presented invited review "Highlights from RHESSI" at the 6th INTEGRAL workshop, Moscow. Also presented contributed poster on "X-ray observations of supergiant fast x-ray transients". INVITED
- 4/06 Invited talk, "Particle Acceleration Results from RHESSI," April meeting of the APS, April 2006. INVITED
- 1/06 Invited talk, "Terrestrial Gamma-ray Flashes: Status and Prospects," at the URSI National Radio Science Meeting, Boulder, CO INVITED
- 6/05 Invited talk, 2005 Singapore meeting of the Asia Oceania Geosciences Society (AOGS), "RHESSI observations of terrestrial gamma-ray flashes"; also contributed talk, "RHESSI constraints on ion acceleration in flares" INVITED
- 7/05 Invited talk, "RHESSI observations of terrestrial gamma-ray flashes," International Association of Geomagnetism and Aeronomy (IAGA), Toulouse, July 2005 INVITED
- 10/05 Invited talk, "RHESSI observations of terrestrial gamma-ray flashes," International Union of Radio Science (URSI), New Delhi, October 2005 INVITED
- 9/05 Invited talk, "Puzzles and potential for gamma-ray line observations of solar flare ion acceleration," workshop on focusing telescopes in nuclear astrophysics, Corsica, September 2005 INVITED
- 9/05 Contributed talk, "Nuclear astrophysics with RHESSI," workshop "Astronomy with Radioactivities V," Clemson, SC, September 2005

5/05	Contributed talk, "Accelerated and Ambient Abundances in RHESSI Gamma-Ray Flares," AGU meeting, Spring 2005
2004 September	Invited talk "RHESSI and the High-Energy Sun," meeting of the High Energy Astrophysics Division meeting of the American Astronomical Society, New Orleans; also 2 contributed posters: "RHESSI observations of Galactic nuclear lines" and "Fast transients in high-mass x-ray binaries" INVITED
2004 July	Three contributed talks at the 34th COSPAR meeting, Paris: "RHESSI Spectroscopy of Nuclear De-excitation Lines in X-class Flares"; "Studying large solar flares from ultra-long-duration balloons"; and "RHESSI observations of Galactic nuclear lines"
2/04	Invited talk "Gamma-ray line observations with RHESSI," 5th INTEGRAL workshop, Munich, February 2004 INVITED
2/04	Contributed talk "Solar flare polarization with RHESSI," x-ray polarization workshop, SLAC, February 2004
5/04	Contributed poster "GRIFFIN hybrid x-ray optics," Beyond Einstein meeting, SLAC, February 2004
6/04	Contributed poster "RHESSI Spectroscopy of Nuclear De-excitation Lines in X-class Flares," AAS 204th meeting
7/04	Invited talk on ballooning for solar physics at NASA's Balloon Roadmap Meeting, Washington DC INVITED
12/04	Contributed talk, "RHESSI observations of terrestrial gamma-ray flashes," Fall meeting of the AGU, December 2004, San Francisco
2003 December	"Probing Ion Acceleration and Ambient Abundances in Solar Flares with RHESSI," American Geophysical Union meeting INVITED
2003 September	"Gamma-ray observations of solar flares," ACE/RHESSI/Wind Workshop, Taos, NM INVITED
10/03	Contributed talk, "The GRIFFIN x-ray telescope concept," at the Constellation-X team meeting, Greenbelt, MD
10/03	Contributed talk, "Relative timing of changes in spectrum, luminosity, and fast variability in persistently luminous black-hole candidates," at the X-ray Timing 2003 Workshop, Cambridge, MA
2002 October	"RHESSI Imaging Spectroscopy of Solar Flare Gamma-Rays," COSPAR meeting, Houston, Texas. NOTE: ONLY INVITED TALKS ARE LISTED BEFORE 7/03. INVITED
2000 November	"The High Energy Solar Spectroscopic Imager (HESSI): Germanium X-ray/Gamma-ray detectors on a NASA Satellite," 16th International Conference on the Application of Accelerators in Research and Industry (CAARI 2000) INVITED
1999 October	"HESSI Spectroscopy," Solar Physics Workshop Anticipating HESSI INVITED
1997 April	"RXTE Observations of Persistent Black Hole Candidates," American Physical Society meeting INVITED
1995	"BATSE Observations of Galactic Positron-Annihilation Radiation," Washington Area Astronomers Meeting INVITED

Conferences and Meetings

2011 - 2011	Scientific organizing committee, workshop on terrestrial gamma-ray flashes, Huntsville, AL, July 2011.
3/11 - ongoing	Member of scientific organizing committee for a session on Supergiant Fast X-ray Transients at COSPAR 2012 INVITED
11/10	Attended New Faculty "Reunion" Workshop in College Park, MD, for new faculty in physics and astronomy. Sponsored by APS/AAS/AAPT. Teaches teaching techniques from recent physics pedagogy research.
2009	Co-organizer of session on high-energy radiation in thunderstorms at the Fall 2009 meeting of the American Geophysical Union
2009	Scientific organizing committee, Chapman conference on thunderstorms and the ionosphere, 2009 INVITED
8/06 - 6/07	Head of local organizing committee for the 6th RHESSI workshop, held at UCSC in June 2007.

- 12/05 - - present Co-originator/convenor for a session on Terrestrial Gamma-ray Flashes at the Fall meeting of the American Geophysical Union: 2005 2006 2007 2008
- 2/05 Co-originator/convenor of a workshop on Terrestrial Gamma-ray Flashes at U. C. Berkeley, Feb. 2005
- November 2005 Attended New Faculty Workshop in College Park, MD, for new faculty in physics and astronomy. Sponsored by APS/AAS/AAPT. Teaches teaching techniques from recent physics pedagogy research.
- 12/04 Member of local organizing committee for RHESSI/TRACE/SOHO workshop, Sonoma, CA, Dec 2004

Memberships or Activities in Professional Associations

- 12/08 Student poster judge, Fall meeting of the American Geophysical Union.
- 5/06 - 12/10 Served on the subcommittee of the American Geophysical Union for selecting and arranging the "Franklin Lecture" on atmospheric electricity for the Fall 2006, Fall 2008, and Fall 2010 meetings. INVITED
- 2002 - to present American Geophysical Union
- 1997 - to present American Astronomical Society, including High Energy Astrophysics and Solar Physics divisions
- 1994 - to present American Physical Society, including Forum on Education, Division of Astrophysics, Topical Group in Plasma Astrophysics

Review/Referee Grants, Proposals and Publications

- 2011 Refereed three papers for the Journal of Geophysical Research
- 2011 Refereed three proposals for the Heliophysics Division of NASA
- 2011 Refereed three proposals for the National Science Foundation (geosciences)
- 2011 Refereed one paper for Physics Letters A
- 2010 Refereed two papers for The Astrophysical Journal.
- 2010 Refereed two papers for the Journal of Geophysical Research
- 2010 Refereed one proposal for the National Science Foundation (geosciences).
- 2010 Chaired a panel reviewing observing proposals for NASA's Rossi X-ray Timing Explorer satellite (astrophysics).
- 2009 Reviewed a paper for AIP Conference Proceedings.
- 2009 Refereed a paper for The Astrophysical Journal
- 2009 Refereed a paper for The Astrophysical Journal Supplement Series.
- 2009 Reviewed a paper for the Journal of Geophysical Research
- 2009 Refereed a paper for Geophysical Research Letters
- 2009 Reviewed a paper for Physics of Plasmas
- 2009 Reviewed a proposal for the Research Council of Norway
- 2009 Reviewed a proposal for the Dutch Technology Foundation
- 2009 Reviewed 2 proposals for the National Science Foundation (geosciences)
- 1/08 Reviewed a paper on accreting black holes for New Astronomy
- 6/08 Reviewed a paper for The Astrophysical Journal on accreting neutron stars
- 7/08 Reviewed a second paper for The Astrophysical Journal on accreting neutron stars
- 8/08 Reviewed a paper on meteorology of terrestrial gamma-ray flashes for Journal of Atmospheric and Solar-Terrestrial Physics
- 8/08 Reviewed a paper on accreting black holes for Astrophysical Journal Letters
- 1/07 and 6/07 Reviewed a proposal for NSF on atmospheric electricity (two versions)
- 5/07 Reviewed research proposal for the Department of State/ International Science and Technology Center (ISTC) in Moscow
- 6/07 Reviewed a paper on terrestrial gamma-ray flash theory for the Journal of Geophysical Research
- 8/07 Refereed a paper on connections between thunderstorms and the solar cycle for Geophysical Research Letters

12/07	Refereed a paper on atmospheric runaway electrons for Geophysical Research Letters
10/06 - 11/06	Refereed a paper on gamma rays in solar flares for Publications of the Astronomical Society of Japan
12/06	Reviewed a paper on gamma-ray detectors for the Proceedings of the 6th International "Hiroshima" Symposium for the Development and Application of Semiconductor Tracking Detectors
2006 Fall '05 to - Spring '06	Refereed a paper on solar-flare x-rays for The Astrophysical Journal
1/06	Refereed a paper on supernovae for Experimental Astronomy
8/06	Refereed a grant proposal on planetary science for NASA
2/05	Chaired proposal review panel for NASA guest investigator program, RXTE satellite, Washington, DC.
2005 Winter '05	Refereed a paper on Galactic radioactivity for Astronomy and Astrophysics Letters
2005 Summer '05	Refereed a paper for Advances in Space Research on Galactic radioactivity
2005 Summer '05	Refereed a second paper for The Astrophysical Journal on cosmic gamma-ray bursts
2005 Fall '05	Refereed a paper on atmospheric electricity (thunderstorms and cosmic rays) for Geophysical Research Letters
2005 Fall '05	Refereed a paper on black-hole x-rays for Monthly Notices of the Royal Astronomical Society
2004 Spring '04	Refereed a paper for The Astrophysical Journal on cosmic gamma-ray bursts
2004 Spring '04	Refereed a paper for Solar Physics on solar nuclear gamma-ray lines
2004 Summer '04	Refereed a paper for Advances in Space Research on solar flares
2004 Summer '04	Refereed two papers on gamma-ray instrumentation for the proceedings of the 5th International Symposium on Development and Application of Semiconductor Tracking Detectors
2004 Fall '04	Refereed a second solar-flare paper for Advances in Space Research
2003 Fall '03	Refereed a paper for Solar Physics on solar flare gamma-rays
2003 Fall '03	Refereed a paper for The Astrophysical Journal on black-hole x-rays
2003 Fall '03	Refereed an NSF proposal (Antarctic Sciences) on magnetospheric physics (in the \$1.5M range; Vladimir Papitashvili, program scientist) [REFEREEING ACTIVITIES BEFORE ARRIVING AT UCSC ARE NOT LISTED].

Other Outside Professional Activities

9/10	Departmental seminar at San Jose State University INVITED
10/10	Colloquium on hard x-ray observations of solar flares, Space Sciences Laboratory, U. C. Berkeley INVITED
April 2010	Colloquium presented at U. C. Berkeley Space Sciences Laboratory on energetic radiation from lightning (invited) INVITED
10/08	Colloquium at U. Michigan physics department on gamma-rays from lightning INVITED
10/07	Colloquium at U. C. Berkeley Physics Department on Gamma-rays from Lightning INVITED
9/07	Colloquium at UCSC Physics department on gamma-rays from lightning INVITED
10/07	Seminar at UCSD x-ray astronomy group on gamma-rays from lightning INVITED
6/20/06 - 6/24/06	Taught at an AAS/SPD summer school on high-energy solar physics
5/06	Gave a seminar on RHESSI solar and astrophysics results at Stanford University
throughout 2005	Radio and print interviews, NASA press conference, UCSC press release on RHESSI observations of terrestrial gamma-ray flashes. Articles appeared in New Scientist, Science News, many online features.
2005 Fall '05	Proofread problems and solutions for one chapter of a book by Marcus Aschwanden, Physics of the Solar Corona, 2nd edition
2005 Fall '05	Gave the physics department colloquium at Dartmouth College, on Terrestrial Gamma-ray Flashes

10/18/04 - 10/22/04 Taught at a RHESSI data analysis workshop at Berkeley, Oct 18-22

STUDENT SUPERVISION

2011 to Present - Primary Supervisor; Gregory Bowers, Doctoral Student
 2011 to Present - Primary Supervisor; Paul Buzbee, Bachelors Student
 2010 to 2011 - Primary Supervisor; Andrew Reid, Bachelors Student, Degree Completed 2011
 2010 to Present - Primary Supervisor; Hal Cambier, Doctoral Student
 2010 to Present - Primary Supervisor; Elan Stopnitzky, Bachelors Student
 2009 to Present - Primary Supervisor; Eric Casavant, Bachelors Student
 2009 - Primary Supervisor; Brian Grefenstette, Postdoctoral Scholar, Degree Completed 2009
 2009 - Primary Supervisor; Bryna Hazelton, Postdoctoral Scholar, Degree Completed 2009
 2009 to Present - Primary Supervisor; Nicole Kelley, Doctoral Student
 2009 to 2010 - Primary Supervisor; Alexander Lowell, Bachelors Student, Degree Completed 2010
 2009 to 2011 - Primary Supervisor; James Maduzia, Bachelors Student, Degree Completed 2011
 2009 to 2011 - Primary Supervisor; Warren Rexroad, Bachelors Student, Degree Completed 2011
 2009 to 2010 - Primary Supervisor; Karl Schmidt, Bachelors Student, Degree Completed 2010
 2008 to 2009 - Co Supervisor; ShiChao Tang, Doctoral Student
 2008 to Present - Primary Supervisor; Xinqing (Andrew) Liang, Doctoral Student
 2007 to 2011 - Primary Supervisor; Max Comess, Doctoral Student, Degree Completed 2011
 2007 to 2009 - Co Supervisor; Laurel Ruhlen, Doctoral Student
 2005 to 2009 - Primary Supervisor; Brian Grefenstette, Doctoral Student, Degree Completed 2009
 2005 to 2009 - Primary Supervisor; Bryna Hazelton, Doctoral Student, Degree Completed 2009
 2002 to Present - Primary Supervisor; John Sample, Doctoral Student

2008	PhD	Comess, Max	Research.
2008	PhD	Grefenstette, Brian	Research.
2008	PhD	Hazelton, Bryna	Research.
2008	PhD	Naiman, Jill	2008 Research supervision. Transfer to Astronomy.
2008	PhD	Rampy, Rachel	Research.
2008	PhD	Ruhlen, Laurel	2008 Research supervision. Transfer to Astronomy.
2008	PhD	Sample, John	U. C. Berkeley Research.
2008	PhD	Shih, Albert	U. C. Berkeley Research.
2008	Undergrad	Stevens, Robert	Research.
2008	Undergrad	Viscuso, Geno	Research.
2007	PhD	Comess, Max	2007 Research. Advanced to candidacy.
2007	PhD	Grefenstette, Brian	2005 Research. Advanced to candidacy in 2007.
2007	PhD	Hazelton, Bryna	Research. Advanced to candidacy 2007.
2007	PhD	Naiman, Jill	2007 Research supervision. Transfer to Astronomy.
2007	PhD	Ruhlen, Laurel	Research.
2007	PhD	Sample, John	U. C. Berkeley Research.
2007	PhD	Shih, Albert	U. C. Berkeley Research.
2007	Masters	Matthews, Tristan	2008 Masters awarded 2008.
2007	Undergrad	Hodges, Heaven	Research.
2007	Undergrad	Martchovsky, Andrey	Research.
2007	Undergrad	Rampy, Rachel	2007 Accepted to graduate program for 08-09.
2007	Undergrad	Stevens, Robert	Research.
2006	PhD	Bezayiff, Nate	2007 PhD awarded 2007.
2006	PhD	Grefenstette, Brian	Research

2006	PhD	Hazelton, Bryna	Research
2006	PhD	Sample, John	2002 U. C. Berkeley Outside advisor for student at U. C. Berkeley; relationship began before I came to UCSC.
2006	PhD	Shih, Albert	2002 U. C. Berkeley Outside advisor for student at U. C. Berkeley; relationship began before I came to UCSC.
2006	Masters	Matthews, Tristan	Research
2006	Undergrad	Martchovsky, Andrey	Research.
2006	Undergrad	Nelson, Benjamin	Research
2006	Undergrad	Rampy, Rachel	Research.
2005	PhD	Bezayiff, Nate	Ph.D. Thesis Reading Committee, research advisor
2005	PhD	Flacco, Christian	Ph.D. Thesis Reading Committee
2005	PhD	Grefenstette, Brian	Research
2005	PhD	Hazelton, Bryna	Research
2005	PhD	Sample, John	2002 U. C. Berkeley Outside advisor for student at U. C. Berkeley; relationship began before I came to UCSC.
2005	PhD	Shih, Albert	2002 U. C. Berkeley Outside advisor for student at U. C. Berkeley; relationship began before I came to UCSC.
2005	Masters	Matthews, Tristan	Research
2005	Undergrad	Blank, Alan	Research
2005	Undergrad	Dawson, David	Research
2005	Undergrad	Stanley, Jacob	Research.
2004	PhD	Bezayiff, Nate	research
2004	PhD	Grefenstette, Brian	research
2004	PhD	Hazelton, Bryna	research
2004	PhD	Sample, John	2002 U. C. Berkeley Outside advisor for student at U. C. Berkeley; relationship began before I came to UCSC.
2004	PhD	Shih, Albert	2002 U. C. Berkeley Outside advisor for student at U. C. Berkeley; relationship began before I came to UCSC.
2004	PhD	Spolyar, Douglas	Department academic advisor only, not research advisor.
2003	PhD	Sample, John	2002 U. C. Berkeley Outside advisor for student at U. C. Berkeley; relationship began before I came to UCSC.
2003	PhD	Shih, Albert	2002 U. C. Berkeley Outside advisor for student at UCB; relationship began while I was there.
2003	Undergrad	Bell, Vanessa	Undergraduate Senior Theses Supervised
2003	Undergrad	Bushart, Shawna	Undergraduate Senior Theses Supervised

TEACHING

2011-2012

Courses Taught

Quarter	Name	Units	Enrollment	Course Evals	% Evals Retd	% Taught	Comments	Review Status
Fall	PHYS 297B - 24 - Independent Study	10	4			100		
Fall	PHYS 005A - 01 - Intro Physics I	5	236			100		
Winter	PHYS 291F - 01 - Particle Astrophys	2	6			100		

Winter	PHYS 297B - 24 - Independent Study	10	3			100		
Spring	PHYS 297B - 24 - Independent Study	10	4			100		
Spring	PHYS 134 - 02 - Physics Adv Lab	5	15			100		
Spring	PHYS 297A - 24 - Independent Study	5	1			100		
Spring	PHYS 134 - 01 - Physics Adv Lab	5	18			100		
Spring	PHYS 291F - 01 - Particle Astrophys	2	7			100		

2010-2011**Courses Taught**

Quarter	Name	Units	Enrollment	Course Evals	% Evals Retd	% Taught	Comments	Review Status
Fall	PHYS 297B - 24 - INDEPENDENT STUDY	10	2			100		
Fall	PHYS 291F - 01 - PARTICLE ASTROPHYS	2	7			100		
Fall	PHYS 297A - 24 - INDEPENDENT STUDY	5	1			100		
Fall	PHYS 299B - 24 - THESIS RESEARCH	10	1			100		
Winter	PHYS 101B - 01 - INTRODUCTION TO MODERN PHYSICS II	5	89	66	74	100		
Winter	PHYS 199 - 24 - TUTORIAL	5	1			100		
Winter	PHYS 297B - 24 - INDEPENDENT STUDY	10	3			100		
Winter	PHYS 299B - 24 - THESIS RESEARCH	10	1			100		
Spring	PHYS 299B - 24 - THESIS RESEARCH	10	1			100		
Spring	PHYS 291F - 01 - PARTICLE ASTROPHYS	2	7			100		
Spring	PHYS 134 - 01 - PHYSICS ADVANCED LABORATORY	5	20	19	95	100		

Spring	PHYS 297B - 24 - INDEPENDENT STUDY	10	2			100		
Spring	PHYS 297A - 24 - INDEPENDENT STUDY	5	1			100		

2009-2010**Courses Taught**

Quarter	Name	Units	Enrollment	Course Evals	% Evals Retd	% Taught	Comments	Review Status
Fall	PHYS 291F - 01 - PARTICLE ASTROPHYS	2	3			100		
Fall	PHYS 297A - 24 - INDEPENDENT STUDY	5	1			100		
Fall	PHYS 299B - 24 - THESIS RESEARCH	10	1			100		
Winter	PHYS 005J - 01 - INTROPHYSHONORS II	2	10	7	70	100		
Winter	PHYS 006A - 01 - INTRODUCTORY PHYSICS I	5	248	176	71	100		
Winter	PHYS 199 - 24 - TUTORIAL	5	1			100		
Winter	PHYS 297C - 24 - INDEPENDENT STUDY	15	1			100		
Winter	PHYS 299B - 24 - THESIS RESEARCH	10	1			100		
Spring	PHYS 134 - 01 - PHYSICS ADVANCED LABORATORY	5	14	12	86	100		
Spring	PHYS 199 - 24 - TUTORIAL	5	1			100		
Spring	PHYS 199F - 24 - TUTORIAL	2	1			100		
Spring	PHYS 291F - 01 - PARTICLE ASTROPHYS	2	5			100		
Spring	PHYS 297A - 24 - INDEPENDENT STUDY	5	1			100		
Spring	PHYS 299B - 24 - THESIS RESEARCH	10	1			100		

2008-2009**Courses Taught**

Quarter	Name	Units	Enrollment	Course Evals	% Evals Retd	% Taught	Comments	Review Status
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Fall	PHYS 005A - 01 - Intro Physics I	5	217	169	78	100		
Fall	PHYS 299B - 19 - Thesis Research	10	3			100		
Winter	PHYS 299B - 21 - Thesis Research	10	3			100		
Winter	PHYS 005J - 01 - IntroPhysHonors II	2	7	7	100	100		
Winter	PHYS 297A - 04 - Independent Study	5	1			100		
Winter	PHYS 291F - 01 - Particle Astrophys	2	5			100		
Spring	PHYS 299B - 19 - Thesis Research	10	3			100		
Spring	PHYS 133 - 01 - Intermediate Lab	5	28	29	104	100		
Spring	PHYS 291F - 01 - Particle Astrophys	2	3			100		
Spring	ASTR 297B - 18 - Independent Study	10	1			100		

2007-2008**Courses Taught**

Quarter	Name	Units	Enrollment	Course Evals	% Evals Retd	% Taught	Comments	Review Status
Fall	PHYS 291F - 01 - Particle Astrophys	2	7			100		
Fall	PHYS 297C - 05 - Independent Study	15	1			100		
Fall	PHYS 299B - 19 - Thesis Research	10	2			100		
Fall	PHYS 199F - 08 - Tutorial	2	2			100		
Winter	PHYS 291F - 01 - Particle Astrophys	2	6			100		
Winter	PHYS 199 - 15A - Tutorial	5	1			100		
Winter	PHYS 297B - 20 - Independent Study	10	1			100		

Winter	PHYS 299B - 23 - Thesis Research	10	2			100		
Winter	PHYS 006A - 01 - Intro Physics I	5	205	117	57	100		
Spring	PHYS 291F - 01 - Particle Astrophys	2	5			100		
Spring	PHYS 297B - 23 - Independent Study	10	1			100		
Spring	PHYS 299B - 19 - Thesis Research	10	2			100		
Spring	PHYS 133 - 01 - Intermediate Lab	5	26	22	85	100		
Summer	PHYS 299A - 02 - Thesis Research	5	2			100		

2006-2007**Courses Taught**

Quarter	Name	Units	Enrollment	Course Evals	% Evals Retd	% Taught	Comments	Review Status
Fall	PHYS 297A - 21 - Independent Study	5	1			100		
Fall	PHYS 297B - 23 - Independent Study	10	1			100		
Fall	PHYS 299B - 19 - Thesis Research	10	1			100		
Fall	PHYS 005A - 01 - Intro Physics I	5	184	122	66	100		
Fall	PHYS 005L - 07 - Intro Phys I Lab	1	20			50		
Fall	PHYS 005L - 03 - Intro Phys I Lab	1	21			50		
Fall	PHYS 005L - 09 - Intro Phys I Lab	1	22			100		
Fall	PHYS 005L - 04 - Intro Phys I Lab	1	18			50		
Fall	PHYS 005L - 01 - Intro Phys I Lab	1	20			50		
Fall	PHYS 005L - 08 - Intro Phys I Lab	1	19			50		
Fall	PHYS 005L - 06 - Intro Phys I Lab	1	18			50		
Fall	PHYS 005L - 05 - Intro Phys I Lab	1	20			50		
Fall	PHYS 005L - 02 - Intro Phys I Lab	1	19			50		

Winter	PHYS 297B - 20 - Independent Study	10	3			100		
Spring	PHYS 110B - 01 - Elec, Magnet, Optic	5	44	30	68	100		
Spring	PHYS 297B - 23 - Independent Study	10	2			100		

2005-2006**Courses Taught**

Quarter	Name	Units	Enrollment	Course Evals	% Evals Retd	% Taught	Comments	Review Status
Fall	PHYS 299B - 19 - Thesis Research	10	1			0		
Winter	PHYS 297A - 04 - Independent Study	5	1			0		
Winter	PHYS 214 - 01 - Electromagnetism II	5	5			0		
Winter	PHYS 299B - 21 - Thesis Research	10	1			0		
Spring	PHYS 005C - 01 - Intro Physics III	5	108			0		
Spring	PHYS 133 - 01A - Intermediate Lab	0	15			0		
Spring	PHYS 299C - 05 - Thesis Research	15	1			0		
Spring	PHYS 005N - 03 - Intro Phys III Lab	1	19			0		
Spring	PHYS 005N - 02 - Intro Phys III Lab	1	22			0		
Spring	PHYS 297A - 23 - Independent Study	5	1			0		
Spring	PHYS 005N - 01 - Intro Phys III Lab	1	20			0		
Spring	PHYS 133 - 01B - Intermediate Lab	0	18			0		
Spring	PHYS 005N - 04 - Intro Phys III Lab	1	22			0		
Spring	PHYS 133 - 01 - Intermediate Lab	5	33	14	42	0		
Spring	PHYS 297B - 23 - Independent Study	10	2			0		
Spring	PHYS 005N - 05 - Intro Phys III Lab	1	21			0		

2004-2005**Courses Taught**

Quarter	Name	Units	Enrollment	Course Evals	% Evals Retd	% Taught	Comments	Review Status
Fall	PHYS 005L - 05 - Intro Phys I Lab	1	20			0		
Fall	PHYS 005L - 07 - Intro Phys I Lab	1	17			0		
Fall	PHYS 005L - 03 - Intro Phys I Lab	1	21			0		
Fall	PHYS 005L - 01 - Intro Phys I Lab	1	19			0		
Fall	PHYS 005L - 08 - Intro Phys I Lab	1	18			0		
Fall	PHYS 005L - 06 - Intro Phys I Lab	1	22			0		
Fall	PHYS 005L - 04 - Intro Phys I Lab	1	19			0		
Fall	PHYS 005L - 02 - Intro Phys I Lab	1	25			0		
Fall	PHYS 299B - 23 - Thesis Research	10	1			0		
Fall	PHYS 005A - 01 - Intro Physics I	5	175			0		
Winter	PHYS 133 - 01 - Intermediate Lab	5	11			0		
Winter	PHYS 297A - 04 - Independent Study	5	1			0		
Winter	PHYS 299B - 23 - Thesis Research	10	1			0		
Spring	PHYS 133 - 01 - Intermediate Lab	5	26			0		
Spring	PHYS 299B - 19 - Thesis Research	10	1			0		

2003-2004**Courses Taught**

Quarter	Name	Units	Enrollment	Course Evals	% Evals Retd	% Taught	Comments	Review Status
Winter	PHYS 006B - 01 - INTRO PHYSICS II	5	258			0		
Winter	PHYS 006M - 01 - INTRO PHYS II LAB	1	20			0		
Winter	PHYS 006M - 02 - INTRO PHYS II LAB	1	20			0		
Winter	PHYS 006M - 03 - INTRO PHYS II LAB	1	22			0		

Winter	PHYS 006M - 04 - INTRO PHYS II LAB	1	23			0		
Winter	PHYS 006M - 05 - INTRO PHYS II LAB	1	18			0		
Winter	PHYS 006M - 06 - INTRO PHYS II LAB	1	24			0		
Winter	PHYS 006M - 07 - INTRO PHYS II LAB	1	20			0		
Winter	PHYS 006M - 08 - INTRO PHYS II LAB	1	18			0		
Winter	PHYS 006M - 09 - INTRO PHYS II LAB	1	22			0		
Winter	PHYS 006M - 10 - INTRO PHYS II LAB	1	19			0		
Winter	PHYS 006M - 11 - INTRO PHYS II LAB	1	20			0		
Winter	PHYS 006M - 12 - INTRO PHYS II LAB	1	9			0		
Spring	PHYS 007B - 01 - ELEMENTARY PHYS II	5	121			0		
Spring	PHYS 007M - 01 - ELEMENTARY PHYS LAB	1	20			0		
Spring	PHYS 299B - 19 - THESIS RESEARCH	10	1			0		
Spring	PHYS 007M - 02 - ELEMENTARY PHYS LAB	1	19			0		
Spring	PHYS 007M - 03 - ELEMENTARY PHYS LAB	1	16			0		
Spring	PHYS 007M - 04 - ELEMENTARY PHYS LAB	1	20			0		
Spring	PHYS 007M - 05 - ELEMENTARY PHYS LAB	1	22			0		
Spring	PHYS 007M - 06 - ELEMENTARY PHYS LAB	1	15			0		