

# Peter Forbes Bloser

University of New Hampshire  
313 Morse Hall, 8 College Road  
Durham, NH 03824  
Phone: 603-862-0289  
E-Mail: [Peter.Bloser@unh.edu](mailto:Peter.Bloser@unh.edu)  
WWW: <http://www.eos.sr.unh.edu/Faculty/pbloser>

## Current Position

Research Assistant Professor, Space Science Center, University of New Hampshire

## Education

Nov 2000: **Ph.D. in Astronomy**, Harvard University  
Thesis: *Development and Testing of Hard X-ray Imaging Detectors and Spectral Evolution in X-ray Bursters* (Prof. J. Grindlay, advisor)  
Jun 1994: **A.B. in Astrophysical Sciences**, Princeton University

## Previous Positions

2004-2009: **Research Scientist**, Space Science Center, University of New Hampshire  
2002-2004: **NRC Research Associate**, Gamma Ray Astrophysics Branch, NASA  
Goddard Space Flight Center  
2000-2002: **Postdoctoral Researcher**, Gamma Ray Group, Max-Planck-Institut für  
extraterrestrische Physik, Germany  
1995-2000: **Research Assistant**, Harvard University

## Honors and Awards

2011: Faculty Scholar, UNH Research and Engagement Academy  
2002: NRC Research Associateship  
2000: NSF-NATO Postdoctoral Fellowship in Science and Engineering (*declined*)  
1998: Fireman Prize, Astronomy Department, Harvard University  
1996-1999: NASA Graduate Student Researchers Program Fellowship

## Research Interests and Experience

### Research Interests

- **Neutron and Gamma-Ray Measurements from Small Satellites:** Using modern scintillator materials and readout devices to make compact detectors for Heliophysical neutron and gamma-ray measurements from CubeSats.
- **Advanced scintillators in high-energy astronomy and solar physics:** Developing new scintillator materials with good stopping power, fast timing response, and excellent energy resolution for a variety of astrophysics and space science applications, both satellite- and balloon-based.

- **New readouts for scintillator detectors:** Applying new, compact, low-power scintillator readout technologies, such as silicon photomultipliers (SiPMs), to high-energy astronomy and Homeland Security instrumentation.
- **Hard X-ray polarimetry:** Developing new instrumentation to measure the polarization of X-rays from various astrophysical sources, such as gamma-ray bursts, solar flares, and pulsars, from both satellite and balloon platforms.
- **Medium-energy gamma-ray instrumentation:** Developing instrumentation for a next-generation Compton telescope to significantly improve on the sensitivity capabilities of COMPTEL from either a balloon or satellite platform.
- **Gamma-ray and neutron detectors for Homeland Security applications:** Applying gamma-ray and neutron telescope technology to the problem of detecting and identifying illicit nuclear materials, which shares many of the same issues and challenges as space-based high-energy astrophysics.
- **High-energy gamma-ray instrumentation and polarimetry:** Applications of gas detectors with excellent charged particle tracking capabilities to a next-generation pair production telescope with sensitivity to polarization.
- **Monte Carlo simulations of high-energy astronomy instrumentation:** Using sophisticated Monte Carlo simulation software to model the response and background of X-ray and gamma-ray instruments in order to optimize design and predict performance.
- **Hard X-ray and gamma-ray spectra of X-ray binaries:** Using data from existing and future high-energy astronomy missions to study the different spectral components in accreting neutron stars and black holes.

### Current Research Projects

- **Principal Investigator:** “A Fast Compton Telescope for Detection and Imaging of Gamma-Ray Line Flares,” NASA Solar and Heliospheric Physics (SHP) program, \$403,347 (2011-2014)
- **Co-Investigator:** “Studying the Gamma-Ray Polarization of GRBs with GRAPE,” NASA Astrophysics Research and Analysis (APRA) program (*M. McConnell, PI*), \$1,078,559 (2013-2015)
- **Co-Investigator:** “Small Active Readout Device for Dose Spectra from Energetic Particles and Neutrons (DoSEN),” NASA STRO-ESI program (*N. Schwadron, PI*), \$249,999 (2012-2014)
- **Co-Investigator:** “Real-Time Portable Neutron Spectroscopy,” DTRA Small Business Innovation Research (SBIR) Phase III program (*D. Fourquette, PI*), \$850,966 (2011-2013)
- **Collaborator (Unfunded):** “Neutron Spectrometer for Inner Radiation Belt Studies,” GSFC Internal Research and Development (IRAD) program (*G. de Nolfo, PI*), (2013-2014)
- **Collaborator (Unfunded):** “Space Weather Neutrons,” Air Force University Nanosat Program (*S. Stochaj, PI*), (2013-2014)

## Past Research Projects

- **Principal Investigator:** “Continued Developments of Silicon Photo-Multiplier Readouts for Scintillators in High-Energy Astronomy,” NASA APRA Program, \$188,688 (2010-2013)
- **Principal Investigator:** “Advanced Scintillators and Readout Devices for Solar Gamma-Ray Detectors,” NASA SHP Program, \$184,134 (2009-2012)
- **Co-Investigator:** “Analysis of Data from the First GRAPE Balloon Flight,” NASA APRA program (*M. McConnell, PI*), \$136,846 (2012)
- **Co-Investigator:** “Three-Dimensional Track Imaging Detector for High Resolution Gamma-Ray Telescopes,” NASA APRA program (*S. Hunter, PI*), \$273,899 (2010-2013)
- **Co-Investigator:** “Development of an Advanced Scintillator Compton Telescope,” NASA APRA program (*J. Ryan, PI*), \$485,835 (2009-2012)
- **Co-Investigator:** “GRAPE - A Balloon-Borne Polarimeter for Hard X-Ray and Gamma-Ray Astronomy,” NASA APRA program (*M. McConnell, PI*), \$1,952,456 (2009-2012)
- **Principal Investigator:** “Investigation of Silicon Photo-Multiplier Readouts for Scintillators in High-Energy Astronomy,” NASA APRA program, \$79,984 (2008-2010)
- **Co-Investigator:** “Real-Time Portable Neutron Spectroscopy,” DTRA Small Business Innovation Research (SBIR) Phase II program (*D. Fourquette, PI*), \$265,964 (2008-2010)
- **Co-Investigator:** “Technology Development for CASTER,” NASA APRA program (*M. McConnell, PI*), \$668,394 (2008-2009)
- **Collaborator:** “Advanced Compton Telescope: Witness to the Fires of Creation,” NASA Vision Mission Concept Study (*S. Boggs, PI*), \$40,000 (2004-2005)
- **Co-Investigator:** “Three-Dimensional Track Imaging Detectors for Next-Generation Gamma-Ray Telescopes,” (*S. Hunter, PI*), (2005-2007)

## Current Proposals (Pending)

- **Principal Investigator:** “NOIR: Neutron Observations of the Inner Radiation Belt,” NASA Heliophysics Technology & Instrument Development for Science (H-TIDeS) Low-Cost Access to Space (LCAS) program, \$1,852,401 (2014-2018)
- **Principal Investigator:** “Soft Gamma-Ray Optics Using Thin-Film Multilayer Structures,” NASA APRA program, \$467,261 (2014-2015)
- **Co-Investigator:** “Detailed Studies of High-Energy SEPs and Forbush Decreases,” NSF SHINE Program (*J. Ryan, PI*), \$413,358 (2014-2016)
- **Co-Investigator:** “Studying the Gamma-Ray Polarization of Solar Flares with GRAPE,” NASA H-TIDeS LCAS program (*M. McConnell, PI*), \$1,789,850 (2014-2017)
- **Co-Investigator:** “LightCube: A Trapped Light Detector for Gamma-Ray Astronomy,” NASA APRA program (*A. Klimenko, PI*), \$238,993 (2014-2016)

## Additional Proposals Submitted (Not Funded)

- **Principal Investigator:** “An Advanced Scintillator Compton Telescope with Silicon Photomultiplier Readout,” NASA APRA program, \$858,301 (2013)
- **Principal Investigator:** “Compact Scintillator and Readout Technology for SmallSats,” NASA SmallSat Technology Partnerships Program, \$149,711 (2013)

- **Principal Investigator:** “Field Deployable Neutron Camera for SNM,” Defense Threat Reduction Agency BAA, New Initiatives for Nuclear Threat Detection, \$670,000 (2013)
- **Co-Investigator:** “Three-Dimensional Track Imager for High Sensitivity Medium-Energy Gamma-Ray Astrophysics,” NASA APRA program (*S. Hunter, PI*), \$327,579 (2013)
- **Co-Investigator:** “High-Energy Solar Flare Studies with Fermi, Neutron Monitors and HAWC,” Fermi GI Program (*J. Ryan, PI*), \$80,000 (2013)
- **Co-Investigator:** “PETS – Polarimetry of Energetic Transients in Space,” NASA Astrophysics Explorer Mission of Opportunity (*M. McConnell, PI*), \$55,060,208 (2012)
- **Principal Investigator:** “Studies of High-Energy Solar Particles Using HAWC,” NSF SHINE program, \$579,644 (2012)
- **Principal Investigator:** “Soft Gamma-Ray Optics Using Thin-Film Multilayer Structures,” NASA STRO-ESI program, \$497,806 (2012)
- **Co-Investigator:** “Solar Flare Composition Experiment,” NASA SHP program (*B. Philips, PI*), \$1,240,865 (2012)
- **Principal Investigator:** “Compact High-Energy Solar Instrument Development for Small Satellite Opportunities,” NASA SHP program, \$337,077 (2012)
- **Co-Investigator:** “Continued Development of an Advanced Scintillator Compton Telescope (ASCOT),” NASA APRA program (*J. Ryan, PI*), \$2,862,138 (2012)
- **Principal Investigator:** “A Gamma-Ray Polarimeter Based on Silicon Photo-Multipliers,” NASA APRA program, \$644,323 (2012)
- **Co-Investigator:** “Algorithm Development for an Imaging Neutron/Gamma Spectrometer,” DOE/NNSA Proliferation Detection Research program (*J. Ryan, PI*), \$734,437 (2012)
- **Co-Investigator:** “Plasma Panel Photo-Sensor for High-Energy Astronomy,” NASA SBIR program (*P. Friedman, PI*), \$20,000 (2011)
- **Co-Investigator:** “Three Dimensional Event Location in Scintillation Detectors,” NASA APRA program (*M. McConnell, PI*), \$897,154 (2011)
- **Co-Investigator:** “Technology Development for 3D Scintillation Cameras,” NASA Strategic Astrophysics Technology program (*M. McConnell, PI*), \$897,154 (2011)
- **Co-Investigator:** “Correlation Study of Solar Energetic Particles and COMPTEL Gamma-ray Line Flares,” NASA SHP program (*A. Young, PI*), \$134,066 (2011)
- **Collaborator:** “Joint Astrophysics Nascent Universe Satellite,” NASA Astrophysics Explorer (*P. Roming, PI*), 2011
- **Co-Investigator:** “SPRINGS: Solar Probe Ion, Neutron and Gamma-Ray Spectrometer,” NASA Solar Probe Plus Instrument Proposal (*J. Ryan, PI*), \$22,054,000 (2010)
- **Co-Investigator:** “A Survey of the High Energy Sun: Particle Acceleration Studies with COMPTEL/CGRO,” NASA SHP program (*A. Young, PI*), \$190,728 (2010)
- **Co-PI:** “Multispectral Gamma Detector for Explosives Analysis,” Army SBIR Phase I program (*D. Fourquette, PI*), \$26,360 (2009)
- **Co-Investigator:** “A Gamma/Neutron Camera for Detection of Special Nuclear Materials,” DNDO-NSF Academic Research Initiative (*J. Ryan, PI*), \$1,931,569 (2009)
- **Principal Investigator:** “Silicon Photo-Multiplier Readouts for Scintillators,” DNDO Exploratory Research in Nuclear Detection Technology BAA, \$294,332 (2009)
- **Co-Investigator:** “A Duel-Species Imaging Active Interrogation System,” DTRA Advanced Detector Development BAA (*J. Ryan, PI*), \$3,663,000 (2008)

- **Co-Investigator:** “High Angular Resolution Imaging Polarimeter for Hard X-ray and Gamma Ray Astronomy,” NASA SBIR program (*M. Squillante, PI*), \$30,000 (2008)
- **Co-Investigator:** “Solar Gamma-ray Scintillation Spectrometer using CMOS SSPMs,” NASA SBIR program (*C. Stapels, PI*), \$15,009 (2008)
- **Co-Investigator:** “COMPTEL/CGRO Gamma Ray Solar Catalog,” NASA Heliophysics Guest Investigators program (*A. Young, PI*), \$239,465 (2008)
- **Principal Investigator:** “Continued Development of Single-Sided, Charge Sharing CZT Strip Detectors,” NASA APRA program, \$382,307 (2008)
- **Co-Investigator:** “POET – Polarimeters for Energetic Transients,” NASA Small Explorer program (*M. McConnell, PI*), \$101,200,000 (2008)
- **Co-Investigator:** “The CASTER Black Hole Finder Probe,” NASA Strategic Mission Concept Studies program (*M. McConnell, PI*), 2007
- **Principal Investigator:** “Accretion-related spectral changes in 4U 1820-30”, NASA Swift GI Cycle 4 program, \$53,251 (2007)
- **Co-Investigator:** “Lanthanum Bromide Long Range Gamma Ray Imager,” DNDO Advanced Technology Demonstration of Stand-Off radiation Detection Systems (*M. Cherry, PI*), \$2,182,899 (2007)
- **Co-Investigator:** “Polarized Gamma-ray Observer Instrument Development,” NASA APRA program (*J. Mitchell, PI*), 2007
- **Co-Investigator:** “Orbital Radiation Background Simulation with SWORD (ORBSS),” NASA AISRP program (*E. Novikova, PI*), \$159,915 (2007)
- **Principal Investigator:** “Broad-Band Spectrum and Ionization in 4U 1915-05,” NASA Suzaku GI Cycle 2 program, 2006
- **Co-Investigator:** “The Polarized Gamma-ray Observer (PoGO), a Large-Area Balloon-Borne Polarimeter for Gamma-Ray Astronomy,” NASA APRA program (*J. Mitchell, PI*), \$2,001,188 (2006)
- **Principal Investigator:** “Broad-Band Spectrum and X-ray Dips in 4U 1915-05,” NASA Suzaku GI Cycle 1 program, 2006
- **Co-Investigator:** “Laboratory Tests of the MEGA Prototype,” NASA APRA program (*J. Ryan, PI*), \$537,730 (2005)
- **Principal Investigator:** “Spectral Changes with Accretion Rate in 4U 1820-30,” NASA INTEGRAL GI program, \$46,192 (2005)

## Research Experience

2009-present: **Research Assistant Professor, University of New Hampshire:** Development and space qualification of advanced gamma-ray detector technology for performing sensitive spectroscopy and polarimetry of solar flares and cosmic gamma-ray sources. Projects include: Silicon Photo-Multiplier (SiPM) readouts for scintillator detectors; the Solar Compton Telescope (SolCompT) prototype balloon payload of a scintillator/SiPM Compton telescope with fine spatial resolution; the Gamma Ray Polarimeter Experiment (GRAPE) scientific balloon payload; and the Fast Compton Telescope (FACTEL) prototype balloon payload. Simulation and testing of the Neutron Spectroscopy (NSPECT) prototype for homeland security

- applications. Continued simulation of gas micro-well detectors for medium-energy gamma-ray pair telescopes with polarization sensitivity.
- 2004-2009: **Research Scientist, University of New Hampshire:** Laboratory development of advanced gamma-ray detector technology, including SiPM readouts, the GRAPE test balloon payload, the Coded Aperture Survey Telescope for Energetic Radiation (CASTER), the FACTEL concept, and single-sided CZT strip detectors. Planning and participation in calibration of GRAPE prototype at a polarized X-ray beam at Argonne National Laboratory. Preparation of GRAPE and CASTER detectors for a scientific balloon flight, and analysis of flight data. Monte Carlo simulations of these and other instruments, and of concepts for the Advanced Compton Telescope (ACT).
- 2002-2004: **NRC Research Associate, NASA/GSFC:** Developed gas micro-well detectors for applications to the next generation of medium- and high-energy gamma-ray telescopes, specifically the Advanced Compton Telescope (ACT) and Advanced Pair Telescope (APT), with special emphasis on developing techniques for gamma-ray polarimetry using these instruments. Performed Monte Carlo simulations of both telescope concepts. Participated in calibration of MEGA prototype at Duke University's High Intensity Gamma Source facility
- 2000-2002: **Postdoctoral Researcher, MPE (Garching, Germany):** Developed and calibrated the prototype of the Medium Energy Gamma-ray Astronomy (MEGA) instrument, a concept for a hybrid Compton/pair telescope. Prepared MEGA prototype for a beam calibration run at Duke University. Key member of an international consortium to fly MEGA on a balloon flight with the Spanish and Italian space agencies (cancelled).
- 1995-2000: **Research Assistant, Harvard University:** Developed and tested pixellated CdZnTe detectors for hard X-ray astronomy. Assisted in development of EXITE2 balloon payload for hard X-ray astronomy. Participated in two successful balloon flights in 1997 and 2000 that observed cosmic hard X-ray sources with the EXITE2 telescope and recorded the in-flight background in CdZnTe detectors. Created response matrix and spectral analysis procedure for EXITE2 balloon data. Studied spectral evolution of X-ray bursters with accretion rate using RXTE data. Also studied BATSE hard X-ray data of black hole candidates and X-ray bursters.
- 1993-1994: **Senior Thesis, Princeton University:** Built a device to measure diffuse H $\beta$  emission from the celestial polar region in order to place limits on diffuse radio free-free emission from the warm ionized medium and determine its effects on measurements of the Cosmic Microwave Background.

## Teaching and Supervision

- 2006-present: Supervisor for three University of New Hampshire undergraduate laboratory assistants. Assisting in supervising the research of four University of New Hampshire graduate students in Physics.

- Apr 2011: Supervisor for UNH Undergraduate Research Council presentation: “Computer Simulations of Lanthanum Bromide Scintillation and Light Readout,” by Luke Jablonski (UNH Physics Dept)
- 1995-1996: Teaching Fellow, Core Program, Harvard University. Responsible for weekly discussion and laboratory sections in introductory astronomy courses, grading homework, lab reports, and papers.

## Service

### University of New Hampshire Service

- **Graduate Student Thesis Committee:** Amanda Madden (Ph.D., Physics)
- **Graduate Student Thesis Committee:** Camden Ertley (Ph.D., Physics)
- **Graduate Student Thesis Committee:** Manuel Julien (Ph.D., Physics)
- **Panelist:** “Excellence in Research, Scholarship, and Creative Activities,” Peer Panel Presentation for New Faculty (UNH, Sep 14, 2012)
- **Panelist:** “Life After Proposal Submission and After the Academy Workshops,” UNH Research and Engagement Academy Workshop (May 4, 2012)

### Professional Service

- **White Papers:** Wrote and contributed to multiple White Papers submitted to national Astrophysics and Heliophysics roadmapping activities:
  - “Advanced Scintillators and Readout Devices for High-Energy Astronomy,” P. Bloser, et al., submitted to *Astro2010: The Astronomy and Astrophysics Decadal Survey*, 2009
  - “MeV Gamma-Ray Astronomy and the Need to Fill the ‘MeV Sensitivity Gap,’” M. McConnell, et al., submitted to the *NASA Astrophysics Roadmap*, 2013
  - “Technology Needs for MeV Gamma-Ray Astronomy,” M. McConnell, et al., submitted to the *NASA Astrophysics Roadmap*, 2013
  - “Technology Development for X-ray and Gamma-Ray Polarimetry,” M. McConnell, et al., submitted to the *NASA Astrophysics Roadmap*, 2013
  - “Astrophysics with Gamma-Ray Polarimetry above 1 MeV,” S. Hunter, P. Bloser, et al., submitted to the *NASA Astrophysics Roadmap*, 2013
  - “Gamma Ray Spectroscopy: Explosion Physics of Supernovae Type Ia,” J. Grove, et al., submitted to the *NASA Astrophysics Roadmap*, 2013
  - “X-Ray and Gamma-Ray Polarimetry of Solar Flares,” M. McConnell, et al., submitted to the *Solar and Heliospheric Physics Decadal Survey*, 2010
  - “X-Ray and Gamma-Ray Polarimetry,” M. McConnell, et al., submitted to *Astro2010: The Astronomy and Astrophysics Decadal Survey*, 2009
  - “POET – Polarimeters for Energetic Transients,” M. McConnell et al., submitted to *Astro2010: The Astronomy and Astrophysics Decadal Survey*, 2009
  - “Next Generation High-Energy Gamma-Ray Astrophysics Mission,” S. Hunter, et al., submitted to *NASA Strategic Roadmap*, 2005
- **Journal Referee:** Astrophysical Journal; IEEE Trans. Nucl. Sci.; Experimental Astronomy; Nuclear Instruments and Methods in Physics Research, Section A; Adv. Space Res.

- **Proposal Reviewer:** INTEGRAL GI program (panel reviewer); NASA Astrophysics Data Program (panel reviewer); NASA Solar and Heliospheric Physics program; NASA Postdoc Program; NSF SHINE program; NSF Solar-Terrestrial Program
- NASA Gamma Ray Science Analysis Group (2012 – present)
- Member of American Astronomical Society, High-Energy Astrophysics Division (2005-present)

## Education and Public Outreach

- Jul 2013: Mentored two high school students participating in Project SMART at the Space Science Center at UNH
- Nov 2011: Invited to speak at Temple Israel Early Learning Center (Portsmouth, NH) on scientific ballooning
- Feb 2011: Public Astronomy Lecture: “The Extreme Universe of Gamma-Ray Astronomy,” Keene Public Library (Keene, NH)

## Invited Talks

- May 2012: “Silicon Photomultiplier Readouts for Scintillators in High-Energy Astronomy and Solar Physics,” University of New Hampshire Space Science Center Seminar, Durham, NH
- Sep 2008: “Advancing the Study of High-Energy Galactic Binaries with the Next Generation of Gamma-Ray Instrumentation,” University of New Hampshire Physics Colloquium, Durham, NH
- Feb 2008: “Gamma-Ray Polarimetry: A New Window on Extreme Physics in the Cosmos,” University of Iowa Physics Colloquium, Iowa City, IA
- Feb 2008: “Advanced Scintillators for High-Energy Astronomy,” University of Iowa Joint Astrophysics/Space Physics Seminar, Iowa City, IA
- Aug 2007: “Using LaX scintillator in a new low-background Compton telescope,” SPIE Meeting *Optics + Photonics 2007*, Conference 6707 (*Penetrating Radiation Systems and Applications VIII*), San Diego, CA
- Sep 2006: “Advanced Scintillators for High-Energy Astronomy,” Los Alamos National Laboratory ISR-1 Seminar, Los Alamos, NM
- May 2005: “The MEGA Project for Medium Energy Gamma-ray Astronomy,” Frascati Workshop *Multifrequency Behaviour of High Energy Cosmic Sources*, Vulcano, Italy
- Nov 2001: “MEGA: An Initiative for a New Mission,” HESS Collaboration Meeting at Schloss Ringberg, Germany
- May 2001: “MEGA: An Initiative for a New Mission,” Ringberg Workshop *Astronomy with Radioactivities III*, Schloss Ringberg, Germany



## **Publications**

### **Publications in Refereed Journals**

- Bloser, P. F., Legere, J. S., Bancroft, C. M., Jablonski, L. F., Wurtz, J. R., McConnell, M. L., & Ryan, J. M., "Testing and Simulation of Silicon Photomultiplier Readouts for Scintillators in High-Energy Astronomy and Solar Physics," Nuclear Instruments and Methods in Physics Research, Section A, submitted
- Schwadron, N., Bancroft, C., Bloser, P., Legere, J., Ryan, J., Smith, S., Spence, H., Mazur, J., & Zeitlin, C., "Dose Spectra from Energetic particles and Neutrons (DoSEN)," Space Weather, in press
- Toma, K., Sakamoto, T., Zhang, B., Hill, J. E., McConnell, M. L., Bloser, P. F., Yamazaki, R., Ioka, K., & Nakamura, T., 2009, "Statistical Properties of Gamma-Ray Burst Polarization," Astrophysical Journal, 698, 1042
- Bloser, P. F., Legere, J. S., McConnell, M. L., Macri, J. R., Bancroft, C. M., Connor, T. P., & Ryan, J. M., 2009, "Calibration of the Gamma-RAY Polarimeter Experiment (GRAPE) at a polarized hard X-ray beam," Nuclear Instruments and Methods in Physics Research, Section A, 600, 424
- Bloser, P. F., Legere, J. S., Macri, J. R., McConnell, M. L., Narita, T., & Ryan, J. M., 2006, "GRAPE – A Balloon-Borne Gamma-Ray Polarimeter Experiment," Chinese Journal of Astronomy and Astrophysics, 6, 393
- Bloser, P. F., et al., 2006, "The MEGA Project for Medium Energy Gamma-ray Astronomy," Chinese Journal of Astronomy and Astrophysics, 6, 388
- McConnell, M. L., Bloser, P. F., 2006, "Status and Future Prospects for  $\gamma$ -ray Polarimetry," Chinese Journal of Astronomy and Astrophysics, 6, 237
- Bloser, P. F., Ryan, J. M., McConnell, M. L., Macri, J. R., Andritschke, R., Kanbach, G., Zoglauer, A., 2006, "The MEGA project: Science goals and hardware development," New Astronomy Reviews, 50, 619
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- Boggs, S. E., for the ACT Study Team, "The Advanced Compton Telescope mission," New Astronomy Reviews, 50, 604
- Weidenspointner, G., Sturmer, S. J., Novikova, E. I., Harris, M. J., Zoglauer, A., Wunderer, C. B., Kippen, R. M., Bloser, P., Zeitnitz, Ch., 2006, "MGGPOD: A Monte Carlo Suite for

- Gamma-Ray Astronomy – Version 1.1,” Proceedings of the Sixth INTEGRAL Workshop, ESA Special Publication SP-622, 637
- Bloser, P. F., & Hunter, S. D., 2005, “Pixelized Gas Micro-Well Detectors for Advanced Gamma-ray Telescopes,” Proceedings of the Fifth INTEGRAL Science Workshop, ESA Special Publication SP-552, 765
- Kanbach, G., Andritschke, R., Zoglauer, A., Ajello, M., McConnell, M. L., Macri, J. R., Ryan, J. M., Bloser, P., Hunter, S., Di Cocco, G., Kurfess, J., Reglero, V., 2005, “Development and calibration of the tracking Compton/Pair telescope MEGA,” Nuclear Instruments and Methods in Physics Research, Section A, 541, 310
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### **Partial List of Abstracts**

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