

# Curriculum Vitae: Matthew Geoffrey Baring

## Present Position:

Professor, Department of Physics and Astronomy,  
William Marsh Rice University, Houston, TX, U.S.A.

## Previous Employment:

December 1992 to December 2000

Research Associate in the Laboratory for High Energy Astrophysics,  
NASA Goddard Space Flight Center, Greenbelt, MD, U.S.A.

November 1990 to October 1992,

Postdoctoral Research Associate, North Carolina State University, Raleigh, NC, U.S.A.

November 1988 to October 1990,

Postdoctoral Research Associate at the  
Max-Planck Institut für Astrophysik, Garching bei München, West Germany

## Degrees:

Doctor of Philosophy, May 1989.

Institute of Astronomy, University of Cambridge, United Kingdom.

Bachelor of Science (Honours), December 1983.

School of Physics, University of Melbourne, Australia.

## Research Areas:

Theoretical High Energy Astrophysics, Gamma-Ray Bursts, Pulsars and Magnetars,  
Active Galactic Nuclei, QED Radiation Processes, Cosmic-Ray Acceleration Theory.

## Selected Professional Activities:

Associate Editor (high energy astrophysics) for

Astrophysical Journal Letters, November 2007 – December 2012.

Divisional Associate Editor (high energy astrophysics) for

Physical Review Letters, September 2001 – September 2007.

Secretary/Treasurer for the High Energy Astrophysics Division

of the American Astronomical Society, August 2001 – January 2005.

Associate Scientist for the LAT experiment on the

Fermi Gamma-Ray Space Telescope.

Member of the Fermi User's Group, the committee representing

the interests of the general astronomy community to the Fermi Project  
and NASA; February 2007 – August 2010.

Member of the External Scientific Advisory Committee for the VERITAS

Atmospheric Cherenkov Telescope of the Whipple Observatory.

Member of the International Astronomical Union's (IAU) Division XI

Organizing Committee, April 2009 – August 2012.

Rapporteur for the 26th International Cosmic Ray Conference,

Salt Lake City, Utah, August 1999.

SELECTED JOURNAL PUBLICATIONS RELATED TO MGXV PARALLEL SESSION:

- “Searching the Gamma-ray Sky for Counterparts to Gravitational Wave Sources: *Fermi* GBM and LAT Observations of LVT151012 and GW151226,” *J. L. Racusin, E. Burns, A. Goldstein, ... M. G. Baring, et al.* [111 authors], *Astrophys. J.*, **835**, 82 [13pp], (2017).
- “Probing Acceleration and Turbulence at Relativistic Shocks in Blazar Jets,” *M. G. Baring, M. Böttcher, and E. J. Summerlin*, *Mon. Not. R. Astr. Soc.*, **464**, 4875 [20pp], (2017)
- “Very High-Energy Outburst of Markarian 501 in May 2009,” *E. Aliu, S. Archambault, A. Archer, ... M. G. Baring, et al.* [111 authors], *Astron. Astrophys.*, **594**, A76 [12pp], (2016)
- “Detection of the Characteristic Pion-Decay Signature in Supernova Remnants,” *M. Ackermann, M. Ajello, A. Allafort, L. Baldini, J. Ballet, G. Barbiellini, M. G. Baring, et al.* [169 authors], *Science*, **339**807, (2013)
- “Diffusive Acceleration of Particles at Oblique, Relativistic, Magnetohydrodynamic Shocks,” *E. J. Summerlin and M. G. Baring*, *Astrophys. J.*, **745**:63 [23pp], (2012)
- “Gamma-Ray Activity in the Crab Nebula: The Exceptional Flare of April 2011,” *R. Buehler, J. D. Scargle, R. D. Blandford, L. Baldini, M. G. Baring, et al.* [21 authors], *Astrophys. J.*, **749**:26 [8pp], (2012)
- “Constraints on the Synchrotron Shock Model for the *Fermi* GBM Gamma-Ray Burst 090820A,” *J. M. Burgess, R. D. Preece, M. G. Baring, et al.* [28 authors], *Astrophys. J.*, **741**:24 [6pp], (2011)
- “Scientific Prospects of Hard X-ray Polarimetry,” *H. Krawczynski, A. B. Garson III, Q. Guo, M. G. Baring, P. Ghosh, M. Beilicke & K. Lee*, *Astroparticle Physics*, **34**, 550–567 (2011)
- “Insights Into the High-energy Gamma-ray Emission of Markarian 501 from Extensive Multifrequency Observations in the *Fermi* Era,” *A. A. Abdo, M. Ackerman, M. Ajello, A. Allafort, L. Baldini, J. Ballet, G. Barbiellini, M. G. Baring, et al.* 454 authors], *Astrophys. J.*, **727**, 129 (2011)
- “Using Gamma-Ray Burst Prompt Emission to Probe Relativistic Shock Acceleration,” *M. G. Baring*, *Adv. Space Res.*, **47**, 1427–1433 (2011)
- “A *Suzaku* X-Ray Study of the Particle Acceleration Processes in the Relativistic Jet of Blazar Mrk 421,” *A. B. Garson III, M. G. Baring and H. Krawczynski*, *Astrophys. J.*, **722**, 358–366 (2010)
- “*Fermi* Observations of TeV-selected Active Galactic Nuclei,” *A. A. Abdo, M. Ackerman, M. Ajello, W. B. Atwood, M. Axelsson, L. Baldini, J. Ballet, G. Barbiellini, M. G. Baring, et al.* [180 authors], *Astrophys. J.*, **707**, 1310–1333 (2009)
- “Simultaneous Observations of PKS 2155-304 with H.E.S.S., *Fermi*, RXTE and ATOM: Spectral Energy Distributions and Variability in a Low State,” *F. Aharonian, A. G. Akhperjanian, G. Anton, ... M. G. Baring, et al.* [323 authors], *Astrophys. J. Lett.* **696**, L150–L155 (2009)
- “Blazar Gamma-Rays, Shock Acceleration, and the Extragalactic Background Light,” *F. W. Stecker, M. G. Baring and E. J. Summerlin*, *Astrophys. J. Lett.* **667**, L29–L32 (2007)
- “Variability Constraints on Blazar Magnetic Fields,” *M. G. Baring*, *Publ. Astron. Soc. Aust.* **19**, 60 (2002)