

Curriculum Vitae: M. Coleman Miller

Date of Birth: 6 July 1968
Place of Birth: Detroit, MI
Citizenship: USA

The University of Maryland
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Research Interests

Theoretical Astrophysics	Computer Simulations and Modeling
Physics of Dense Matter	Physics in Strong Magnetic Fields
General Relativity	Gravitational Radiation
Plasma Physics	Gravitational Lensing

Education

1984 - 1990 California Institute of Technology, Pasadena, California
Department: Physics, with Computer Science minor
Thesis Topic: Radiation Transfer in Very Strong Magnetic Fields
Degrees: M.S. (1986), Ph.D. (1990) (Advisor: E. S. Phinney)
National Science Foundation Graduate Fellow, 1984-1987

1980 - 1984 Hillsdale College, Hillsdale, Michigan
Major fields: Mathematics and Physics
Degree: B.S., Summa Cum Laude (1984)

Research Experience

2004 - Associate Professor of Astronomy, University of Maryland

2004 - 2006 Chair, Maryland Astronomy Center for Theory and Computation

1999 - 2004 Assistant Professor of Astronomy, University of Maryland

1997 - 1999 Member of the AXAF Science Center, Chicago beta test site

1994 - 1997 Compton Gamma-Ray Observatory Fellow, University of Chicago

1993 - 1999 Research Scientist, University of Chicago
Constructed the first detailed model of kilohertz QPOs of neutron star low-mass X-ray binaries, investigated gravitational lensing of gamma-ray bursts and galaxies, and performed various studies of accreting black holes and neutron stars.

1993 Visiting Scientist, Nordita, Copenhagen
Examined effects of radiation forces on accretion onto unmagnetized neutron stars in full general relativity

1990 - 1993 Postdoctoral Research Associate, University of Illinois at Urbana-Champaign
Studied electrodynamics and particle acceleration around accretion-powered neutron stars, investigated thermal emission from isolated neutron stars, and examined methods for the determination of the magnetic inclination angles of pulsars

1985 - 1990 Research Assistant, California Institute of Technology

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Developed and extended computer programs to calculate atomic data in very strong magnetic fields, used this data to investigate radiation transfer in the atmospheres of neutron stars with strong magnetic fields, and studied particle orbits around rotating and nonrotating black holes

1984 Capacity Planning Analyst, Burroughs Corp., Detroit, Michigan
Designed computer performance reporting and analysis programs

Teaching and Outreach Experience

2005, 2006 Astrophysics instructor for University of Texas at Brownsville summer school on gravitational radiation

2004 Dean's Award for Excellence in Teaching, College of Computer, Mathematical, and Physical Sciences, University of Maryland

1999 - Assistant professor (1999–2004) and associate professor (2004–), University of Maryland
Courses include graduate stellar structure and evolution (spring 2000 and spring 2002), graduate high energy astrophysics (fall 2000 and spring 2007), introductory astronomy for non-majors (ASTR 100, spring 2001, fall 2001, spring 2005, and fall 2006), graduate radiative processes (fall 2002), undergraduate theoretical astrophysics (spring 2003), introductory astronomy for majors (fall 2003, continued spring 2004), undergraduate cosmology for majors (fall 2007), and high energy astrophysics for majors (spring 2008)

1999 - Graduate thesis advisor at the University of Maryland for Megan DeCesar, Mike Gill, Kayhan Gültekin, Sidharth Kumar, and Vanessa Lauburg, and research advisor for Penn State graduate student Emily Alicea-Muñoz. Former student Kayhan Gültekin is now a postdoc at the University of Michigan. Graduate thesis committee member for an additional 28 students. Undergraduate thesis advisor for Mia Bovill.

1999 - Public speaker
Eleven talks at the University of Maryland Open House on topics including black holes, neutron stars, and cosmology. An additional ten talks to school groups from kindergarten to AP physics classes, as well as to astronomical societies

2000 Scriptwriter, Adler Planetarium, Chicago, Illinois
Head writer for the new planetarium show on black holes, which debuted in the Fall of 2000

1995 - 1999 Lecturer, Adler Planetarium
Delivered series of lectures on black holes and neutron stars, and series of lectures on the cosmological distance scale, in the Adler Adult Lecture Series. Also taught general relativity and black hole theory to gifted high school students.

1996 - 1998 Consultant, Adler Planetarium
Helped develop scientific content for "Seeing the Invisible Universe", the Fall 1996 planetarium sky show describing recent discoveries in X-ray and gamma-ray astronomy, and consulted on exhibit development and presentations

1995 Internet instructor, DuSable High School, Chicago, Illinois
Introduced high school students and teachers to Unix and the World Wide Web

Professional Societies

International Astronomical Union
American Astronomical Society
American Physical Society

Recent Accepted Proposals

- 2007 Principal Investigator on the proposal “Development of a Tree Code for Extreme Mass Ratio Inspirals” to the NASA Astrophysics Theory Program
- 2007 Principal Investigator on the proposal “Probing Extreme Physics Through Analysis of Neutron Star Surface Emission” to the National Science Foundation Stellar Astronomy and Astrophysics program
- 2007 Co-Investigator on the proposal “Intermediate-Mass Black Holes in Globular Clusters: Key Photometric Fingerprints” to the Hubble Theory program
- 2006 Co-Investigator on the proposal “In Search of Black Hole Spin” to the National Science Foundation Stellar Astronomy and Astrophysics program
- 2003 Co-Investigator on the proposal “Ultra-Luminous X-ray Sources in the Barred Spiral Galaxy NGC 1672”, using the XMM-Newton spacecraft
- 2003 Principal Investigator on the proposal “Dynamics of Black Holes in Dense Stellar Regions”, to the NASA Astrophysics Theory Program
- 2001 Principal Investigator on the proposal “Understanding High-Density Matter Through Analysis of X-ray Bursts”, to the National Science Foundation Stellar Astronomy and Astrophysics program

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Recent Professional Activities

- 2008 Member, NSF Stellar Astronomy and Astrophysics panel
Member of scientific organizing committee for dense matter session at July 2008 COSPAR meeting in Montreal
- 2006 Executive Committee member of the High Energy Astrophysics division of the AAS
Member, LIGO Program Advisory Committee
- 2005 Member, NSF review panel for LIGO
Member of scientific organizing committee, "Sixth LISA International Symposium", Goddard Space Flight Center
- 2004 Member, Chandra X-ray Observatory review panel
Member of scientific organizing committee, "Making Waves with Intermediate-Mass Black Holes", Penn State University
- 2003 Reviewer for the United States-Israel Binational Science Foundation
Session chair and member of scientific organizing committee, meeting on astrophysical sources of gravitational radiation
Member, NSF review panel for the Advanced LIGO concept
Member, Chandra X-ray Observatory review panel
Session chair, 10th Marcel Grossman meeting on general relativity
Member of scientific organizing committee, "Globular Clusters and Gravitational Waves", Penn State University
Member of scientific organizing committee, Second Gravitational Wave Phenomenology Workshop, Penn State University
Member, National Science Foundation proposal review panel, Stellar Astronomy and Astrophysics Program
- 2001 Member, National Science Foundation proposal review panel, Stellar Astronomy and Astrophysics Program
- 2000 Panel chair, RXTE proposal review
Session chair, 2000 Maryland October Astrophysics Conference
Reviewer for the Cooperative Grants Program of the U.S. Civilian Research and Development Foundation
- 1999 External reviewer for the Scholarly Studies Program of the Harvard-Smithsonian CfA
Member, Astro-E proposal review panel
- 1997 Member, Compton Gamma-Ray Observatory proposal review panel
- 1995 Member, National Science Foundation proposal review panel, Stellar Astronomy and Astrophysics Program
- 1992 Member, National Science Foundation proposal review panel, Stellar Astronomy and Astrophysics Program
- 1991 - Referee for *Astronomy and Astrophysics*, *The Astrophysical Journal*, *Monthly Notices of the Royal Astronomical Society*, *Nature*, *Physical Review Letters*, and *Science*

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Recent Seminars and Colloquia

1. “Models of Kilohertz Quasi-Periodic Brightness Oscillations”, invited talk, COSPAR Scientific Assembly, Montreal, Canada, to be given 15 July 2008
2. “The Astrophysical Context of Black Hole Mergers”, invited talk, APS April meeting, St. Louis, Missouri, 14 April 2008
3. “Astrophysical Consequences of Black Hole Kicks”, ASD colloquium, Goddard Space Flight Center 4 March 2008
4. “The Plasma Extremes of Neutron Stars”, plasma physics seminar, University of Maryland, 28 November 2007
5. “Gravitational Wave Observations as Probes of Dark Energy”, invited talk, dark energy workshop, University of Maryland, 15 November 2007
6. “Off the Edge: the Innermost Stable Circular Orbit around Neutron Stars”, astronomy colloquium, University of Michigan, Ann Arbor, Michigan, 13 September 2007
7. “Alignment of black holes in microquasars”, Microquasar workshop, Agios Nikolaos, Crete, Greece, 4 June 2007
8. “Getting a kick out of black hole spin alignment”, Lund Observatory seminar, Lund, Sweden, 31 May 2007
9. “Supermassive black hole alignment, merger, and spin kicks”, astrophysics colloquium, Albert Einstein Institute, Potsdam, Germany, 25 May 2007
10. “Implications of the spin distribution of LMXBs”, invited talk, workshop on neutron star populations, Green Bank, WV, 21 May 2007
11. “Intermediate-Mass Black Holes and Gravitational Radiation”, astrophysics colloquium, Institute for Advanced Study, Princeton, NJ, 6 March 2007
12. “Intermediate-Mass Black Holes”, astronomy colloquium, University of Virginia, Charlottesville, VA, 13 November 2006
13. “Massive Black Holes”, invited review talk, LISA EMRI workshop, Golm, Germany, 18 September 2006
14. “Observations of Massive Black Holes with LISA”, invited talk, LISA analysis workshop, Greenbelt, MD, 25 June 2006
15. “Compact Binaries as Sources of Gravitational Radiation”, invited talk, compact objects conference, Cefalu, Sicily, 20 June 2006
16. “Ultraluminous X-ray Sources”, invited talk, fourth Harvard Conference on astrophysics, Cambridge, MA, 18 May 2006
17. “Astrophysical Applications of Numerical Relativity”, invited talk, AANR meeting, Guanajuato, Mexico, 6 May 2006
18. “Gravitational Waves from Intermediate-Mass Black Holes”, invited talk, APS, Dallas, Texas, 24 April 2006
19. “Constraints on Alternatives to Supermassive Black Holes”, invited talk, MODEST-6a, Lund, Sweden, 15 December 2005
20. “Gravitational Wave Sources from Dense Star Clusters”, invited talk, MODEST-6, Evanston, IL, 31 August 2005
21. “QPO constraints on neutron stars”, invited talk, A Life With Stars, Amsterdam, Holland, 24 August 2005
22. “Astrophysics With LISA”, invited talk, LISA Data: Analysis, Sources, and Science, Aspen, CO, 30 May 2005
23. “Formation Mechanisms for Intermediate-Mass Black Holes”, invited talk, High Energy Phenomena of Compact Objects, Hsinchu, Taiwan, 14 March 2005
24. “Production of QPOs in Accreting Neutron Star Systems”, invited talk, COSPAR Colloquium on Spectra and Timing of Compact X-ray Binaries, Mumbai, India, 17 January 2005
25. “Why Neutron Stars Are Interesting”, physics colloquium, Georgetown University, 30 November 2004

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26. "Gravitational Radiation from Inspirals of Intermediate-Mass Black Holes", astronomy seminar, University of Pennsylvania, 20 October 2004
27. "Probing General Relativity With Mergers of Supermassive and Intermediate-Mass Black Holes", solicited talk HEAD Meeting, New Orleans, LA, 9 Sep 2004
28. "Sources of Gravitational Radiation", Hot Points in Astrophysics, Dubna, Russia, 11 Aug 2004
29. "Quasi-Periodic Brightness Oscillations from Accreting Neutron Stars and Black Holes", Hot Points in Astrophysics, Dubna, Russia, 4 Aug 2004
30. "Intermediate-Mass Black Holes", invited review talk, Making Waves With Intermediate-Mass Black Holes, Penn State University, 20 May 2004
31. "And All the Rest (Primordial, Intermediate, and Orphan Black Holes)", invited review talk, APS April Meeting, Denver, CO, 1 May 2004
32. "Intermediate-Mass Black Holes", astronomy colloquium, Rutgers University, 26 March 2004
33. "Intermediate-Mass Black Holes", talk presented to the Data Analysis Working Group of the LISA International Science Team, College Park, MD, 8 December 2003
34. "Fundamental Physics in Quasiperiodic Brightness Oscillations", invited review talk, X-Ray Timing 2003 Meeting, Boston, MA, 5 November 2003
35. "Challenges for Models of Intermediate-Mass Black Holes", theoretical astrophysics seminar, University of Illinois at Urbana-Champaign, 15 October 2003
36. "Searching for Gravitational Radiation Sources Using Fluctuation Analysis", astronomy colloquium, University of Illinois at Urbana-Champaign, 14 October 2003
37. "Black Hole Binaries, Gravitational Waves, and Cockroaches", astronomy colloquium, University of Maryland, 8 October 2003
38. "Constraints on Superdense Matter from X-ray Binaries", invited review talk, NATO Advanced Research Workshop on Superdense QCD Matter and Compact Stars, Yerevan, Armenia, 30 September 2003
39. "Formation of Ultraluminous X-ray Sources", invited talk, workshop on ULXs, Johns Hopkins University, Baltimore, MD, 12 September 2003
40. "Implications of Intermediate-Mass Black Holes for Gravitational Radiation", invited talk, 10th Marcel Grossman meeting on general relativity, Rio de Janeiro, Brazil, 22 July 2003
41. "Sonic-Point and Spin Resonance Beat Frequency Model For Kilohertz QPOs", contributed talk, Neutron Stars on Fire, Princeton, NJ, 11 May 2003
42. "Formation Scenarios for Intermediate-Mass Black Holes", invited talk, The Astrophysics of Gravitational Wave Sources, College Park, MD, 25 April 2003
43. "Gravitational Waves from Intermediate-Mass Black Holes", High Energy Astrophysics Division Meeting, Mt. Tremblant, Quebec, 26 March 2003
44. "Intermediate-Mass Black Holes and Gravitational Radiation", Penn State Gravity Center colloquium, State College, PA, 3 March 2003
45. "Intermediate-Mass Black Holes and Gravitational Radiation", invited talk, Aspen Winter Conference on Gravitational Waves, 3 February 2003
46. "Intermediate-Mass Black Holes", Astronomy colloquium, Case Western Reserve University, Cleveland, OH, 15 January 2003
47. "Black Holes in Dense Stellar Regions", Astronomy and Solar Physics colloquium, Goddard Space Flight Center, Greenbelt, MD, 7 November 2002
48. "Intermediate-Mass Black Holes and Gravitational Radiation", colloquium, LIGO Science Center, 1 November 2002
49. "Black Hole Dynamics in Stellar Clusters", astronomy seminar, Southwest Research Institute, 12 July 2002
50. "Origin and Implications of Intermediate-Mass Black Holes", astronomy colloquium, University of Massachusetts at Amherst, 16 May 2002

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51. "Intermediate-Mass Black Holes", astrophysics seminar, Institute for Advanced Study, Princeton, New Jersey, 1 May 2002
52. "Medium-Size Black Holes", plenary talk, April Meeting of the American Physical Society, Albuquerque, New Mexico, 20 April 2002
53. "The Neutron Star Equation of State From Fast Timing of X-ray Bursts", XEUS Science Workshop, Munich, Germany, 12 March 2002
54. "Intermediate-Mass Black Holes", invited review talk, Black Holes: Theory Confronts Reality, Santa Barbara, California, 25 February 2002
55. "Gravitational Waves and X-rays from Black Holes in Dense Stellar Clusters", invited talk, AAS Winter Meeting, Washington, D.C., 9 January 2002
56. "Origin and Implications of Intermediate-Mass Black Holes", astronomy colloquium, University of Maryland, 31 October 2001
57. "Origin and Implications of Intermediate-Mass Black Holes", high energy seminar, Goddard Space Flight Center, Greenbelt, MD, 9 October 2001
58. "Production of Intermediate-Mass Black Holes in Globular Clusters", invited talk, Two Years of Science With Chandra, Washington, D.C., 7 September 2001
59. "Consequences of Accretion onto Primordial Compact Objects", invited talk, APS meeting, Washington, D.C., 28 April 2001
60. "Neutron Star Masses", invited review talk, Quark Matter 2001 Conference, Stony Brook, New York, 18 January 2001
61. "Strong Gravity and Dense Matter from Observations of Compact Objects", high energy seminar, Goddard Space Flight Center, Greenbelt, MD, 28 November 2000
62. "Strong Gravity and Neutron Star X-ray Binaries", invited talk, HEAD meeting, Honolulu, Hawaii, 9 November 2000
63. "Small-Scale Structure in Galactic Objects Deduced from X- and Gamma Ray Timing Measurements", invited talk, IAU Symposium #205, Manchester, England, 15 August 2000
64. "Fast Oscillations, General Relativity, and Dense Matter", Astronomy Colloquium, Pennsylvania State University, 26 April 2000
65. "Science With a Large-Area Timing Instrument", invited talk, Rossi 2000 meeting, Goddard Space Flight Center, 24 March 2000
66. "Strong Gravity and Ultradense Matter: Implications of Kilohertz Brightness Oscillations", Astronomy colloquium, University of Virginia, 28 September 1999
67. "Beat-Frequency Models", invited review talk, X-ray astronomy meeting, Bologna, Italy, 6 September 1999

Publications

Articles in Journals

1. “Mergers of Stellar-Mass Black Holes in Nuclear Star Clusters”, Miller, M. C. and Lauburg, V. M. 2008, *ApJ*, submitted (arXiv:0804.2783).
2. “Modeling kicks from the merger of generic black-hole binaries”, Baker, J. G., Boggs, W. D., Centrella, J., Kelly, B. J., McWilliams, S. T., Miller, M. C., and van Meter, J. R. 2008, *ApJ Letters*, submitted (arXiv:0802.0416).
3. “On the Time Variability of Geometrically-Thin Black Hole Accretion Disks”, Reynolds, C. S. and Miller, M. C. 2007, *ApJ*, submitted.
4. “Rates and Characteristics of Intermediate-Mass-Ratio Inspirals Detectable by Advanced LIGO”, Mandel, I., Brown, D. A., Gair, J. R., and Miller, M. C. 2007, *ApJ*, accepted (arXiv:0705.0285).
5. “Discovery of the Upper kilo-Hz QPO from the X-ray Transient Aql X-1”, Barret, D., Boutelier, M., and Miller, M. C. 2008, *MNRAS*, **384**, 1519-1524.
6. “Relativistic Iron Emission Lines in Neutron Star Low-Mass X-ray Binaries as Probes of Neutron Star Radii”, Cackett, E. M., Miller, J. M., Bhattacharyya, S., Grindlay, J. E., Homan, J., van der Klis, M., Miller, M. C., Strohmayer, T. E., and Wijnands, R. 2008, *ApJ*, **674**, 415-420.
7. “Modeling Kicks from the Merger of Non-precessing Black-hole Binaries”, Baker, J. G., Boggs, W. D., Centrella, J., Kelly, B. J., McWilliams, S. T., Miller, M. C., and van Meter, J. R. 2007, *ApJ*, **668**, 1140-1144.
8. “Neutron stars in Einstein-aether theory”, Eling, C., Jacobson, T., and Miller, M. C. 2007, *PRD*, **76**, 042003.
9. “Astrophysics, detection and science applications of intermediate- and extreme mass-ratio inspirals”, Amaro-Seoane, P., Gair, J. R., Freitag, M., Miller, M. C., Mandel, I., Cutler, C. J., and Babak, S. 2007, *Class. Quant. Grav.*, **24**, R113-R170.
10. “Alignment of the Spins of Supermassive Black Holes Prior to Merger”, Bogdanović, T., Reynolds, C. S., and Miller, M. C. 2007, *ApJ*, **661**, L147-L150.
11. “Supporting Evidence for the Signature of the Innermost Stable Circular Orbit in Rossi X-ray Data from 4U1636-536”, D. Barret, J.-F. Olive, and M. C. Miller 2007, *MNRAS*, **376**, 1139-1144.
12. “Getting a Kick Out of Numerical Relativity”, J. G. Baker, J. Centrella, D. Choi, M. Koppitz, J. R. van Meter, and M. C. Miller 2006, *ApJ*, **653**, L93-L96.
13. “Understanding High-Density Matter Through Analysis of Surface Spectral Lines and Burst Oscillations from Accreting Neutron Stars”, S. Bhattacharyya, M. C. Miller, T. E. Strohmayer, F. K. Lamb, and C. B. Markwardt 2006, *Ad. Space. Res.*, **38**, 2765-2767.
14. “Production of QPOs in Accreting Neutron Star Systems”, M. C. Miller 2006, *Ad. Space Res.*, **38**, 2680-2683.
15. “The MODEST Questions: Challenges and Future Directions in Stellar Cluster Research”, M. B. Davies, P. Amaro-Seoane, C. Bassa, J. Dale, F. De Angelini, M. Freitag, P. Kroupa, D. Mackey, M. C. Miller, and S. Portegies Zwart 2006, *New Astronomy*, **12**, 201-214.
16. “Constraints on the High-Density Nuclear Equation of State from the Phenomenology of Compact Stars and Heavy-Ion Collisions”, T. Klähn, D. Blaschke, S. Typel, E. N. E. van Dalen, A. Faessler, C. Fuchs, T. Gaitanos, H. Grigorian, A. Ho, E. E. Kolomeitsev, M. C. Miller, G. Röpke, J. Trümper, D. N. Voskresensky, F. Weber, and H. H. Wolter 2006, *Phys. Rev. C*, **74**, 035802.
17. “Observing IMBH-IMBH Binary Coalescences via Gravitational Radiation”, J. M. Fregeau, S. L. Larson, M. C. Miller, R. O’Shaughnessy, and F. A. Rasio 2006, *ApJ*, **646**, L135-L138.
18. “The Coherence of Kilohertz Quasi-Periodic Oscillations in the X-rays from Accreting Neutron Stars”, D. Barret, J.-F. Olive, and M. C. Miller 2006, *MNRAS*, **370**, 1140-1146.
19. “The Shapes of Atomic Lines from the Surfaces of Weakly Magnetic Rotating Neutron Stars and Their Implications”, S. Bhattacharyya, M. C. Miller, and F. K. Lamb 2006, *ApJ*, **640**, L1085-L1089.

20. “Constraints on Alternatives to Supermassive Black Holes”, M. C. Miller 2006, *MNRAS*, **367**, L32-L36.
21. “Three-Body Dynamics with Gravitational Wave Emission”, K. Gültekin, M. C. Miller, and D. P. Hamilton 2006, *ApJ*, **640**, 156-166.
22. “Drop in Coherence of the Lower kilo-Hz QPO in Neutron Stars: Is There a Link With the Innermost Stable Circular Orbit?”, D. Barret, J.-F. Olive, and M. C. Miller 2005, *Astronomische Nachrichten*, **326**, 808-811
23. “Binary Encounters With Supermassive Black Holes: Zero-Eccentricity LISA Events”, M. C. Miller, M. Freitag, D. P. Hamilton, and V. M. Lauburg 2005, *ApJ*, **631**, L117-L120.
24. “An Abrupt Drop in the Coherence of the Lower Kilohertz QPO in 4U 1636-536”, D. Barret, J.-F. Olive, and M. C. Miller 2005, *MNRAS*, **361**, 855-860.
25. “Prompt Mergers of Neutron Stars with Black Holes”, M. C. Miller 2005, *ApJ*, **626**, L41-L44.
26. “Constraints on Compact Star Parameters from Burst Oscillation Light Curves of the Accreting Millisecond Pulsar XTE J1814-338”, S. Bhattacharyya, T. E. Strohmayer, M. C. Miller, and C. B. Markwardt 2005, *ApJ*, **619**, 483-491.
27. “Probing General Relativity With Mergers of Supermassive and Intermediate-Mass Black Holes”, M. C. Miller 2005, *ApJ*, **618**, 426-431.
28. “Growth of Intermediate-Mass Black Holes in Globular Clusters”, K. Gültekin, M. C. Miller, and D. P. Hamilton 2004, *ApJ*, **616**, 221-230.
29. “A Comparison of Intermediate Mass Black Hole Candidate ULXs and Stellar-Mass Black Holes”, J. M. Miller, A. C. Fabian, and M. C. Miller 2004, *ApJ*, **614**, L117-L120.
30. “Revealing a Cool Accretion Disk in the Ultraluminous X-ray Source M81 X-9 (Holmberg IX X-1): Evidence for an Intermediate Mass Black Hole”, J. M. Miller, A. C. Fabian, and M. C. Miller 2004, *ApJ*, **607**, 931-938.
31. “Intermediate-Mass Black Holes”, M. C. Miller and E. J. M. Colbert 2004, *International Journal of Modern Physics D*, **13**, 1-64 (astro-ph/0308402).
32. “X-ray Spectroscopic Evidence for Intermediate Mass Black Holes: Cool Accretion Disks in Two Ultraluminous X-ray Sources”, J. M. Miller, G. Fabbiano, M. C. Miller, and A. C. Fabian 2003, *ApJ*, **585**, L37-L40.
33. “Gravitational Radiation from Intermediate-Mass Black Holes”, M. C. Miller 2002, *ApJ*, **581**, 438-450.
34. “Twinkle, Twinkle, Neutron Star”, M. C. Miller 2002, *Nature News and Views*, **420**, 31-33.
35. “Implications of the Narrow Period Distribution of Anomalous X-ray Pulsars and Soft Gamma-Ray Repeaters”, D. Psaltis and M. C. Miller 2002, *ApJ*, **578**, 325-329.
36. “Four-Body Effects in Globular Cluster Black Hole Coalescence”, M. C. Miller and D. P. Hamilton 2002, *ApJ*, **576**, 894-898.
37. “Production of Intermediate-Mass Black Holes in Globular Clusters”, M. C. Miller and D. P. Hamilton 2002, *MNRAS*, **330**, 232-239.
38. “Constraints on High-Density Matter From Observations of Neutron Stars”, M. C. Miller 2002, *Nucl. Phys.*, **A698**, 233c-242c.
39. “Suppression of Gravitational Structure Formation by Cosmological Accretion Heating”, M. C. Miller and E. C. Ostriker 2001, *ApJ*, **561**, 496-503.
40. “Changing Frequency Separation of Kilohertz Quasi-Periodic Oscillations in the Sonic-Point Beat-Frequency Model”, F. K. Lamb and M. C. Miller 2001, *ApJ*, **554**, 1210-1215.
41. “Implications of the PSR 1257+12 Planetary System for Isolated Millisecond Pulsars”, M. C. Miller and D. P. Hamilton, 2001, *ApJ*, **550**, 863-870.
42. “Oscillation Waveforms and Amplitudes from Hot Spots on Neutron Stars”, N. Weinberg, M. C. Miller, and D. Q. Lamb 2001, *ApJ*, **546**, 1098-1106.
43. “Reionization Constraints on the Contribution of Primordial Compact Objects to Dark Matter”, M. C. Miller 2000, *ApJ*, **544**, 43-48.

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44. “Precise Interplanetary Network Localization of the Bursting Pulsar GRO J1744–28”, K. Hurley, C. Kouveliotou, T. Cline, D. Cole, M. C. Miller, A. Harmon, G. Fishman, M. Briggs, J. van Paradijs, J. Kommers, and W. Lewin 2000, *ApJ*, **537**, 953-957.
45. “Attenuation of Beaming Oscillations Near Neutron Stars”, M. C. Miller 2000, *ApJ*, **537**, 342-350.
46. “A Characterization of the Brightness Oscillations During Thermonuclear Bursts from 4U 1636–536”, M. C. Miller 2000, *ApJ*, **531**, 458-466.
47. “On the Magnetospheric Beat-Frequency and Lense-Thirring Interpretations of the Horizontal Branch Oscillations in Z Sources”, D. Psaltis, R. Wijnands, J. Homan, P. G. Jonker, M. van der Klis, M. C. Miller, F. K. Lamb, E. Kuulkers, J. van Paradijs, and W. H. G. Lewin 1999, *ApJ*, **520**, 763-775.
48. “Effects of Radiation Forces on the Frequency of Gravitomagnetic Precession Near Neutron Stars”, M. C. Miller 1999, *ApJ*, **520**, 256-261.
49. “Evidence for Antipodal Hot Spots During X-ray Bursts from 4U 1636–536”, M. C. Miller 1999, *ApJ*, **515**, L77-L80.
50. “A Lower Limit on $\Omega_m - \Omega_\Lambda$ Using the Gravitational Lensing Rate in the Hubble Deep Field”, A. R. Cooray, J. M. Quashnock, and M. C. Miller 1999, *ApJ*, **511**, 562-568.
51. “Gravitational Lensing Limits on the Average Redshift of Gamma-Ray Bursts”, D. E. Holz, M. C. Miller, and J. M. Quashnock 1999, *ApJ*, **510**, 54-63.
52. “The Effect of Rapid Stellar Rotation on Neutron Star Equation of State Constraints From Observations of KiloHertz Quasi-Periodic Brightness Oscillations”, M. C. Miller, F. K. Lamb, and G. B. Cook 1998, *ApJ*, **509**, 793-801.
53. “Sonic-Point Model of KiloHertz QPOs in LMXBs”, M. C. Miller, F. K. Lamb, and D. Psaltis 1998, *ApJ*, **508**, 791-830.
54. “Bounds on the Compactness of Neutron Stars From Brightness Oscillations During X-ray Bursts”, M. C. Miller and F. K. Lamb 1998, *ApJ*, **499**, L37-L40.
55. “Constraints on the Equation of State of Neutron Star Matter from Observations of KiloHertz QPOs”, M. C. Miller, F. K. Lamb, and D. Psaltis 1998, *Nucl. Phys. B (Proc. Suppl.)*, **69**, 123-128.
56. “Constraints on the Production of Ultra-High-Energy Cosmic Rays by Neutron Stars”, A. Venkatesan, M. C. Miller, and A. V. Olinto 1997, *ApJ*, **484**, 323-328.
57. “Optical/Near-Infrared Observations of GRO J1744-28”, D. M. Cole, D. E. Vanden Berk, S. A. Sevrerson, M. C. Miller, J. M. Quashnock, R. C. Nichol, D. Q. Lamb, K. Hurley, P. Blanco, C. Lidman, and K. Glazebrook 1997, *ApJ*, **480**, 377-382.
58. “Spectral Effects of the Vacuum Resonance in Soft Gamma-Ray Repeaters”, T. Bulik and M. C. Miller 1997, *MNRAS*, **288**, 596-608.
59. “Magnetized Iron Atmospheres for Neutron Stars”, M. Rajagopal, R. W. Romani, and M. C. Miller 1997, *ApJ*, **479**, 347-356.
60. “Motion of Accreting Matter Near Luminous Slowly Rotating Relativistic Stars”, M. C. Miller and F. K. Lamb 1996, *ApJ*, **470**, 1033-1051.
61. “Constraints on Hydrostatic Models of Soft Gamma-Ray Repeaters”, M. C. Miller 1995, *ApJ*, **448**, L29-L32.
62. “Phase Lags in Cygnus X–1”, M. C. Miller 1995, *ApJ*, **441**, 770-775.
63. “Critical Radiation Fluxes and Luminosities of Black Holes and Relativistic Stars”, F. K. Lamb and M. C. Miller 1995, *ApJ*, **439**, 828-845.
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