

**Eric G. Blackman: CURRICULUM VITAE**

**Faculty Positions**

Department of Physics & Astronomy, University of Rochester, Rochester, NY, USA:

- June 2004                    Professor of Physics and Astronomy and Senior Scientist, Laboratory for Laser Energetics
- Nov 2003-June 2004    Associate Professor of Physics and Astronomy (with tenure)
- Jan 2000-Nov 2003     Assistant Professor of Physics and Astronomy

**Postdoctoral Fellowships**

- Oct 1998-Jan 1999     Postdoctoral Scholar in Physics (Theoretical Astrophysics),  
Division of Physics, Mathematics, and Astronomy  
California Institute of Technology, Pasadena, CA, USA
- Jan 1995-Sep 1998     Theory Research Fellow, Institute of Astronomy  
Cambridge University  
Cambridge, UK
- June 1995-Aug 1995    Summer Research Fellow  
Harvard-Smithsonian Center for Astrophysics,  
Cambridge, MA

**Education**

- Harvard University     Ph.D., June 1995 (theoretical astrophysics; advisor: George B. Field), A.M., 1993
- Cambridge University   Master of Advanced Study, (Math, Tripos, Part III), June 1991 (Trinity College)  
Examination subjects: Quantum Field Theory I & II, String Theory, Group  
Theory, General Relativity, Cosmology
- Massachusetts  
Institute of Technology    S.B. Physics, June 1990, S.B. Mathematics, June 1990

**Selected Extended Visits**

- Nov-Dec 2007    Member, Kavli Institute for Theoretical Physics Santa Barbara, CA, Program on Star  
Formation
- June-July 2006    Participant, Aspen Center for Physics, Aspen, CO, Workshop on Magnetic Self-  
Organization
- May-June 2005    Member, Institute for Theoretical Physics, Santa Barbara, CA, Program on Accretion and  
Outflows
- Nov 2004            Member, Isaac Newton Institute, Cambridge Univ., Cambridge, UK, Program on  
Magnetohydrodynamics of Stellar Interiors

Mar 2004 Member, Institute for Theoretical Physics, Santa Barbara, CA, Program on Planet Formation: Terrestrial and Extra Solar

June 2003 Participant, Aspen Center for Physics, Aspen, CO, Workshop on Magnetic Reconnection

Dec 2002 Sabbatical faculty visitor, Princeton Plasma Physics Laboratory, Princeton University, Princeton, NJ

Sept-Nov 2002 Sabbatical faculty visitor, Department of Astrophysical Sciences, Peyton Hall, Princeton University, Princeton, NJ

June-July 2002 Participant, Aspen Center for Physics, Aspen, CO, Workshop on Astrophysical Disks

Feb 2002 Member, Institute for Theoretical Physics, Santa Barbara, CA, Solar Magnetohydrodynamics and Related Astrophysics Program

Oct 2001 Magnetohydrodynamic Turbulence Workshop Co-Organizer Virgin Gorda BVI

July 2000 Organizer/Participant, Aspen Center for Physics, Aspen, CO, Workshop on Magnetic Dynamos

April 2000 Member, Institute for Theoretical Physics, Santa Barbara, CA, Astrophysical Turbulence Program

Sep. 1998- Dec 1999 Member, Institute for Theoretical Physics, Santa Barbara, CA, Black Hole Astrophysics Program

**Pre-PhD Research Activities:**

Feb 1992-May 1992 Harvard: computed neutrino decay rate in left-right symmetric particle physics model for decaying neutrino dark matter scheme. (S. Glashow supervisor)

Sept 1991-Dec 1991 Harvard: generalized Gott closed-timelike curve solutions around cosmic strings to include finite acceleration orbits (T. Piran, supervisor)

May 1990-July 1990 MIT: extracted redshift vs. flux relations from galaxy data samples (I. Segal, supervisor)

May 1989-July 1989 Harvard-CfA: mirror testing of Chandra X-ray telescope mirror design (P. Slane, supervisor)

Sept 1988-March 1990 MIT: inferred terrestrial limits on strange quark matter from heavy ion searches (R. Jaffe, supervisor)

June-Aug 1987 & 1988 General Electric Corporate Research Center, Schenectady, NY: modeled heat conduction in super-cooled magnetic resonance imaging coils

Fall 1986 MIT: helped construct a helium recovery system (T. Greytak, supervisor)

**Selected Professional Activities**

2010- Executive Committee, APS Topical Group in Plasma Astrophysics

- 2009 Department of Energy Office of Fusion Energy Sciences (OFES), Committee of Visitors (COV) to Review DOE Funding in Basic Plasma Sciences
- 2009- Scientific Editorial Advisory Board, New Astronomy
- 2009-2012 NRC Research Fellowship Review Panel, Physical Sciences
- 2008 ETH (Switzerland), Faculty Hiring Board for NORDITA
- 2006-07 Defense Science Study Group (DSSG, Institute for Defense Analysis)
- 2005-2006 Program Committee, APS Division of Plasma Physics
- 2005 Organizer, “Astrophysical Explosions” APS Mini-conference, Division of Plasma Physics meeting, Denver, Oct 24-25 2005
- 2005 Executive Committee, APS Topical Group in Plasma Astrophysics
- 2004 Organizer, Topical Session on “Astrophysical Coronae” AAS Meeting, Denver, CO
- 2003 Harley School (Private School, Rochester, NY) Board of Trustees
- 2002 NSF Frontier Centers Reviewer
- 2002- DOE Fusion Science, Plasma Physics Grant Reviewer
- 2001- NSF/DOE Plasma Physics Theory Grant Reviewer
- 2001- NSF Astrophysics, Grant Reviewer
- 2000 Organizer, Aspen Center for Physics, Aspen, CO, Workshop on Magnetic Dynamos

## **Grants**

“New Interdisciplinary Approach to Improve Diagnosis of Traumatic Brain Injury: Combining Physics with Medical Imaging”, Univ. of Rochester Provost Award (co-Is: E.G. Blackman, J. Bazarian, J. Zhong, X. Qiu) (2011-2012) \$37,000.

‘From Core to Outflow: Binaries, MHD and the Origin of Planetary/ Pre-Planetary Nebulae’ \$477,518.00 (P.I.: A.Frank; Co-I: E.G. Blackman) NSF, awarded 2012-2015.

‘Energy Transfer in Collisionless Astrophysical Plasmas’ \$465,607 (P.I.: C. Ren ; Co-I: E.G. Blackman) NSF/DOE, awarded 2008-2011

‘From Core to Outflow: Binaries, MHD and the Origin of Planetary/ Pre-Planetary Nebulae’ \$393,684 (P.I.: A.Frank; Co-I: E.G. Blackman) NSF, awarded 2009-2012.

‘From Core to Outflow: Understanding the Driving and shaping of Asymmetric Planetary Nebulae’ \$377,390 (P.I.: A.Frank; Co-I: E.G. Blackman) NSF, awarded 2005-2008.

“Understanding Poynting Flux Dominated Outflows in Nature’s Most Powerful Engines” \$371,568 (P.I.: E.G. Blackman, Co: G. Paesold, V. Pariev, M. Lyutikov) NASA, awarded 2005-2010.

“Holding footprints to the fire, planetary disk theory confronts observations” \$465,000, (P.I.: A. Quillen, Co-PIs: E.G. Blackman, A. Frank, D.M. Watson) National Science Foundation, Division of Astronomical Sciences, awarded 2004-2007.

“Non-Axisymmetric Accretion Engines and Quasi-Periodic Oscillations in Microquasars” \$289,354, (P.I.: E.G. Blackman; Co-I/collaborator: P. Varniere) National Science Foundation, Division of Astronomical Sciences, awarded 2004-2009.

“Astrophysics of Heterogenous Stellar Outflows” \$80,000, (P.I.: A. Frank; Co-PI: E.G. Blackman, P. Hartigan, J. Kastner, J.A. Morse), Space Telescope Science Institute, awarded 2004-2005.

“New Approaches to the Origin and Dynamics of Magnetic Fields of Cosmic Relevance,” P.I.: E.G. Blackman, (Junior Faculty Development Award), \$450,000, US Department of Energy, Plasma Physics Program, awarded 2000-2004.

### **Awards and Such**

Provost Multidisciplinary Award (U. Rochester; Interdisciplinary Approach Toward Protection Against Traumatic Brain Injury from Impacts and Blasts) 2011-2012

Physics and Astronomy Department (U. Rochester) Award for Excellence in Undergraduate Teaching 2008

Defense Science Study Group, Institute for Defense Analysis 2006-2007

Fellow of the American Physical Society (2005-)

Faculty Honoree in “Take 5” Program, University of Rochester, for Undergraduate Research Supervision 2004

Faculty Development Award in Plasma Physics, Department of Energy, 2000-2004

Jewett Fund Prize, Harvard (academic performance), 93-94

Trinity College Bursary grant, Cambridge Univ., 1990-1991

American Nuclear Society Full Tuition Fellowship, MIT, 1989-1990 (declined).

Harvard Book Award, Bausch and Lomb Science Prize, Sisson Mathematics Award, Language Award, Harley School, (Rochester NY) 1985-86.

Brighton-Pittsford Post 1st team regional all-star and Finger Lakes Regional first team all-star in soccer (Rochester NY), 1985-86.

Ralph S. McKee Trophy (Top Male Athlete) and Wooden Award (Sportsmanship), Harley School (Rochester NY), 1985-86.

Harley School Scholar Award (4 year merit-based full tuition scholarship to the Harley School, Rochester NY), 1982-1986.

### **Memberships:**

American Astronomical Society  
American Association for the Advancement of Science  
American Physical Society  
American Geophysical Union  
Royal Astronomical Society (12/11-)  
Sigma Xi

### **Refereeing:**

Astronomy and Astrophysics, Astro-Particle Physics, Astrophysical Journal, American Journal of Physics, Monthly Notices of the Royal Astronomical Society, Nature, Nature Physics, Physical Review, Physical Review Letters, Physics of Fluids, Physics of Plasmas, Geophysical and Astrophysical Fluid Dynamics, Astrophysics and Space Science, Cambridge University Press, Annals of Biomedical Engineering....

### **Course Teaching**

Physics of Astrophysics: Fluids and Plasmas (graduate course)  
Radiative Processes (graduate course)  
High Energy Astrophysics (graduate course)  
Stellar Structure (graduate course)  
Introduction to Gravitation and General Relativity (undergraduate course for majors)  
Milky Way Galaxy (undergraduate course for majors)  
Solar System (general undergraduate course for non-majors)  
Galactic Dynamics (graduate course, Fall 2011)  
Cosmology (graduate course, Spring 2012)

### **Research Supervision**

**Postdocs:** Jared Workman (2010-) Martin Huarte-Espinosa (2009-, Phd Cambridge) -Joachim Moortgat (PhD. Raboud Univ, Nimjen) 2006-2008 Richard Edgar (PhD. Cambridge) 2006- Peggy Varnière (PhD. Saclay) 2004- Gunnar Paesold (PhD. ETH Zurich) 2003-2005; Jason Maron (PhD. Caltech) 2002-2004 Vladimir Pariev (PhD. Arizona) 2001-2004

**Past and Current Graduate Students:** Alexei Poludnenko (Phd. 2004-w/Adam Frank); Rob Selkowitz (PhD 2007); Alex Hubbard (Phd 2008); Jason Nordhaus (Phd 2008); Jonathan Carroll (w/Adam Frank); Shule Li (current, w/Adam Frank), Jaehong Park (current, w/Chuang Ren), Kiwan Park (current); Farrukh Nauman (current)

**Undergraduates:** Sean Hartnoll, Jason Nordhaus, Scott Verbridge, Jenn Witkowski, Snehal Patel, Wen-Fei Fong, Rob Penna, Ryan Pettibone, Lauren Weiss, William Wolf, Rob Siller

### **Selected University Administrative Activities**

Director of Graduate Student Advising for Department of Physics and Astronomy (2002-2010)  
Astrophysics Colloquium Chair (2001-2003; 2011-)  
Chair, University Committee to Review adherence to NCAA regulations for student-athletes (2009)  
University Marshall Scholarship Nomination Committee  
Graduate Physics Written Qualifying Exam Committee (2001-2005, 2010-present)  
Graduate Admissions Committee (2000-2002)  
Chair, Committee to Review "Target of Opportunity" Candidates (2008)

Committee On Appointments and Promotions (2010-)  
Department Executive Committee (2006-2007)  
Graduate Curriculum Committee (2003-present)  
Editor for "Cross Sections," the Department Newsletter (2000-2002)

### **Personal/Other**

Born and Raised in Rochester, N.Y., USA. Played varsity soccer, basketball, and tennis in high school, and intercollegiate soccer, cross country, and track at MIT. Hobbies continue to include a range of sport and fitness activities.

### **Selected Talks**

1. Arcetri Observatory Colloquium (Florence, Italy) May 1993
2. Institute for Advanced Study (Princeton, NJ), Dec 1994
3. Harvard-Smithsonian Thesis Colloquium (Cambridge, MA) April 1995
4. Institute of Astronomy, Astrophysics Seminar (Cambridge, England) Feb 1996
5. Aspen Center For Physics (Aspen, CO) Aug 1996
6. Physics Colloquium, Warwick University (Coventry, England) Jan 1997
7. Institute D'Astrophysique de Paris (Paris, France) Feb 1997
8. Cambridge X-ray Astrophysics Seminar (Cambridge, England) March 1997
9. National Astronomy Meeting, Active Galactic Nuclei Session (Southampton, England) June 1997
10. Interstellar Turbulence Conference (Puebla, Mexico) Jan 1998
11. Cambridge X-ray Astrophysics Seminar (Cambridge, England) March 1998
12. Particle Physics and Astronomy Research Council (PPARC) seminar (London, England) March 1998
13. Institute for Theoretical Physics (Santa Barbara, CA) April 1999
14. Institute for Theoretical Physics (Santa Barbara, CA) May 1999
15. University of Rochester, Astrophysics Colloquium (Rochester, NY) May 1999
16. UCLA Astronomy Colloquium (Los Angeles, CA) June 1999
17. CITA Astrophysics Colloquium (Toronto, Canada) Oct 1999
18. Caltech Theoretical Astrophysics Seminar (Pasadena, CA) Nov 1999
19. Cornell University, Relativity and Theor. Astrophysics Seminar, (Ithaca NY) Feb 2000
20. Cornell University, Astronomy Colloquium, (Ithaca NY) Feb 2000

21. Institute for Theoretical Physics, (Santa Barbara CA), Feb 2000
22. 1st Korean Institute for Advanced Study (KIAS) conference on Astrophysics (Seoul, Korea) May 2000
23. Aspen Center for Physics, (Aspen CO) June 2000
24. International Astronomical Union, (Manchester UK) Aug 2000
25. American Physical Society, Division of Plasma Physics/International Congress on Plasma Physics Joint Meeting (Quebec City, Canada) Oct 2000
26. Astronomy Colloquium, Penn State University, (State College PA) Mar 2001
27. NORDITA Meeting on Dynamos, (Copenhagen Denmark) Mar 2001
28. Institute for Advanced Study, (Princeton NJ), May 2001
29. American Physical Society, Division of Plasma Physics Meeting, (Long Beach CA) Nov 2001
30. MHD Turbulence Workshop, (Virgin Gorda BVI), Dec 2001
31. Astrophysics Seminar, Johns Hopkins Univ., (Baltimore MD), Jan 2002
32. Institute for Theoretical Physics, (Santa Barbara CA), Mar 2002
33. Columbia University, Plasma Physics Colloquium (New York, NY), April 2002
34. Harvard University, Center for Astrophysics (Cambridge MA), May 2002
35. Ringberg Castle Conf. on Plasma Astrophysics, (Munich GDR) June 2002 (unable to make it)
36. Workshop on Accretion Disks, Aspen Center for Physics, (Aspen CO) July 2002,
37. Conference on Beaming and Collimation of Gamma-Ray Bursts (Copenhagen, Denmark) Aug 2002,
38. Princeton Univ., Department of Astrophysical Sciences, (Princeton NJ) Nov 2002,
39. Princeton Univ., Plasma Physics Lab, (Princeton NJ) Dec 2002,
40. Univ. of Iowa, Department of Physics and Astronomy Colloquium, (Iowa City, IA) March 2003,
41. Conference on Magnetic Fields in Star Formation, (Madrid, Spain), May 2003.
42. Aspen Workshop on Magnetic Reconnection, (Aspen CO), June 2003.
43. Asymmetric Planetary Nebulae Conference (Seattle WA) July 2003.
44. American Physical Society, Division of Plasma Physics Meeting, Session on Laboratory Plasma Astrophysics (Albuquerque NM) October 2003.
45. Astronomy Colloquium, Caltech, January 2004.
46. Theoretical Astrophysics Seminar, Caltech, January 2004.
47. Physics and Astronomy Colloquium, University of Rochester, February 2004.

48. Center for Magnetic Self-Organization Meeting, Madison WI, Aug 2004.
49. Meeting on Relativistic Plasmas and Magnetic Fields, Stanford CA, Aug 2004.
50. APS, Division of Plasma Physics Savannah GA, Nov 2004.
51. Applied Math Colloquium, Newcastle Univ., Newcastle UK, Dec 2004.
52. Isaac Newton Institute for Mathematical Sciences, Cambridge Univ., Cambridge UK, Dec 2004.
53. Canadian Institute for Theoretical Astrophysics, Univ. of Toronto, Toronto CA, Feb 2005.
54. Astronomy Colloquium, Univ. of Maryland, College Park, MD, Mar 2005.
55. Center For Magnetic Self-Organization Meeting, Princeton Plasma Physics Lab., Princeton, NJ, April 2005.
56. JILA/Univ. of Colorado, Boulder, CO, Oct 2005
57. UC Berkeley Theoretical Astrophysics Center, Berkeley, CA, Nov 2005
58. Relativistic Jets Conference, Ann Arbor, MI, Dec 2005
59. Laboratory for Laser Energetics, Univ. of Rochester, Rochester, NY, Mar 2006
60. Meeting on Laboratory Astrophysics, Rice Univ., Houston (unable to attend) , TX, Mar 2006
61. Workshop on Magnetic Self-Organization, Aspen Center for Physics, CO, June 2006
62. Workshop on Magnetohydrodynamic Turbulence with Application to and Planetary and Stellar Dynamos, NCAR, Boulder, CO, June 2006
63. Astronomy/Astrophysics Colloquium, University of Arizona, Tuscon AZ, Sept 2006
64. Center for Magnetic Self-Organization Meeting, Chicago IL, Feb 2007
65. US-Japan Workshop on Magnetic Reconnection, St. Michaels, MD Mar 2007
66. Asymmetric Planetary Nebula IV (La Palmas, Spain) Jun. 2007
67. Astronomy/Astrophysics Colloquium, Univ. of Illinois, Urbana IL, Sept. 2007
68. Institute for Defense Analyses, Alexandria VA, Oct. 2007
69. Kavli Institute for Theoretical Physics, Santa Barbara CA, Oct. 2007
70. Rochester Institute of Technology, Rochester NY, Feb. 2008
71. Turbulence and Dynamos Program, NORDITA, Stockholm Sweden, April 2008
72. Magnetic Field Generation/Dynamo Conference, KITP (UCSB), Santa Barbara CA, July, 2008
73. IAU Symposium on Magnetic Fields in Astrophysics, Tenerife, Spain, November 2008
74. Princeton Plasma Physics Laboratory Colloquium, Princeton, NJ, March 2009,
75. Astrophysical MHD meeting, Kiljavanranta, Finland, Apr. 2009
76. Workshop on "Opportunities in plasma astrophysics"; PPPL, Princeton NJ, Jan 2010

77. University of Rochester, Dept. of Physics and Astronomy Colloquium, Apr 2010
78. AAS Meeting/Mini-Conference on Magneto-rotational Instability, June 2010
79. Astronomy and Astrophysics Colloquium, University of Chicago, October 2010
80. Computations in Science seminar series, University of Chicago, October 2010
81. Physics and Astronomy Colloquium, University of Toledo, March 2011
82. Conference on Turbulent Mixing and Beyond, ITCP, Trieste, IT, August 2011
83. APS/ Division of Plasma Physics, Mini-Conference on Dynamos, Nov 2011

## Eric G. Blackman: Publications

### Refereed Publications

1. E.G. Blackman and R.L. Jaffe 1989, "Concentration Limits on Terrestrial Strange Quark Matter from Heavy Isotope Searches," Nuclear Physics B324, 205.
2. E.G. Blackman and G.B. Field, 1993, "Ohm's Law for a Relativistic Pair Plasma," Physical Review Letters 71, 3481.
3. E.G. Blackman and G.B. Field, 1994, "Kinematics of Relativistic Magnetic Reconnection," Physical Review Letters 72, 494.
4. I.E. Segal, J.F. Nicholl, and E.G. Blackman, 1994, "Statistically Efficient Parallel Testing of Flux-Redshift Predictions in the Radio Band," Astrophysical Journal 430, 63.
5. I. Yi, G.B. Field, and E.G. Blackman, 1994, "On the Origin of Obscuring Tori in the Galactic Nucleus and Active Galactic Nuclei," Astrophysical Journal 432, L31.
6. E.G. Blackman and G.B. Field, 1994, "Relativistic Reconnection in an Astrophysical Pair Plasma," Physica Scripta T52, 93.
7. E.G. Blackman and G.B. Field, 1994, "Non-Thermal Acceleration from Reconnection Shocks," Physical Review Letters 73, 3097.
8. E.G. Blackman, 1996, "Reconnecting Flux Tubes as a source of *In Situ* Acceleration in Extragalactic Radio Sources," Astrophysical Journal Letters 56, L87.
9. T. Chou & E.G. Blackman, 1996, "A Magnetic Field Diagnostic for Sonoluminescence," Physical Review Letters 76, 1549.
10. E.G. Blackman & I. Yi, 1996, "Can the Formation of X-Ray Obscuring Tori and Jets in Active Galaxies be Determined by One Parameter?" Astrophysical Journal 461, L21.
11. E.G. Blackman, 1996, "Overcoming the Back Reaction on Turbulent Motions in the Presence of Magnetic Fields," Physical Review Letters 77, 2694.
12. Z. Kuncic, E.G. Blackman & M.J. Rees, 1996, "Physical constraints on the sizes of dense clouds in the central magnetospheres of active galactic nuclei," Monthly Notices of the Royal Astronomical Society 283, 1322.
13. E.G. Blackman, I. Yi, and G.B. Field, 1996, "Relativistic Precessing Jets and Cosmological Gamma-Ray Bursts," Astrophysical Journal, 473, L79.
14. I. Yi and E.G. Blackman, 1997, "Formation of Millisecond Pulsars from Accretion Induced Collapse and Constraints on Pulsar Gamma-Ray Burst Models," Astrophysical Journal 482, 383.
15. E.G. Blackman, 1997, "Distinguishing Solar Flare Types by Differences in Reconnection Regions," Astrophysical Journal 484, L79.

16. T. DiMatteo, E.G. Blackman, & A.C. Fabian, 1997, "Two-Temperature Coronae in Active Galactic Nuclei," *Monthly Notices of the Royal Astronomical Society*, 291, L23.
17. E.G. Blackman and T. Chou, 1997, "A Vorticity-Magnetic Field Dynamo Instability," *Astrophysical Journal*, 489, L95.
18. I. Yi and E.G. Blackman, 1997, "An explanation for the bimodal duration distribution of gamma-ray bursts: Millisecond pulsars from accretion-induced collapse," *Astrophysical Journal Letters*, 494, L63.
19. E.G. Blackman, 1998, "Importance of an Astrophysical Perspective for Textbook Relativity," *European Journal of Physics*, 19, 195.
20. E.G. Blackman, 1998, "In Situ Origin of Large Scale Galactic Magnetic Fields without Kinetic Helicity?" *Astrophysical Journal Letters*, 496, L17.
21. E.G. Blackman & I. Yi 1998, "On Fueling Gamma-Ray Bursts and their Afterglows with Pulsars," *Astrophysical Journal*, 498 L31.
22. E.G. Blackman, 1998 "Variability Associated with Alpha Accretion Disk Theory for Standard and Advection Dominated Disks," *Monthly Notices of the Royal Astronomical Society*, 299 L48.
23. J. Herrnstein, J. Moran, L. Greenhill, E.G. Blackman, and P. Diamond 1998, "Polarimetric Observations of Masers in NGC4258: An Upper Limit on the Large-Scale Magnetic Field 0.2 pc from the Central Engine," *Astrophysical Journal*, 508 243.
24. E.G. Blackman, 1999 "On Particle Energization in Accretion Flows," *Monthly Notices of the Royal Astronomical Society*, 302, 723.
25. G.B. Field, E.G. Blackman & H. Chou 1999, "Non-linear  $\alpha$ -Effect in Dynamo Theory," *Astrophysical Journal*, 513 638.
26. E.G. Blackman & G.B. Field, 1999, "Resolution of an Ambiguity in Magnetic Dynamo Theory and its Consequences for Back-reaction Studies" *Astrophysical Journal* 521, 597.
27. E.G. Blackman, 1999, "Concave Accretion Discs and X-ray Reprocessing," *Monthly Notices of the Royal Astronomical Society*, 306 L25.
28. E.G. Blackman, 2000, "Mean Magnetic Field Generation in Sheared Rotators," *Astrophysical Journal*, 529 138.
29. E.G. Blackman & G.B. Field, 2000, "Constraints on the Magnitude of  $\alpha$  in Dynamo Theory" *Astrophysical Journal*, 534 984.
30. S.A. Hartnoll & E.G. Blackman, 2000, "Reprocessed emission from warped accretion discs with application to X-ray iron line profiles", *Monthly Notices of the Royal Astronomical Society*, 317, 880.
31. E.G. Blackman & G.B. Field 2000, "Coronal activity from dynamos in astrophysical rotators," *MNRAS* 318 724.
32. E.G. Blackman, A. Frank, & C. Welch, 2001, "Magnetohydrodynamic Stellar and Disk Winds: Application to Planetary Nebulae," *ApJ*, 546 288.

33. M. Lyutikov & E.G. Blackman, 2001, "Gamma-ray Bursts from unstable Poynting dominated outflows," MNRAS 321 177.
34. E.G. Blackman, 2001, "Implications of mean field accretion disc theory for vorticity and magnetic field growth," MNRAS 323 497.
35. E.G. Blackman, A. Frank, A. Markiel, J.H. Thomas, H.M. Van Horn , 2001, "Dynamos in asymptotic-giant-branch stars as the origin of magnetic fields shaping planetary nebulae," Nature 409 485.
36. S.A. Hartnoll & E.G. Blackman, 2001, "Reprocessed emission line profiles from dense clouds in geometrically thick accretion engines" MNRAS 324 257.
37. E.G. Blackman & G.B. Field, 2001, "How astrophysical mean field dynamos can circumvent existing quenching constraints," Physics of Plasmas 8 2407.
38. S.V. Lebedev, J.P. Chittenden, F.N. Beg, S.N. Bland, A. Ciardi, D. Ampleford, S. Hughes, M.G. Haines, A. Frank, E.G. Blackman, T. Gardiner, 2002, "Laboratory Astrophysics and Collimated Stellar Outflows: The Production of Radiatively Cooled Hypersonic Plasma Jets," ApJ 564, 113.
39. J.C. Lee, C.S. Reynolds, N.S. Schultz, R. Remillard, E.G. Blackman, A.C. Fabian, 2002, "Environment of GRS 1915+105 as seen with Chandra HETG and RXTE Evidence for a Hot Disk Atmosphere and Possible Supernova Origin," ApJ, 567 1102.
40. J. Maron and E.G. Blackman, 2002, "Effect of Fractional Kinetic Helicity on Turbulent Magnetic Dynamo Spectra," ApJ. Lett 566 L41.
41. S.A. Hartnoll & E.G. Blackman, 2002, "Iron line profiles from black hole accretion disks with spiral velocity structure" MNRAS 332, L1.
42. G.B. Field & E.G. Blackman, "Dynamical Quenching of the  $\alpha^2$  Dynamo," ApJ, 572, 685.
43. A. Poludnenko, A. Frank, E.G. Blackman, 2002 "Hydrodynamic Interaction of Shock Waves with Inhomogeneous Media I.: The Adiabatic Case," ApJ 576 832.
44. E.G. Blackman & A. Brandenburg, 2002, "Dynamical Quenching of Dynamoes with Shear," ApJ, 579, 359.
45. E.G. Blackman & G.B. Field, "New Mean Field Dynamo Theory and Closure Approach," 2002, Phys. Rev. Lett., 89, 265007
46. H.M. Van Horn, J.H. Thomas, A. Frank, E.G. Blackman, 2003, "A Relaxation Oscillator Model for Shell Structures In Planetary Nebulae," ApJ 585 983.
47. E.G. Blackman & A. Brandenburg, "Doubly Twisted Coronal Ejections from Dynamoes and their Role in Facilitating the Solar Cycle" 2003, ApJL, 584 L99
48. J.H. Kastner, B. Balick, E.G. Blackman, A. Frank, N. Soker, S.D. Vrtilek, G.A. Franz, J. Li 2003, "An X-ray Jet Detection Within the Planetary Nebula Menzel 3" ApJL, 591, L37.
49. V. Pariev, E.G. Blackman, S. Boldyrev, 2003 "Extending the Shakura-Sunyaev Formalism to Magnetically Dominated Disks," Astronomy & Astrophysics, 407, 403
50. E.G. Blackman, 2003, "Understanding Helical Magnetic Dynamoes with a Nonlinear Four-Scale Theory," MNRAS, 344, 707

51. A. Brandenburg, E.G. Blackman, G.R. Sarson, 2003, "How magnetic helicity ejection helps large scale dynamos" *Adv. In Space Sci.* 32, 1835
52. E.G. Blackman & G.B. Field 2003, "A New Approach to Turbulent Transport of a Mean Scalar," *Phys. of Fluids*, 15, L73.
53. R. Sahai, J. H. Kastner, A. Frank, M. Morris, & E.G. Blackman, 2003 "X-Ray Emission from the Pre-Planetary Nebula He3-1475," *ApJL*, 599, L87.
54. J. Tan & E.G. Blackman, 2004, *ApJ* 603, 401, "Protostellar Disk Dynamos and Hydromagnetic Outflows in Primordial Star Formation,"
55. E.G. Blackman & R. Perna, 2004, "Pulsars With Jets May Harbor Dynamically Important Accretion Disks," *ApJL*, 601, L71.
56. A. Frank & E.G. Blackman, 2004, "Application of MHD Wind Models to Protoplanetary and Planetary Nebulae," *ApJ*, 614, 737.
57. E.G. Blackman, 2004 "How Spectral Shapes of Magnetic Energy and Magnetic Helicity Influence their Respective Decay Time Scales," *Plasma Physics and Cont. Fusion*, 46, 423
58. J.L. Maron, B.D. Chandran, & E. Blackman, 2004, "The divergence of neighboring magnetic field lines and fast-particle diffusion in strong magnetohydrodynamic turbulence, with application to thermal conduction in galaxy clusters," *Phys. Rev. Lett.*, 92, 045001
59. D.H. Douglass, E.G. Blackman, & R.S. Knox, 2004, *Physics Letters A*, 323, 315, "Temperature Response of Earth to the Annual Solar Irradiance Cycle"
60. E.G. Blackman & G.B. Field 2004, "Dynamical Magnetic Relaxation: A Magnetically Driven Dynamo in MHD Turbulence," *Phys. of Plasmas*, 11, 3264.
61. S.V. Lebedev, D. Ampleford, J.P. Chittenden, S.N. Bland, A. Ciardi, M.G. Haines, A. Frank, E.G. Blackman, A. Cunningham, 2004, "Jet Deflection via Cross-Winds: Laboratory Astrophysics Studies," *ApJ*, 616, 988.
62. E.G. Blackman & J.C. Tan, 2004, "Coronae & Outflows from Helical Dynamos, Compatibility with the MRI, and Application to Protostellar Disks," *Astrophysics and Space Science*, 292, 395.
63. R. Selkowitz & E.G. Blackman, 2004 "Stochastic Fermi acceleration of sub-relativistic electrons and its role in solar flares," *MNRAS*, 354, 870
64. A. Quillen, E.G. Blackman, A. Frank, P. Varnière 2004, "On the Planet and Disk in Coku- Tau/4," *ApJL*, 612 L137
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