

Mitchell Craig Begelman

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Personal:

Born March 14, 1953, New York City
U. S. Citizen

Education:

Ph.D. in Theoretical Astrophysics, University of Cambridge, December 1978
Thesis Title: Aspects of Accretion Theory
A.M. in Physics, Harvard University, June 1974
A.B. in Physics, Harvard University, June 1974
Graduated from Bronx High School of Science, June 1970

Appointments:

Distinguished Professor, University of Colorado, 2020-present
Professor of Distinction, College of Arts & Sciences, University of Colorado Boulder, 2018-present

Department of Astrophysical and Planetary Sciences (formerly Astrophysical, Planetary and
Atmospheric Sciences), University of Colorado, Boulder, Colorado

Professor, August 1991-present
Chair, July 1995-June 1998 and October 2008-June 2014
Associate Professor, August 1987-August 1991
Assistant Professor, August 1982-August 1987
Associate Chair, July 1989-June 1990 and July 1992-June 1995
Acting Chair, July-December 1989

JILA (formerly Joint Institute for Laboratory Astrophysics), University of Colorado and National
Institute of Standards and Technology, Boulder, Colorado

Fellow, March 1984-present
Member, August 1982-March 1984

Member, Center for Astrophysics and Space Astronomy, University of Colorado, January 1986-
present
Postgraduate Research Astronomer, University of California, Berkeley, March 1979-June 1982
Science Research Council Research Fellow, Institute of Astronomy, Cambridge, England, October
1978-March 1979 and July 1981-December 1982
Visiting Scientist, N. Copernicus Astronomical Center, Warsaw, Poland, Winter 1980

Honors and Awards:

Elected to the National Academy of Sciences, 2024
Sidney Sussex College, University of Cambridge, Visiting Fellow, 2023

Mitchell Craig Begelman

Biermann Lecturer, Max-Planck Institut für Astrophysik, Garching, Germany, 2016
University of Colorado, College of Arts & Sciences College Scholar, 2014-2016
Trinity College, Cambridge, Visiting Fellow Commoner, 2005-2006
University of Colorado Faculty Fellowship, 2005-2006
First Boldt Lecturer, NASA/Goddard Space Flight Center, 2004
Boulder Faculty Assembly Award for Excellence in Research, Scholarly, and Creative Work, 1999-2000
Guggenheim Fellowship, 1998-1999
University of Colorado Faculty Fellowship, 1998-1999
American Institute of Physics Science Writing Award, 1996
University of Colorado Faculty Fellowship, 1990-1991
Helen B. Warner Prize of the American Astronomical Society, 1988
Alfred P. Sloan Foundation Research Fellowship, 1987
Presidential Young Investigator Award, 1984
Isaac Newton Studentship, 1977-1978
National Science Foundation Graduate Fellowship, 1974-1977
Phi Beta Kappa, 1974
Harvard National Scholar, 1970-1974
Westinghouse Science Talent Search Scholarship, third national award, 1970-1974
National Merit Scholar, 1970-1974

Professional Organizations:

Member, U.S. National Academy of Sciences
Member, International Astronomical Union
Member, American Astronomical Society
Fellow, Royal Astronomical Society
Fellow, Cambridge Philosophical Society

Professional Service:

Panelist, NASA Astrophysics Theory Program proposal review, 2013, 2017, 2019 (chair)
Panelist, National Science Foundation Astronomy & Astrophysics Proposal Review, 2017, 2020
Reviewer, National Academy of Sciences Mid-Decadal Report on Astronomy & Astrophysics, 2016
Pundit and Chair, X-ray Visionary and Big project Panels, NASA Chandra X-Ray Observatory Cycle 15 Proposal Review, 2013
Past Chair, High Energy Astrophysics Division, American Astronomical Society, 2010-2012
Vice-Chair, National Academy of Sciences Astro 2010 Science Frontiers Panel on Galaxies Across Cosmic Time, 2009-2010
Member, International X-ray Observatory Study Coordination Group and Science Definition team, 2008-2009
Chair, High Energy Astrophysics Division, American Astronomical Society, 2008-2010
Chair, Panel on Galactic Astronomy, GLAST Cycle I Guest Investigator Proposal Review (NASA), 2007
Vice-Chair, High Energy Astrophysics Division, American Astronomical Society, 2006-2008
Member, National Research Council Committee on Astronomy and Astrophysics, 2005-2008
Member, NASA Chandra Fellowship Selection Committee, 2005
Member, AGN/GRB Panel, NASA Astrophysics Theory Program proposal review, 2002
Panelist-at-large, ("Pundit"), Merging Panel, NASA Chandra X-Ray Observatory Cycle 3 Proposal Review, 2001
Member, High Energy Astrophysics Division Executive Committee, American Astronomical Society, 2000-2001
Member, NASA Hubble Space Telescope Cycle 10 Proposal Review Panel, 2000
Member, NASA Constellation-X Mission Facility Science Team, 1998-2008

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Member, Natural Sciences and Engineering Research Council of Canada review committee for Canadian Institute for Theoretical Astrophysics, 1998
Chair, NSF proposal review panel for AGNs, and QSOs, Extragalactic Astronomy and Cosmology Program, 1998
Chair, Warner/Pierce Prize Committee, American Astronomical Society, 1997-1998
Member, 1996-1998
Member, NASA Hubble Fellowship Selection Committee, 1997
Member, NASA Space Interferometry Mission Science Working Group, 1996 - 1998
Chair, Panel on Active Galactic Nuclei, NASA Long-Term Space Astrophysics Research Program Proposal Review, 1994
Member, NASA Hubble Space Telescope Cycle 5 Proposal Review Panel, 1994
Member, NASA Small Explorer Peer Review Panel, 1993
Member, Space Interferometry Science Working Group (NASA), 1992-1994
Member, Long-Term Space Astrophysics Program Review Panel (NASA), 1992, 1994
Member, National Science Foundation Selection Panel for 1989 Presidential Young Investigators in Astronomy
Chair, Panel on Active Galactic Nuclei, ROSAT Guest Observer Program Proposal Review (NASA), 1989
Member, Interferometry Panel, National Research Council Astronomy and Astrophysics Survey Committee ("Bahcall Committee"), 1989-1990.
Member, National Science Foundation Advisory Committee for Astronomical Sciences, 1985-1988

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Publications:

Books

1. Mitchell Begelman and Martin Rees, *Gravity's Fatal Attraction: Black Holes in the Universe* (W. H. Freeman: Scientific American Library Series No. 58, New York, 1996), 246 pp.
Winner of the 1996 American Institute of Physics Science Writing Award.
Named one of the Outstanding Academic Books of 1996 by Choice Magazine.

Mitchell Begelman and Martin Rees, *Gravity's Fatal Attraction: Black Holes in the Universe* (paperback edition) (W. H. Freeman: Scientific American Library Series No. 58, New York, 1998).

Mitchell Begelman and Martin Rees, *Schwarze Löcher Im Kosmos: Die magische Anziehungskraft der Gravitation*, German translation, translated by Margit Röser (Spektrum Akademischer Verlag, Heidelberg, 1997).

Mitchell Begelman and Martin Rees, *L'Attrazione Fatale della Gravità: I buchi neri dell' Universo* Italian translation, translated by Giusi Galli (Nuovi Classici della Scienza, Zanichelli Editore, Bologna, 1997).

Mitchell Begelman and Martin Rees, *Zwarte Gat en In Het Heelal*, Dutch translation, translated by Tom Korbeek (Vertaling: Riet Rutten-Vonk, 1998).

Mitchell Begelman and Martin Rees, *Ta siła fatalna, Czarne dziury we Wszelkim Wiedzie*, Polish translation, translated by Piotr Amsterdamski (Prószyński i S-ka, Warsaw, 1999).
2. Mitchell Begelman, *Turn Right at Orion: Travels Through the Cosmos* (Perseus Publishing: Helix Books, Cambridge, MA, 2000), 264 pp.

Mitchell Begelman, *Turn Right at Orion: Travels Through the Cosmos*, Complex Chinese translation (Taiwan: Owl Publishing House, a division of Cite Publishing Ltd., 2009).
3. Mitchell Begelman and Martin Rees, *Gravity's Fatal Attraction: Black Holes in the Universe, Second Edition* (Cambridge University Press, Cambridge, 2010), 302 pp.

Mitchell Begelman and Martin Rees, *Osudová Přitažlivost Gravitace: Černé Díry ve Vesmíru*, Czech translation, translated by Pavel Paloncý (Argo/Dokořán, Prague, 2013).
4. Mitchell Begelman and Martin Rees, *Gravity's Fatal Attraction: Black Holes in the Universe, Third Edition* (Cambridge University Press, Cambridge, 2020), 350 pp.

Papers in Refereed Journals

1. M. C. Begelman and M. J. Rees, "Can cosmic clouds cause climatic catastrophes?" *Nature* 261, 298-299 (1976).
2. M. C. Begelman, "Nearly collisionless spherical accretion," *Mon. Not. R. Astr. Soc.* 181, 347-363 (1977).
3. M. C. Begelman, "Black holes in radiation-dominated gas: An analogue of the Bondi accretion problem," *Mon. Not. R. Astr. Soc.* 184, 53-67 (1978).

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4. M. C. Begelman, "Accretion of $(> 5/3$ gas by a Schwarzschild black hole," *Astr. Astrophys.* 70, 583-584 (1978).
5. M. C. Begelman and M. J. Rees, "The fate of dense stellar systems," *Mon. Not. R. Astr. Soc.* 185, 847-859 (1978).
6. M. C. Begelman, "Can a spherically accreting black hole radiate very near the Eddington limit?" *Mon. Not. R. Astr. Soc.* 187, 237-251 (1979).
7. M. C. Begelman, M. J. Rees and R. D. Blandford, "A twin-jet model for radio trails," *Nature* 279, 770-773 (1979).
8. M. C. Begelman, C. L. Sarazin, S. P. Hatchett, C. F. McKee and J. Arons, "Beam models for SS 433," *Astrophys. J.* 238, 722-730 (1980).
9. C. L. Sarazin, M. C. Begelman and S. P. Hatchett, "Disk-driven precession in SS 433," *Astrophys. J. Lett.* 238, L129-132 (1980).
10. M. C. Begelman, R. D. Blandford and M. J. Rees, "Massive black hole binaries in active galactic nuclei," *Nature* 287, 307-309 (1980).
11. S. P. Hatchett, M. C. Begelman and C. L. Sarazin, "A new look at the dynamics of twisted accretion disks," *Astrophys. J.* 247, 677-685 (1981).
12. M. C. Begelman and D. L. Meier, "Thick accretion disks: Self-similar, supercritical models," *Astrophys. J.* 253, 873-896 (1982).
13. M. J. Rees, M. C. Begelman, R. D. Blandford and E. S. Phinney, "Ion-supported tori and the origin of radio jets," *Nature* 295, 17-21 (1982).
14. M. C. Begelman, C. F. McKee and G. A. Shields, "Compton heated winds and coronae above accretion disks. I. Dynamics," *Astrophys. J.* 271, 70-88 (1983).
15. M. C. Begelman and C. F. McKee, "Compton heated winds and coronae above accretion disks. II. Radiative transfer and observable consequences," *Astrophys. J.* 271, 89-112 (1983).
16. M. C. Begelman and M. J. Rees, "The cauldron at the core of SS 433," *Mon. Not. R. Astr. Soc.* 206, 209-220 (1984).
17. M. C. Begelman, R. D. Blandford and M. J. Rees, "Theory of extragalactic radio sources," *Rev. Mod. Phys.* 56, 255-351 (1984); Russian translation in Fizika Vnegalakticheskikh Istochnikov Radioizlucheniia (Physics of Extragalactic Radio Sources), R. D. Dagkesamansky and S. S. Komissarov, translators (Mir Publishers, Moscow, 1987), pp. 9-295.
18. M. C. Begelman, "The effects of X-rays from an active galactic nucleus on the interstellar medium of the host galaxy," *Astrophys. J.* 297, 492-506 (1985).
19. G. A. Shields, C. F. McKee, D. N. C. Lin and M. C. Begelman, "Compton-heated winds and coronae above accretion disks. III. Instability and oscillations," *Astrophys. J.* 306, 90-106 (1986).
20. M. C. Begelman and C. L. Sarazin, "SN1985f: Death of a Wolf-Rayet Star," *Astrophys. J. Lett.* 302, L59-L62 (1986).

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21. M. C. Begelman, "Cooling flows in ellipticals and the nature of radio galaxies," *Nature* 322, 614-615 (1986).
22. J. H. Krolik and M. C. Begelman, "An X-ray heated wind in NGC 1068," *Astrophys. J. Lett.* 308, L55-L58 (1986).
23. P. A. Becker and M. C. Begelman, "Comptonization in supercritical winds. I. Spectral evolution," *Astrophys. J.* 310, 534-551 (1986).
24. P. A. Becker and M. C. Begelman, "Comptonization in supercritical winds. II. Dynamics and observational diagnostics," *Astrophys. J.* 310, 552-560 (1986).
25. M. C. Begelman, M. Sikora and M. J. Rees, "Thermal and dynamical effects of pair production on two-temperature accretion flows," *Astrophys. J.* 313, 689-698 (1987).
26. G. M. Voit, J. M. Shull and M. C. Begelman, "Broad, variable absorption lines in the Seyfert galaxy NGC 3516: Probing the structure of the emission line regions," *Astrophys. J.* 316, 573-583 (1987).
27. M. Sikora, J. G. Kirk, M. C. Begelman and P. Schneider, "Electron injection by relativistic protons in active galactic nuclei," *Astrophys. J. Lett.* 320, L81-L85 (1987).
28. M. C. Begelman and M. Sikora, "Inverse Compton scattering of ambient radiation by a cold relativistic jet: A source of beamed polarized continuum in blazars?" *Astrophys. J.* 322, 650-661 (1987).
29. I. Shlosman and M. C. Begelman, "Self-gravitating accretion disks in active galactic nuclei," *Nature* 329, 810-812 (1987).
30. M. C. Begelman and R. D. Blandford, "Luminous arcs from galactic bow shocks," *Nature* 330, 46-48 (1987).
31. J. H. Krolik and M. C. Begelman, "Molecular tori in Seyfert galaxies: Feeding the monster and hiding it," *Astrophys. J.* 329, 702-711 (1988).
32. M. C. Begelman and T. Chiueh, "Thermal coupling of ions and electrons by collective effects in two-temperature accretion flows," *Astrophys. J.* 332, 872-890 (1988).
33. M. de Kool, M. C. Begelman and M. Sikora, "Self-absorbed synchrotron sources in active galactic nuclei," *Astrophys. J.* 337, 66-77 (1989).
34. I. Shlosman, J. Frank and M. C. Begelman, "Bars within bars: A mechanism for fuelling active galactic nuclei," *Nature* 338, 45-47 (1989).
35. M. de Kool and M. C. Begelman, "The production of self-absorbed synchrotron spectra steeper than $<^{-5/2}$," *Nature* 338, 484-485 (1989).
36. M. Sikora, M. C. Begelman and B. Rudak, "Relativistic neutrons in active galactic nuclei," *Astrophys. J. Lett.* 341, L33-L36 (1989).
37. I. Shlosman and M. C. Begelman, "Evolution of self-gravitating accretion disks in active galactic nuclei," *Astrophys. J.* 341, 685-691 (1989).
38. M. de Kool and M. C. Begelman, "Effects of thermal plasma on self-absorbed synchrotron sources in active galactic nuclei," *Astrophys. J.* 345, 135-139 (1989).

39. M. C. Begelman and D. F. Cioffi, "Overpressured cocoons in extra-galactic radio sources," *Astrophys. J. Lett.* 345, L21-24 (1989).
40. M. C. Begelman and J. G. Kirk, "Shock-drift particle acceleration in superluminal shocks: A model for hot spots in extragalactic radio sources," *Astrophys. J.* 353, 66-80 (1990).
41. M. C. Begelman and A. C. Fabian, "Turbulent mixing layers in the interstellar and intracluster medium," *Mon. Not. R. Astr. Soc.* 244, 26P-29P (1990).
42. I. Shlosman, M. C. Begelman and J. Frank, "The fuelling of active galactic nuclei," (Review Article), *Nature* 345, 679-686 (1990).
43. M. C. Begelman and C. F. McKee, "Global effects of thermal conduction on two-phase media," *Astrophys. J.* 358, 375-391 (1990).
44. C. F. McKee and M. C. Begelman, "Steady evaporation and condensation of isolated clouds in hot plasma," *Astrophys. J.* 358, 392-398 (1990).
45. M. C. Begelman, B. Rudak and M. Sikora, "Consequences of relativistic proton injection in active galactic nuclei," *Astrophys. J.* 362, 38-51 (1990); Erratum: 370, 791 (1991).
46. P. A. Becker and M. C. Begelman, "Dynamical effects of annihilation in pair-dominated winds," *Astrophys. J.* 364, 203-211 (1990).
47. M. Loewenstein, E. G. Zweibel and M. C. Begelman, "Cosmic ray heating of cooling flows: A critical analysis," *Astrophys. J.* 377, 392-402 (1991).
48. T. Chiueh, Z. Li and M. C. Begelman, "Asymptotic structure of hydromagnetically-driven relativistic winds," *Astrophys. J.* 377, 462-466 (1991).
49. M. C. Begelman, M. de Kool and M. Sikora, "Outflows driven by cosmic-ray pressure in broad absorption line QSOs," *Astrophys. J.* 382, 416-432 (1991).
50. Z. Li, M. C. Begelman and T. Chiueh, "The effects of radiation drag on radial, relativistic hydromagnetic winds," *Astrophys. J.* 384, 567-579 (1992).
51. M. Sikora and M. C. Begelman, "Does an orbiting star cause periodic modulation of x-rays from NGC 6814?" *Nature* 356, 224-225 (1992).
52. Z. Li, T. Chiueh and M. C. Begelman, "Electromagnetically driven relativistic jets: A class of self-similar solutions," *Astrophys. J.* 394, 459-471 (1992).
53. M. C. Begelman and Z. Li, "An axisymmetric MHD model for the Crab pulsar wind bubble," *Astrophys. J.* 397, 187-195 (1992).
54. Z. Li and M. C. Begelman, "Formation of the dark bays in the Crab optical synchrotron nebula: Is the Crab pulsar wind bubble interacting with its progenitor's wind?" *Astrophys. J.* 400, 186-191 (1992).
55. N. Arav and M. C. Begelman, "Radiation-viscous boundary layers," *Astrophys. J.* 401, 125-136 (1992).

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56. J. D. Slavin, J. M. Shull and M. C. Begelman, "Turbulent mixing layers in the interstellar medium of galaxies," *Astrophys. J.* **407**, 83-99 (1993).
57. Q. C. Wang, Z. Li and M. C. Begelman, "The X-ray-emitting trail of the nearby pulsar PSR 1929+10," *Nature* **364**, 127-129 (1993).
58. N. Arav and M. C. Begelman, "Interaction of a jet with a radiation pressure-dominated atmosphere: The case of SS 433," *Astrophys. J.* **413**, 700-709 (1993).
59. G. M. Madejski, C. Done, T. J. Turner, R. F. Mushotzky, P. Serlemitsos, F. Fiore, M. Sikora and M. C. Begelman, "Solving the mystery of the x-ray periodicity in the Seyfert galaxy NGC 6814," *Nature* **365**, 626-628 (1993).
60. M. C. Begelman, P. Mészáros and M. J. Rees, "Gamma-ray bursts from blast waves around galactic neutron stars," *Mon. Not. R. Astr. Soc.* **265**, L13-L16 (1993).
61. M. Sikora, M. C. Begelman and M. J. Rees, "Comptonization of diffuse ambient radiation by a relativistic jet: The source of gamma-rays from blazars?" *Astrophys. J.* **421**, 153-162 (1994).
62. M. C. Begelman and Z. Li, "Asymptotic domination of cold relativistic MHD winds by kinetic energy flux," *Astrophys. J.* **426**, 269-278 (1994).
63. M. C. Begelman, M. J. Rees and M. Sikora, "Energetic and radiative constraints on highly relativistic jets," *Astrophys. J. Lett.* **429**, L57-L60 (1994).
64. M. C. Begelman and E. G. Zweibel, "Acoustic instability driven by cosmic ray streaming," *Astrophys. J.* **431**, 689-704 (1994).
65. N. Arav, Z.-Y. Li and M. C. Begelman, "Radiative acceleration in outflows from broad absorption line quasi-stellar objects. II. Wind models," *Astrophys. J.* **432**, 62-74 (1994).
66. P. R. Maloney, M. C. Begelman and M. J. Rees, "Radiative excitation of molecules near powerful compact radio sources," *Astrophys. J.* **432**, 606-611 (1994).
67. N. Arav and M. C. Begelman, "Modeling the double trough structure observed in broad absorption line QSOs using radiative acceleration," *Astrophys. J.* **434**, 479-483 (1994).
68. B. E. Stern, M. C. Begelman, M. Sikora and R. Svensson, "A large particle Monte Carlo code for stimulating nonlinear high-energy processes near compact objects," *Mon. Not. R. Astr. Soc.* **272**, 291-307 (1995).
69. B. E. Stern, J. Poutanen, R. Svensson, M. Sikora and M. C. Begelman, "On the geometry of the x-ray emitting region in Seyfert galaxies," *Astrophys. J. Lett.* **449**, L13-L17 (1995).
70. N. Arav, K. T. Korista, T. A. Barlow and M. C. Begelman, "Radiative acceleration of gas in quasars," *Nature*, **376**, 576-578 (1995).
71. M. de Kool and M. C. Begelman, "Radiation pressure-driven magnetic disk winds in broad absorption line quasi-stellar objects," *Astrophys. J.* **455**, 448-455 (1995).
72. M. C. Begelman, "The acceleration and collimation of jets," *Pub. Natl. Acad. Sci.* **92**, 11442-11446 (1995).

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73. M. Sikora, H. Sol, M. C. Begelman and G. Madejski, "Radiation drag in relativistic AGN jets," *Mon. Not. R. Astr. Soc.* 280, 781-796 (1996).
74. J. Poutanen, M. Sikora, M. C. Begelman and P. Magdziarz, "The Compton mirror in NGC4151," *Astrophys. J. Lett.* 465, L107-L110 (1996).
75. G. V. Bicknell and M. C. Begelman, "Understanding the kiloparsec-scale structure of M87," *Astrophys. J.* 467, 597-621 (1996).
76. P. R. Maloney, M. C. Begelman and J. E. Pringle, "Radiation-driven warping: The origin of warps and precession in accretion disks," *Astrophys. J.* 472, 582-587 (1996).
77. M. A. Nowak, R. V. Wagoner, M. C. Begelman, and D. E. Lehr, "The 67 Hz feature in the black hole candidate GRS 1915+105 as a possible 'diskoseismic' mode," *Astrophys. J. Lett.* 477, L91-L94 (1997).
78. C. S. Reynolds and M. C. Begelman, "Intermittent radio galaxies and source statistics," *Astrophys. J. Lett.* 487, L135-L138 (1997).
79. J. B. Dove, J. Wilms and M. C. Begelman, "Self-consistent thermal accretion disk corona models for compact objects: I. Properties of the corona and the spectrum of escaping radiation," *Astrophys. J.* 487, 747-758 (1997).
80. J. B. Dove, J. Wilms, M. Maisack and M. C. Begelman, "Self-consistent thermal accretion disk corona models for compact objects: II. Application to Cygnus X-1," *Astrophys. J.* 487, 759-768 (1997).
81. C. S. Reynolds and M. C. Begelman, "Iron fluorescence from within the innermost stable orbit of black hole accretion disks," *Astrophys. J.*, 488, 109-118 (1997).
82. S. Heinz and M. C. Begelman, "Analysis of the synchrotron emission from the M87 jet," *Astrophys. J.*, 490, 653-663 (1997).
83. P. R. Maloney and M. C. Begelman, "The origin of warped, precessing accretion disks in x-ray binaries," *Astrophys. J. Lett.*, 491, L43-46 (1997).
84. M. C. Begelman, "Instability of toroidal magnetic field in jets and plerions," *Astrophys. J.* 493, 291-300 (1998).
85. S. Heinz, C. S. Reynolds and M. C. Begelman, "X-ray signatures of aging radio galaxies," *Astrophys. J.* 501, 126-136 (1998).
86. J. B. Dove, J. Wilms, M. A. Nowak, B. A. Vaughan and M. C. Begelman, "RXTE observation of Cygnus X-1: I. Spectral analysis," *Mon. Not. R. Astr. Soc.* 298, 729-736 (1998).
87. P. R. Maloney, M. C. Begelman and M. A. Nowak, "Radiation-driven warping: II. Non-isothermal disks," *Astrophys. J.* 504, 77-92 (1998).
88. T. Chiueh, Z.-Y. Li and M. C. Begelman, "A critical analysis of ideal magnetohydrodynamic models for Crab-like pulsar winds," *Astrophys. J.* 505, 835-843 (1998).
89. M. A. Nowak, B. A. Vaughan, J. Wilms, J. B. Dove and M. C. Begelman, "ROSSI X-ray Timing Explorer observation of Cygnus X-1: II. Timing analysis," *Astrophys. J.* 510, 874-891 (1999).

90. R. D. Blandford and M. C. Begelman, "On the fate of gas accreting at a low rate onto a black hole," *Mon. Not. R. Astr. Soc. Lett.* 303, L1-7 (1999).
91. M. C. Begelman, "A model for the moving 'wisps' in the Crab Nebula," *Astrophys. J.* 512, 755-760 (1999).
92. C. S. Reynolds, A. J. Young, M. C. Begelman and A. C. Fabian, "X-ray iron line reverberation from black hole accretion disks," *Astrophys. J.* 514, 164-177 (1999).
93. M. A. Nowak, J. Wilms, B. A. Vaughan, J. B. Dove and M. C. Begelman, "ROSSI X-ray Timing Explorer observation of Cygnus X-1: III. Implications for Compton corona and advection-dominated accretion flow models," *Astrophys. J.* 515, 726-737 (1999).
94. N. Arav, K. T. Korista, M. de Kool, V. T. Junkkarinen and M. C. Begelman, "Hubble Space Telescope observations of the broad absorption line quasar PG 0946+301," *Astrophys. J.* 516, 27-46 (1999).
95. A. R. King and M. C. Begelman, "Radiatively driven outflows and avoidance of common-envelope evolution in close binaries," *Astrophys. J. Lett.* 519, L169-171 (1999).
96. C. S. Reynolds, S. Heinz, A. C. Fabian and M. C. Begelman, "A Rossi X-ray Timing Explorer study of M87 and the core of the Virgo cluster," *Astrophys. J.* 521, 99-102 (1999).
97. S. Heinz and M. C. Begelman, "A shotgun model for gamma-ray bursts," *Astrophys. J. Lett.* 527, L35-L38 (1999).
98. J. M. Stone, J. E. Pringle and M. C. Begelman, "Hydrodynamical non-radiative accretion flows in two dimensions," *Mon. Not. R. Astr. Soc.* 310, 1002-1016 (1999).
99. A. R. King, R. E. Taam and M. C. Begelman, "The evolutionary status of SS 433," *Astrophys. J. Lett.* 530, L25-L28 (2000).
100. S. Heinz and M. C. Begelman, "Jet acceleration by tangled magnetic fields," *Astrophys. J.* 535, 104-117 (2000).
101. M. A. Nowak, J. Wilms, W. A. Heindl, K. Pottschmidt, J. B. Dove and M. C. Begelman, "A good long look at the black hole candidates LMC X-1 and LMC X-3," *Mon. Not. R. Astr. Soc.* 320, 316-326 (2001).
102. J. Wilms, M. A. Nowak, K. Pottschmidt, W. A. Heindl, J. B. Dove and M. C. Begelman, "Discovery of recurring soft to hard state transitions in LMC X-3," *Mon. Not. R. Astr. Soc.* 320, 327-340 (2001).
103. C. S. Reynolds, S. Heinz and M. C. Begelman, "Shocks and sonic booms in the intracluster medium: X-ray shells and radio galaxy activity," *Astrophys. J. Lett.* 549, L179-L182 (2001).
104. M. C. Begelman, "Super-Eddington atmospheres that do not blow away," *Astrophys. J.* 551, 897-906 (2001).
105. M. Sikora, M. Blażejowski, M. C. Begelman and R. Moderski, "Modeling the production of flares in gamma-ray quasars," *Astrophys. J.* 554, 1-11 (2001).

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106. J. Wilms, C. S. Reynolds, M. C. Begelman, J. Reeves, S. Molendi, R. Staubert and E. Kendziorra, "XMM-EPIC observation of MCG16-30-15: Direct evidence for the extraction of energy from a spinning black hole?" *Mon. Not. R. Astr. Soc.* 328, L27-L31 (2001).
107. M. C. Begelman, "Super-Eddington fluxes from thin accretion disks?" *Astrophys. J. Lett.* 568, L97-L100 (2002).
108. S. Heinz, Y.-Y. Choi, C. S. Reynolds and M. C. Begelman, "Chandra ACIS-S observations of Abell 4059: Signs of dramatic interaction between a radio galaxy and a galaxy cluster," *Astrophys. J. Lett.* 569, L79-L82 (2002).
109. E. S. Perlman, J. T. Stocke, J. E. Conway, C. Reynolds and M. Begelman, "HST imaging of nearby CSOs: obscuration and nuclear structures," *New Astronomy Reviews*, 46, 279-282 (2002).
110. C. S. Reynolds, S. Heinz and M. C. Begelman, "The hydrodynamics of dead radio galaxies," *Mon. Not. R. Astr. Soc.* 332, 271-282 (2002).
111. M. Ruszkowski and M. C. Begelman, "Circular polarization from stochastic synchrotron sources," *Astrophys. J.* 573, 485-495 (2002).
112. M. Nowak, S. Heinz and M. Begelman, "Hiding in plain sight: Chandra observations of the quiescent neutron star 4U 2129+47 in eclipse," *Astrophys. J.* 573, 778-788 (2002).
113. M. Ruszkowski and M. C. Begelman, "Heating, conduction and minimum temperatures in cooling flows," *Astrophys. J.* 581, 223-228 (2002).
114. D. Proga and M. C. Begelman, "Accretion of low angular momentum material onto black holes: 2D hydrodynamical inviscid case," *Astrophys. J.* 582, 69-81 (2003).
115. M. Ruszkowski and M. C. Begelman, "Eddington limit and radiative transfer in highly inhomogeneous atmospheres," *Astrophys. J.* 586, 384-388 (2003).
116. A. A. El-Zant, I. Shlosman, M. C. Begelman and J. Frank, "Galaxy formation in triaxial halos: Black hole-bulge-dark halo correlation," *Astrophys. J.* 590, 641-653 (2003).
117. M. C. Begelman, "Evidence for black holes," *Science* 300, 1898-1904 (2003).
118. D. Proga and M. C. Begelman, "Accretion of low angular momentum material onto black holes: Two-dimensional magnetohydrodynamic case," *Astrophys. J.* 592, 767-781 (2003).
119. D. Proga, A. I. MacFadyen, P. J. Armitage and M. C. Begelman, "Axisymmetric MHD simulations of the collapsar model for gamma-ray bursts," *Astrophys. J. Lett.* 599, L5-L8 (2003).
120. R. D. Blandford and M. C. Begelman, "Two dimensional adiabatic flows onto a black hole: I. Fluid accretion," *Mon. Not. R. Astr. Soc.* 349, 68-86 (2004).
121. C. S. Reynolds, J. Wilms, M. C. Begelman, R. Staubert and E. Kendziorra, "On the deep minimum state in the Seyfert galaxy MCG—6-30-15," *Mon. Not. R. Astr. Soc.* 349, 1153-1166 (2004).
122. L. Stawarz, M. Sikora, M. Ostrowski and M. C. Begelman, "On multiwavelength emission of large-scale quasar jets," *Astrophys. J.* 608, 95-107 (2004).
123. M. Ruszkowski, M. Brüggen and M. C. Begelman, "Cluster heating by viscous dissipation of waves," *Astrophys. J.* 611, 158-163 (2004).

124. M. C. Begelman and A. Celotti, "Disk outflows and the accretion rate gap," *Mon. Not. R. Astr. Soc.* 352, L45-L48 (2004).
125. M. Ruszkowski, M. Brüggen and M. C. Begelman, "Three-dimensional simulations of viscous dissipation in the intracluster medium," *Astrophys. J.* 615, 675-680 (2004).
126. S. Roychowdhury, M. Ruszkowski, B. B. Nath and M. C. Begelman, "Entropy 'floor' and effervescent heating of intracluster gas," *Astrophys. J.* 615, 681-688 (2004).
127. M. C. Begelman and M. Ruszkowski, "Mechanical heating by active galaxies," *Philos. Trans. R. Soc., Ser. A* 363, 655-665 (2005).
128. D. Guetta, J. Granot and M. C. Begelman, "Constraining the structure of GRB jets through the $\log(N) - \log(S)$ distribution," *Astrophys. J.* 622, 482-491 (2005).
129. N. J. Turner, O. M. Blaes, A. Socrates, M. C. Begelman and S. W. Davis, "The effects of photon bubble instability in radiation-dominated accretion disks," *Astrophys. J.* 624, 267-288 (2005).
130. M. C. Begelman, R. E. Ergun and M. J. Rees, "Cyclotron maser emission from blazer jets," *Astrophys. J.* 625, 51-59 (2005).
131. M. Sikora, M. C. Begelman, G. M. Madejski and J.-P. Lasota, "Are quasar jets dominated by Poynting flux?" *Astrophys. J.* 625, 72-77 (2005).
132. D. Lazzati and M. C. Begelman, "Universal GRB jets from jet-cocoon interaction in massive stars," *Astrophys. J.* 629, 903-907 (2005).
133. M. C. Begelman and B. B. Nath, "Self-regulated black hole accretion, the $M-\sigma$ relation, and the growth of bulges in galaxies," *Mon. Not. R. Astr. Soc.* 361, 1387-1392 (2005).
134. M. C. Begelman, "Nonlinear photon bubbles driven by buoyancy," *Astrophys. J.* 636, 995-1001 (2006).
135. D. Lazzati and M. C. Begelman, "Thick fireballs and the steep decay in the early X-ray afterglow of gamma-ray bursts," *Astrophys. J.* 641, 972-977 (2006).
136. M. C. Begelman, "Photon bubbles and the vertical structure of accretion disks," *Astrophys. J.* 643, 1065-1080 (2006).
137. M. C. Begelman, M. Volonteri and M. J. Rees, "Formation of supermassive black holes by direct collapse in pregalactic halos," *Mon. Not. R. Astron. Soc.* 370, 289-298 (2006).
138. M. C. Begelman, A. R. King and J. E. Pringle, "The nature of SS433 and the ultraluminous X-ray sources," *Mon. Not. R. Astr. Soc.* 370, 399-404 (2006).
139. W. Forman, E. Churazov, C. Jones, M. Markevitch, P. Nulsen, A. Vikhlinin, M. Begelman, H. Böhringer, J. Eilek, S. Heinz, R. Kraft and F. Owen, "Filaments, bubbles and weak shocks in the gaseous atmospheres of M87," *Astrophys. J.* 665, 1057-1066 (2007).
140. C. S. Reynolds, D. Garofalo and M. C. Begelman, "Trapping of magnetic flux by the plunge region of a black hole accretion disk," *Astrophys. J.* 651, 1023-1030 (2006).

141. R. D. Alexander, M. C. Begelman and P. J. Armitage, “Constraints on the stellar mass function from stellar dynamics at the Galactic Center,” *Astrophys. J.* 654, 907-914 (2007).
142. M. C. Begelman and J. E. Pringle, “Accretion discs with strong toroidal magnetic fields,” *Mon. Not. R. Astr. Soc.* 375, 1070-1076 (2007).
143. B. J. Morsony, D. Lazzati and M. C. Begelman, “Temporal and angular properties of gamma-ray burst jets emerging from massive stars,” *Asstrophys. J.* 665, 569-598 (2007).
144. D. Lazzati, B. J. Morsony and M. C. Begelman, “Gamma-ray burst jet dynamics and their interaction with the progenitor star,” in *Philos. Trans. R. Soc. A* 365, 1141-1149 (2007).
145. R. D. Alexander, P. J. Armitage, J. Cuadra and M. C. Begelman, “Self-gravitating fragmentation of eccentric accretion disks,” *Astrophys. J.* 674, 927-935 (2008).
146. M. Ruszkowski, T. A. Enßlin, M. Brüggen, M. C. Begelman and E. Churazov, “Cosmic ray confinement in fossil cluster bubbles,” *Mon. Not. R. Astr. Soc.* 383, 1359-1365 (2008).
147. M. C. Begelman, A. C. Fabian and M. J. Rees, “Implications of very rapid TeV variability in blazars,” *Mon. Not. R. Astr. Soc.* 384, L19-L23 (2008).
148. N. L. Zakamska, M. C. Begelman and R. D. Blandford, “Hot self-similar relativistic magnetohydrodynamic flows,” *Astrophys. J.* 679, 990-999 (2008).
149. L. Stawarz, L. Ostorero, M. C. Begelman, R. Moderski, J. Kataoka and S. Wagner, “Evolution of and high-energy emission from GHz-peaked spectrum sources,” *Astrophys. J.* 680, 911-925 (2008).
150. M. C. Begelman, E. M. Rossi and P. J. Armitage, “Quasistars: Accreting black holes inside massive envelopes,” *Mon. Not. R. Astr. Soc.* 387, 1649-1659 (2008).
151. D. Lazzati, R. Perna and M. C. Begelman, “X-ray flares, neutrino cooled disks, and the dynamics of late accretion in GRB engines,” *Mon. Not. R. Astr. Soc.* 388, L15-L19 (2008).
152. E. M. Rossi and M. C. Begelman, “Delayed X-ray emission from fallback in compact-object mergers,” *Mon. Not. R. Astr. Soc.* 392, 1451-1455 (2009).
153. J. Cuadra, P. J. Armitage, R. D. Alexander and M. C. Begelman, “Massive black hole binary mergers within subparsec scale gas discs,” *Mon. Not. R. Astr. Soc.* 393, 1423-1432 (2009).
154. D. Giannios, D. A. Uzdensky and M. C. Begelman, “Fast TeV variability in blazars: jets in a jet,” *Mon. Not. R. Astr. Soc.* 395, L29-L33 (2009).
155. D. Lazzati, B. J. Morsony and M. C. Begelman, “Very high efficiency photospheric emission in long-duration γ -ray bursts,” *Astrophys. J. Lett.* 700, L47-L50 (2009).
156. D. Lazzati and M. C. Begelman, “Polarization signature of gamma-ray bursts from fragmented fireballs,” *Astrophys. J. Lett.* 700, L141-L144 (2009).
157. M. C. Begelman and I. Shlosman, “Angular momentum transfer and lack of fragmentation in self-gravitating accretion flows,” *Astrophys. J. Lett.* 702, L5-L8 (2009).
158. M. C. Begelman, “Evolution of supermassive stars as a pathway to black hole formation,” *Mon. Not. R. Astr. Soc.* 402, 673-681 (2010).

159. D. Giannios, D. A. Uzdensky and M. C. Begelman, "Fast TeV variability from misaligned minijets in the jet of M87," *Mon. Not. R. Astr. Soc.* **402**, 1649-1656 (2010).
160. L. Ostorero, R. Moderski, L. Stawarz, A. Diaferio, I. Kowalska, C. C. Cheung, J. Kataoka, M. C. Begelman and S. J. Wagner, "X-ray-emitting GHz-peaked-spectrum galaxies: testing a dynamical-radiative model with broadband spectra," *Astrophys. J.* **715**, 1071-1093 (2010).
161. D. Lazzati, B. J. Morsony and M. C. Begelman, "Short-duration gamma-ray busts from off-axis collapsars," *Astrophys. J.* **717**, 239-244 (2010).
162. B. J. Morsony, D. Lazzati and M. C. Begelman, "The origin and propagation of variability in the outflows of long duration gamma-ray bursts," *Astrophys. J.* **723**, 267-276 (2010).
163. D. Lazzati and M. C. Begelman, "Non-thermal emission from the photospheres of gamma-ray burst outflows. I: high frequency tails," *Astrophys. J.* **725**, 1137-1145 (2010).
164. M. Volonteri and M. C. Begelman, "Quasistars and the cosmic evolution of massive black holes," *Mon. Not. R. Astr. Soc.* **409**, 1022-1032 (2010).
165. M. Sereno, A. Sesana, A. Bleuler, P. Jetzer, M. Volonteri and M. C. Begelman, "Strong lensing of gravitational waves as seen by LISA," *Phys. Rev. Lett.*, **105**, 251101, 1-4 (2010).
165. D. Lazzati, C. H. Blackwell, B. J. Morsony and M. C. Begelman, "X-ray flares from propagation instabilities in long gamma-ray burst jets," *Mon. Not. R. Astr. Soc. Lett.*, **411**, L16-L20 (2011).
166. D. Lazzati, B. J. Morsony, and M. C. Begelman, "High-efficiency photospheric emission of long-duration gamma-ray burst jets: the effect of the viewing angle," *Astrophys. J.*, **732**, 34 (6pp) (2011).
167. K. Nalewajko, D. Giannios, M. C. Begelman, D. Uzdensky and M. Sikora, "Radiative properties of reconnection-powered minijets in blazars," *Mon. Not. R. Astr. Soc.* **413**, 333-346 (2011).
168. D. A. Uzdensky, B. Cerutti and M. C. Begelman, "Reconnection-powered linear accelerator and gamma-ray flares in the Crab Nebula," *Astrophys. J. Lett.*, **737**, L40 (5pp) (2011).
169. B. Cerutti, D. A. Uzdensky and M. C. Begelman, "Extreme particle acceleration in magnetic reconnection layers. Application to the gamma-ray flares in the Crab Nebula," *Astrophys. J.*, **746**, 148 (16pp) (2012).
170. M. C. Begelman, "Radiatively inefficient accretion: Breezes, winds and hyperaccretion," *Mon. Not. R. Astr. Soc.*, **420**, 2912-2923 (2012).
171. M. C. Begelman, "Force-feeding black holes," *Astrophys. J. Lett.*, **749**, L3 (4pp) (2012).
172. D. Lazzati, B. J. Morsony, Christopher H. Blackwell and M. C. Begelman, "Unifying the zoo of jet-driven stellar explosions," *Astrophys. J.*, **750**, 68 (7pp) (2012).
173. S. M. O'Neill, K. Beckwith and M. C. Begelman, "Local simulations of instabilities in relativistic jets I: Morphology and energetics of the current-driven instability," *Mon. Not. R. Astr. Soc.*, **422**, 1436-1452 (2012).
174. G. Ponti, R. P. Fender, M. Begelman, R. J. H. Dunn, J. Neilsen and M. Coriat, "Ubiquitous equatorial accretion disc winds in black hole soft states," *Mon. Not. R. Astr. Soc. Lett.*, **422**, 11-15 (2012).

175. S. Kohler, M. C. Begelman and K. Beckwith, “Recollimation boundary layers in relativistic jets,” *Mon. Not. R. Astr. Soc.*, 422, 2282-2290 (2012).
176. B. Cerutti, G. R. Werner, D. A. Uzdensky and M. C. Begelman, “Beaming and rapid variability of high-energy radiation from relativistic pair plasma reconnection,” *Astrophys. J. Lett.*, 754, L33 (6pp) (2012).
177. K. Nalewajko, M. C. Begelman, B. Cerutti, D. A. Uzdensky and M. Sikora, “Energetic constraints on a rapid gamma-ray flare in PKS 1222+216,” *Mon. Not. R. Astr. Soc.*, 425, 2519-2529 (2012).
178. S. Kohler and M. C. Begelman, “Magnetic domination of recollimation boundary layers in relativistic jets,” *Mon. Not. R. Astr. Soc.*, 426, 595-600 (2012).
179. K. Nalewajko and M. C. Begelman, “The effect of poloidal velocity shear on the local development of current-driven instabilities,” *Mon. Not. R. Astr. Soc.*, 427, 2480-2486 (2012).
180. A. Levinson and M. C. Begelman, “Collimation and confinement of magnetic jets by external media,” *Astrophys. J.*, 764, 148 (9pp) (2013).
181. M. Sikora and M. C. Begelman, “Magnetic flux paradigm for radio loudness of active galactic nuclei,” *Astrophys. J. Lett.*, 764, L24 (5pp) (2013).
182. D. Lazzati, B. J. Morsony, R. Margutti and M. C. Begelman, “Photospheric emission as the dominant radiation mechanism in long-duration gamma-ray bursts,” *Astrophys. J.*, 765, 103 (7pp) (2013).
183. D. López-Cámara, B. J. Morsony, M. C. Begelman and D. Lazzati, “Three-dimensional AMR simulations of long-duration gamma-ray burst jets inside massive progenitor stars,” *Astrophys. J.*, 767, 19 (11pp) (2013).
184. B. Cerutti, G. R. Werner, D. A. Uzdensky and M. C. Begelman, “Simulations of Particle Acceleration beyond the Classical Synchrotron Burnoff Limit in Magnetic Reconnection: An Explanation of the Crab Flares,” *Astrophys. J.*, 770, 147 (15pp) (2013).
185. G. Salvesen, J. M. Miller, R. C. Reis and M. C. Begelman, “Spectral hardening as a viable alternative to disc truncation in black hole state transitions,” *Mon. Not. R. Astr. Soc.*, 431, 3510-3532 (2013).
186. M. Cara, E. S. Perlman, Y. Uchiyama, C. C. Cheung, P. S. Coppi, M. Georganopoulos, D. M. Worrall, M. Birkinshaw, W. B. Sparks, H. L. Marshall, L. Stawarz, M. C. Begelman, C. P. O’Dea and S. A. Baum, “Polarimetry and the high-energy emission mechanisms in quasar jets. The case of PKS 1136-135,” *Astrophys. J.*, 773, 186 (13pp) (2013).
187. P. L. Bender, M. C. Begelman and J. R. Gair, “Possible LISA follow-on mission scientific objectives,” *Classical and Quantum Grav.*, 30 165017 (8pp) (2013).
188. J.-H. Choi, I. Shlosman and M. C. Begelman, “Supermassive black hole formation at high redshifts via direct collapse: Physical processes in the early stage,” *Astrophys. J.*, 774, 149 (18pp) (2013).
189. G. Migliori, A. Siemiginowska, B. C. Kelly, L. Stawarz, A. Celotti and M. C. Begelman, “Jet emission in young radio sources: A Fermi Large Area Telescope gamma-ray view,” *Astrophys. J.*, 780, 165 (18pp) (2014).
190. E. R. Coughlin and M. C. Begelman, “Hyperaccretion during tidal disruption events: Weakly bound

- debris envelopes and jets,” *Astrophys. J.*, 781, 82, (17pp) (2014).
191. B. Cerutti, G. R. Werner, D. A. Uzdensky and M. C. Begelman, “Three-dimensional relativistic pair plasma reconnection with radiative feedback in the Crab Nebula,” *Astrophys. J.*, 782, 104 (15pp) (2014).
 192. M. C. Begelman and P. J. Armitage, “A mechanism for hysteresis in black hole binary state transitions,” *Astrophys. J. Lett.*, 782, L18 (4pp) (2014).
 193. G. Salvesen, K. Beckwith, J. B. Simon, S. M. O’Neill and M. C. Begelman, “Quantifying energetics and dissipation in magnetohydrodynamic turbulence,” *Mon. Not. R. Astr. Soc.*, 438, 1355-1376 (2014).
 194. S.-L. Li and M. C. Begelman, “Thermal stability of a thin disk with magnetically driven winds,” *Astrophys. J.*, 786, 6 (9pp) (2014).
 195. B. Cerutti, G. R. Werner, D. A. Uzdensky and M. C. Begelman, “Gamma-ray flares in the Crab Nebula: A case of relativistic Reconnection?” *Physics of Plasmas*, 21 056501 (7pp) (2014).
 196. K. Nalewajko, M. C. Begelman and M. Sikora, “Constraining the location of gamma-ray flares in luminous blazars,” *Astrophys. J.*, 789, 161 (20pp) (2014).
 197. L. Stawarz, A. Szostek, C. C. Cheung, A. Siemiginowska, D. Koziel-Wierzbowska, N. Werner, A. Simionescu, G. Madejski, M. C. Begelman, D. E. Harris, M. Ostrowski and K. Hagino, “On the interaction of the PKS B1358-113 radio galaxy with the A1836 cluster,” *Astrophys. J.*, 164 (16pp) (2014).
 198. K. Nalewajko, M. Sikora and M. C. Begelman, “Reconciling models of luminous blazars with magnetic fluxes determined by radio core-shift measurements,” *Astrophys. J. Lett.*, 796, L5 (5pp) (2014).
 199. E. R. Coughlin and M. C. Begelman, “The general relativistic equations of radiation hydrodynamics in the viscous limit,” *Astrophys. J.*, 797, 103 (13pp) (2014).
 200. S. Kohler and M. C. Begelman, “Entropy production in relativistic jet boundary layers,” *Mon. Not. R. Astr. Soc.*, 446, 1195-1202 (2015).
 201. J.-H. Choi, I. Shlosman and M. C. Begelman, “Supermassive black hole formation at high redshifts via direct collapse in a cosmological context,” *Mon. Not. R. Astr. Soc.*, 450, 4411-4423 (2015).
 202. E. R. Coughlin and M. C. Begelman, “Viscous boundary layers of radiation-dominated, relativistic jets. I. The two-stream model,” *Astrophys. J.*, 809, 1 (9 pp) (2015).
 203. E. R. Coughlin and M. C. Begelman, “Viscous boundary layers of radiation-dominated, relativistic jets. II. The free-streaming jet model,” *Astrophys. J.*, 809, 2 (10 pp) (2015).
 204. M. C. Begelman, P. J. Armitage and C. S. Reynolds, “Accretion disk dynamo as the trigger for X-ray binary state transitions,” *Astrophys. J.*, 809, 118 (10 pp) (2015).
 205. K. Nalewajko, D. A. Uzdensky, B. Cerutti, G. R. Werner and M. C. Begelman, “On the distribution of particle acceleration sites in plasmoid-dominated relativistic magnetic reconnection,” *Astrophys. J.*, 815, 101 (13 pp) (2015).
 206. G. R. Werner, D. A. Uzdensky, B. Cerutti, K. Nalewajko and M. C. Begelman, “The extent of power-law energy spectra in collisionless relativistic magnetic reconnection in pair plasmas,”

- Astrophys. J. Lett., 816, L8 (5 pp) (2016).
207. E. R. Coughlin, C. Nixon, M. C. Begelman, P. J. Armitage and D. J. Price, “Post-periapsis pancakes: sustenance for self-gravity in tidal disruption events,” *Mon. Not. R. Astr. Soc.*, 455, 3612-3627 (2016).
 208. I. Shlosman, J.-H. Choi, M. C. Begelman and K. Nagamine, “Supermassive black hole seed formation at high redshifts: long-term evolution of the direct collapse,” *Mon. Not. R. Astr. Soc.*, 456, 500-511 (2016).
 209. G. Salvesen, J. B. Simon, P. J. Armitage and M. C. Begelman, “Accretion disc dynamo activity in local simulations spanning weak-to-strong net vertical magnetic flux regimes,” *Mon. Not. R. Astr. Soc.*, 457, 857-874 (2016).
 210. M. Sikora, M. Rutkowski and M. C. Begelman, “A spine-sheath model for strong-line blazars,” *Mon. Not. R. Astr. Soc.*, 457, 1352-1358 (2016).
 211. E. R. Coughlin and M. C. Begelman, “The radiation hydrodynamics of relativistic shear flows,” *Astrophys. J.*, 825, 21 (12 pp) (2016).
 212. E. R. Coughlin, C. Nixon, M. C. Begelman and P. J. Armitage, “On the structure of tidally disrupted stellar debris streams,” *Mon. Not. R. Astr. Soc.*, 459, 3089-3103 (2016).
 213. G. Salvesen, P. J. Armitage, J. B. Simon and M. C. Begelman, “Strongly magnetized accretion discs require poloidal flux,” *Mon. Not. R. Astr. Soc.*, 460, 3488-3493 (2016).
 214. C. W. Danforth, J. T. Stocke, K. France, M. C. Begelman and E. Perlman “Far-UV emission properties of FR I radio galaxies,” *Astrophys. J.*, 832, 76 (15 pp) (2016).
 215. E. Kalemci, M. C. Begelman, T. J. Maccarone, T. Dinçer, T. D. Russell, C. Bailyn and J. A. Tomsick, “Wind, jet, hybrid corona and hard X-ray flares: multiwavelength evolution of GRO J1655-40 during the 2005 outburst rise,” *Mon. Not. R. Astr. Soc.*, 463, 615-627 (2016).
 216. M. C. Begelman and M. Volonteri, “Hyperaccreting black holes in galactic nuclei,” *Mon. Not. R. Astr. Soc.*, 464, 1102-1107 (2017).
 217. M. C. Begelman and J. Silk, “Magnetically elevated accretion discs in active galactic nuclei: broad emission-line regions and associated star formation,” *Mon. Not. R. Astr. Soc.*, 464, 2311-2317 (2017).
 218. E. R. Coughlin, P. J. Armitage, C. Nixon and M. C. Begelman, “Tidal disruption events from supermassive black hole binaries,” *Mon. Not. R. Astr. Soc.*, 465, 3840-3864 (2017).
 219. V. Zhdankin, G. R. Werner, D. A. Uzdensky and M. C. Begelman, “Kinetic turbulence in relativistic plasma: from thermal bath to non-thermal continuum,” *Phys. Rev. Lett.*, 118, id.055103 (6 pp) (2017).
 220. U. Das, M. C. Begelman and G. Lesur, “Instability in strongly magnetized accretion discs: a global perspective,” *Mon. Not. R. Astr. Soc.*, 473, 2791-2812 (2018).
 221. G. R. Werner, D. A. Uzdensky, M. C. Begelman, B. Cerutti and K. Nalewajko, “Nonthermal particle acceleration in collisionless relativistic electron-proton reconnection,” *Mon. Not. R. Astr. Soc.*, 473, 4840-4861 (2018).
 222. V. Zhdankin, D. A. Uzdensky, G. R. Werner and M. C. Begelman, “Numerical investigation of

- kinetic turbulence in relativistic pair plasmas - I. Turbulence statistics,” *Mon. Not. R. Astr. Soc.*, 474, 2514-2535 (2018).
223. Y. Luo, K. Ardaneh, I. Shlosman, K. Nagamine, J. H. Wise and M. C. Begelman, “Direct collapse to supermassive black hole seeds with radiative transfer: isolated halos,” *Mon. Not. R. Astr. Soc.*, 476, 3523-3539 (2018).
224. K. Ardaneh, Y. Luo, I. Shlosman, K. Nagamine, J. H. Wise and M. C. Begelman, “Direct collapse to supermassive black hole seeds with radiation transfer: cosmological haloes,” *Mon. Not. R. Astr. Soc.*, 479, 2277-2293 (2018).
225. V. Zhdankin, D. A. Uzdensky, G. R. Werner and M. C. Begelman, “System-size convergence of nonthermal particle acceleration in relativistic plasma turbulence,” *Astrophys. J. Lett.*, 867, L18 (5 pp) (2018).
226. U. Das and M. C. Begelman, “Internal instabilities in magnetized jets,” *Mon. Not. R. Astr. Soc.*, 482, 2107-2131 (2019).
227. J. Dexter and M. C. Begelman, “Extreme AGN variability: evidence of magnetically elevated accretion?” *Mon. Not. R. Astr. Soc.*, 483, L17-L21 (2019).
228. V. Zhdankin, D. A. Uzdensky, G. R. Werner and M. C. Begelman, “Electron and ion energization in relativistic plasma turbulence,” *Phys. Rev. Lett.*, 122, id.055101 (6 pp) (2019).
229. B. Mishra, M. C. Begelman, P. J. Armitage and J. B. Simon, “Strongly magnetized accretion discs: structure and accretion from global magnetohydrodynamic simulations,” *Mon. Not. R. Astr. Soc.*, 492, 1855-1868 (2020).
230. V. Zhdankin, D. A. Uzdensky, G. R. Werner and M. C. Begelman, “Kinetic turbulence in shining pair plasma: intermittent beaming and thermalization by radiative cooling,” *Mon. Not. R. Astr. Soc.*, 493, 603-626 (2020).
231. K. Wong, V. Zhdankin, D. A. Uzdensky, G. R. Werner and M. C. Begelman, “First-principles demonstration of diffusive particle acceleration in kinetic simulations of relativistic plasma turbulence,” *Astrophys. J. Lett.*, 893, L7 (6pp) (2020).
232. J. M. Mehlhaff, G. R. Werner, D. A. Uzdensky and M. C. Begelman, “Kinetic beaming in radiative relativistic magnetic reconnection: a mechanism for rapid gamma-ray flares in jets,” *Mon. Not. R. Astr. Soc.*, 498, 799-820 (2020).
233. E. R. Coughlin and M. C. Begelman, “Structured, relativistic jets driven by radiation,” *Mon. Not. R. Astr. Soc.*, 499, 3158-3177 (2020).
234. N. Scepi, M. C. Begelman and J. Dexter, “QPOs in compact binaries from small-scale eruptions in an inner magnetized disc,” *Mon. Not. R. Astr. Soc.*, 500, 1547-1556 (2021).
235. N. Scepi, M. C. Begelman and J. Dexter, “Magnetic flux inversion in a peculiar changing look AGN,” *Mon. Not. R. Astr. Soc. Lett.*, 502, L50-L54 (2021).
236. J. Dexter, N. Scepi and M. C. Begelman, “Radiation GRMHD simulations of the hard state of black hole X-ray binaries and the collapse of a hot accretion flow,” *Astrophys. J. Lett.*, 919, L20 (7 pp) (2021).
237. J. M. Mehlhaff, G. R. Werner, D. A. Uzdensky and M. C. Begelman, “Pair-regulated Klein-Nishina

- relativistic magnetic reconnection with applications to blazars and accreting black holes,” *Mon. Not. R. Astr. Soc.*, 508, 4532–4572 (2021).
238. A. M. Hankla, V. Zhdankin, G. R. Werner, D. A. Uzdensky and M. C. Begelman, “Kinetic simulations of imbalanced turbulence in a relativistic plasma: Net flow and particle acceleration,” *Mon. Not. R. Astr. Soc.*, 509, 3826–3841 (2022).
239. M. C. Begelman, N. Scepi and J. Dexter, “What really makes an accretion disc MAD,” *Mon. Not. R. Astr. Soc.*, 511, 2040–2051 (2022).
240. N. Scepi, J. Dexter and M. C. Begelman, “Sgr A* X-ray flares from non-thermal particle acceleration in a magnetically arrested disc,” *Mon. Not. R. Astr. Soc.*, 511, 3536–3547 (2022).
241. D. Ł. Król, Ł. Stawarz, M. C. Begelman, J. M. Martí, M. Perucho and B. A. Petrenko, “Magnetization of relativistic current-carrying jets with radial velocity shear, *Astrophys. J.*, 929, 181 (9 pp) (2022).
242. S. Laha, E. Meyer, A. Roychowdhury, J. G. Becerra, J. A. Acosta-Pulido, A. Thapa, R. Ghosh, E. Behar, L. C. Gallo, G. A. Kriss, F. Panessa, S. Bianchi, F. La Franca, N. Scepi, M. C. Begelman, A. L. Longinotti, E. Lusso, S. Oates, M. Nicholl and S. B. Cenko, “A radio, optical, UV and X-ray view of the enigmatic changing look Active Galactic Nucleus 1ES 1927+654 from its pre- to post-flare states,” *Astrophys. J.*, 931, 5 (21 pp) (2022).
243. J. Ortuño-Macías, K. Nalewajko, D. A. Uzdensky, M. C. Begelman, G. R. Werner, A. Y. Chen and B. Mishra, “Kinetic simulations of instabilities and particle acceleration in cylindrical magnetized relativistic jets,” *Astrophys. J.*, 931, 137, (22 pp) (2022).
244. F. Bacchini, L. Arzamasskiy, V. Zhdankin, G. R. Werner, M. C. Begelman and D. A. Uzdensky, “Fully kinetic shearing-box simulations of magnetorotational turbulence in 2D and 3D. I. Pair plasmas,” *Astrophys. J.*, 938, 86 (38 pp) (2022).
245. M. C. Begelman and P. Armitage, “Saturation of the magnetorotational instability and the origin of magnetically elevated accretion discs,” *Mon. Not. R. Astr. Soc.*, 521, 5952–5959 (2023).
246. E. Lopez-Rodriguez, M. Kishimoto, R. Antonucci, M. C. Begelman, N. Globus and R. Blandford, “On the origin of radio-loudness in active galactic nuclei using far-infrared polarimetric observations,” *Astrophys. J.*, 951, 31 (19 pp) (2023).
247. R. Ghosh, S. Laha, E. Meyer, A. Roychowdhury, X. Yang, J. A. Acosta-Pulido, S. Rakshit, S. Pandey, J. Becerra González, E. Behar, L. C. Gallo, F. Panessa, S. Bianchi, F. La Franca, N. Scepi, M. C. Begelman, A. L. Longinotti, E. Lusso, S. Oates, M. Nicholl, S. B. Cenko, B. O’Connor, E. Hammerstein, J. Jose, K. É. Gabányi, F. Ricci and S. Chattopadhyay, “A reemerging bright soft X-ray state of the changing-look Active Galactic Nucleus 1ES1927+654: A multiwavelength view,” *Astrophys. J.*, 955, 3 (19 pp) (2023).
248. M. C. Begelman and J. Silk, “Magnetic fields catalyse massive black hole formation and growth,” *Mon. Not. R. Astr. Soc. Lett.*, 526, L94–L99 (2023).
- N. Scepi, M. C. Begelman and J. Dexter, “Magnetic support, wind-driven accretion, coronal heating, and fast outflows in a thin magnetically arrested disc,” *Mon. Not. R. Astr. Soc.*, 527, 1424–1443 (2024).
249. A. C. S. Readhead, V. Ravi, R. D. Blandford, A. G. Sullivan, J. Somalwar, M. C. Begelman, M. Birkinshaw, I. Liodakis, M. L. Lister, T. J. Pearson, G. B. Taylor, P. N. Wilkinson, N. Globus, S.

Mitchell Craig Begelman

- Kiehlmann, C. R. Lawrence, D. Murphy, S. O'Neill, V. Pavlidou, E. Sheldahl, A. Siemiginowska and K. Tassis, "Compact Symmetric Objects. III. Evolution of the high-luminosity branch and a possible connection with tidal disruption events," *Astrophys. J.*, 961, 242 (33 pp) (2024).
250. J. Silk, M. C. Begelman, C. Norman, A. Nusser and R. F. G. Wyse, "Which came first: Supermassive black holes or galaxies? Insights from JWST," *Astrophys. J. Lett.*, 961, L39 (8 pp) (2024).
251. J. Mehlhaff, G. Werner, B. Cerutti, D. Uzdensky and M. Begelman, "Kinetic simulations and gamma-ray signatures of Klein-Nishina relativistic magnetic reconnection," *Mon. Not. R. Astr. Soc.*, 527, 11587-11626 (2024).
252. J. Dexter and M. C. Begelman, "A relativistic outflow model of the X-ray polarization in Cyg X-1," *Mon. Not. R. Astr. Soc. Lett.*, 528, L157-L160 (2024).
253. A. G. Sullivan, R. D. Blandford, M. C. Begelman, M. Birkinshaw and A. C. S. Readhead, "Small-scale radio jets and tidal disruption events: A theory of high-luminosity compact symmetric objects," *Mon. Not. R. Astr. Soc.*, 528, 6302-6311 (2024).
254. F. Bacchini, V. Zhdankin, E. A. Gorbunov, G. R. Werner, L. Arzamasskiy, M. C. Begelman and D. A. Uzdensky, "Collisionless magnetorotational turbulence in pair plasmas: Steady-state dynamics, particle acceleration, and radiative cooling," *Phys. Rev. Lett.*, under review. Eprint: arXiv:2401.01399.
255. M. C. Begelman, "A simple model of globally magnetized accretion discs," *Mon. Not. R. Astr. Soc.*, under review. Eprint: arXiv:2402.15657.
256. E. R. Coughlin and M. C. Begelman, "Quasi-stars as a means of rapid black hole growth in the early universe," *Astrophys. J.*, under review. Eprint: arXiv:2402.15657.

Papers in Proceedings Volumes (asterisk denotes Invited Review)

- *1. M. J. Rees, M. C. Begelman and R. D. Blandford, "Relativistic jet production and propagation in active galaxies," in *Proceedings, Tenth Texas Symposium on Relativistic Astrophysics*, R. Ramaty and F. C. Jones (eds.), pp. 254-286, Ann. N.Y. Acad. Sci., Vol. 375, 1981.
2. M. C. Begelman, "Viscous dissipation in jets," in *Extragalactic Radio Sources*, IAU Symposium 97, D. S. Heeschen and C. M. Wade (eds.), pp. 223-225 (Reidel, Dordrecht, 1982).
3. M. C. Begelman and M. J. Rees, "Supercritical jets from a 'cauldron'," in *Astrophysical Jets*, A. Ferrari and A. G. Pacholczyk (eds.), pp. 215-226 (Reidel, Dordrecht, 1983).
4. M. C. Begelman, "A nuclear regula-tori model for quasars and Seyferts," in *VLBI and Compact Radio Sources*, IAU Symposium 110, R. Fanti, K. Kellermann and G. Setti (eds.), pp. 227-228 (Reidel, Dordrecht, 1984).
- *5. M. C. Begelman, "Accretion disks in active galactic nuclei," in *Astrophysics of Active Galaxies and Quasi-Stellar Objects*, J. S. Miller (ed.), pp. 411-452 (University Science Books, Mill Valley, CA, 1985).
- *6. M. C. Begelman, "Toward a unified theory of active galactic nuclei," in *Proceedings, Twelfth Texas Symposium on Relativistic Astrophysics*, M. Livio and G. Shaviv (eds.), pp. 51-70, Ann. N.Y. Acad. Sci., vol. 470, 1986.

- *7. M. C. Begelman, "Accretion flows onto supermassive black holes," in Supermassive Black Holes, M. Kafatos (ed.), pp. 259-268 (Cambridge Univ. Press, 1988).
- 8. M. Sikora and M. C. Begelman, "Polarization by scattering off relativistic jets. Application to blazars," in Supermassive Black Holes, M. Kafatos (ed.), pp. 63-65 (Cambridge Univ. Press, 1988).
- 9. I. Shlosman and M. C. Begelman, "Effects of self-gravity in AGNs," in Active Galactic Nuclei, Proceedings of a Conference Held at the Georgia State University, Atlanta, Georgia, October 28-30, 1987, H. R. Miller and P. J. Wiita (eds.), pp. 233-235 (Springer-Verlag, 1988).
- *10. M. C. Begelman, "Theory of AGN continuum radiation," in Active Galactic Nuclei, Proceedings of a Conference Held at the Georgia State University, Atlanta, Georgia, October 28-30, 1987, H. R. Miller and P. J. Wiita (eds.), pp. 202-216 (Springer-Verlag, 1988).
- *11. M. C. Begelman, "The effects of x-rays from active galactic nuclei on the interstellar medium of the surrounding galaxy," in Origin, Structure and Evolution of Galaxies, L. Z. Fang (ed.), pp. 227-251 (World Scientific, 1988).
- 12. M. Sikora, B. Rudak and M. C. Begelman, "Relativistic neutrons in active galactic nuclei," in Active Galactic Nuclei, IAU Symposium 134, D. E. Osterbrock and J. S. Miller (eds.), pp. 215-216 (Kluwer Academic Publishers, 1989).
- 13. I. Shlosman, J. Frank and M. C. Begelman, "Bar instabilities and nuclear activity in disk galaxies," in Active Galactic Nuclei, IAU Symposium 134, D. E. Osterbrock and J. S. Miller (eds.), pp. 462-464 (Kluwer Academic Publishers, 1989).
- *14. M. C. Begelman, "Physics of the central engine," in Active Galactic Nuclei, IAU Symposium 134, D. E. Osterbrock and J. S. Miller (eds.), pp. 141-153 (Kluwer Academic Publishers, 1989).
- 15. M. Sikora, M. Zbyszewska and M. C. Begelman, "Collimation and polarization of radiation through scattering by jets," in BL Lac Objects, Lecture Notes in Physics, Vol. 334, L. Maraschi, T. Maccacaro, and M.-H. Ulrich (eds.), pp. 381-387 (Springer-Verlag, 1989).
- *16. M. C. Begelman, "Magnetic fields in the central engines of active galactic nuclei," in Accretion Disks and Magnetic Fields in Astrophysics, G. Belvedere (ed.), pp. 255-265 (Kluwer Academic Publishers, 1989).
- *17. J. Frank, I. Shlosman and M. C. Begelman, "Large-scale accretion flows in AGN," in Theory of Accretion Disks, Proc., NATO Advanced Research Workshop, Garching, W. Germany, March 1989, F. Meyer, W. Duschl, J. Frank, and E. Meyer-Hofmeister (eds.), pp. 387-395 (Kluwer Academic Publishers, 1989).
- *18. M. C. Begelman, J. Frank and I. Shlosman, "Accretion disks and the link between an AGN and its host galaxy," in Theory of Accretion Disks, Proc., NATO Advanced Research Workshop, Garching, W. Germany, March 1989, F. Meyer, W. Duschl, J. Frank, and E. Meyer-Hofmeister (eds.), pp. 373-386 (Kluwer Academic Publishers, 1989).
- 19. I. Shlosman, J. Frank and M. C. Begelman, "The fuelling of active galactic nuclei by non-axisymmetric instabilities," in Dynamics of Astrophysical Discs, J. A. Sellwood (ed.), pp. 99-100 (Cambridge University Press, 1990).

Mitchell Craig Begelman

- *20. M. C. Begelman, "Thermal phases of the interstellar medium in galaxies," in The Interstellar Medium in External Galaxies, H. A. Thronson, Jr. and J. M. Shull (eds.), pp. 287-304 (Kluwer Academic Publishers, 1990).
- *21. M. C. Begelman and M. de Kool, "Constraints on central engine models from rapid X-ray variability," in Variability of Active Galactic Nuclei, H. R. Miller and P. J. Wiita (eds.), pp. 198-212 (Cambridge University Press, 1991).
- *22. M. C. Begelman and M. de Kool, "Accretion disk models of active galactic nuclei: A crucial role for reprocessing?" in Structure and Emission Properties of Accretion Disks, IAU Colloq. 129, C. Bertout, S. Collin-Souffrin, J.-P. Lasota, and J. Tran Thanh Van (eds.), pp. 143-152 (Gif sur Yvette: Editions Frontières 1991).
- *23. M. C. Begelman and J. H. Krolik, "High resolution imaging of compact phenomena," in Workshop Proceedings: Science Objectives and Architectures for Optical Interferometry in Space, Astrotech 21 Workshops Series 1, pp. 15-18 (JPL D-8540, Vol. 1, May 15, 1991).
- *24. M. C. Begelman, "Relativistic hadrons near accreting compact objects: Dynamical and radiative signatures," in Relativistic Hadrons in Cosmic Compact Objects, A. Zdziarski and M. Sikora (eds.), pp. 1-14 (Heidelberg: Springer, 1991).
- *25. M. de Kool, M. C. Begelman, and M. Sikora, "Can ultrarelativistic neutrons from the central engine drive the outflow in broad absorption line QSO's?" in Relativistic Hadrons in Cosmic Compact Objects, A. Zdziarski and M. Sikora (eds.), pp. 15-21 (Heidelberg: Springer, 1991).
- 26. M. Czerny, M. Sikora, and M. C. Begelman, "Inflation of stars by TeV neutrinos," in Relativistic Hadrons in Cosmic Compact Objects, A. Zdziarski and M. Sikora (eds.), pp. 23-25 (Heidelberg: Springer, 1991).
- 27. T. Chiueh, Z. Li, and M. C. Begelman, "Collimated relativistic winds driven by electromagnetic forces," in Relativistic Hadrons in Cosmic Compact Objects, A. Zdziarski and M. Sikora (eds.), pp. 135-139 (Heidelberg: Springer, 1991).
- 28. Z. Li, M. C. Begelman, and T. Chiueh, "Ultra-relativistic pulsar wind," in Relativistic Hadrons in Cosmic Compact Objects, A. Zdziarski and M. Sikora (eds.), pp. 141-144 (Heidelberg: Springer, 1991).
- 29. M. C. Begelman and M. Sikora, "Observational constraints on stellar wind models of broad emission lines in AGNs," in Testing the AGN Paradigm, S. S. Holt, S. Neff and C. M. Urry (eds.), pp. 568-571 (New York: Am. Inst. Phys., 1992).
- 30. M. Sikora and M. C. Begelman, "Neutrinos from hadronic cascades in active galactic nuclei," in High Energy Neutrino Astrophysics, V. J. Stenger et al. (eds.), pp. 114-129 (Singapore: World Scientific, 1992).
- 31. M. Sikora, M. C. Begelman, and M. J. Rees, "Comptonization of external radiation in blazars," in Compton Gamma-Ray Observatory, M. Friedlander, N. Gehrels and D. J. Macomb (eds.), pp. 598-602 (New York: Am. Inst. Phys., 1993).
- *32. M. C. Begelman, "Velocity and confinement of large-scale jets," in Jets in Extragalactic Radio Sources, H.-J. Röser and K. Meisenheimer (eds.), pp. 145-156 (Berlin: Springer-Verlag, 1993).

- *33. M. C. Begelman, "Conference summary," in Astrophysical Jets, Space Telescope Symp. 6, D. Burgarella, M. Livio and C. P. O'Dea (eds.), pp. 305-315 (Cambridge: Cambridge Univ. Press, 1993).
- *34. M. C. Begelman, "Energy input from AGNs," in The Environment and Evolution of Galaxies, J. M. Shull and H. A. Thronson, Jr. (eds.), pp. 369-382 (Dordrecht: Kluwer, 1993).
- *35. M. C. Begelman, "Magnetic propulsion of jets in AGNs," in The Nature of Compact Objects in Active Galactic Nuclei, A. Robinson and R. J. Terlevich (eds.), pp. 361-367 (Cambridge: Cambridge Univ. Press, 1994).
- *36. M. C. Begelman, "Thermal and nonthermal processes in active galactic nuclei," in The Physics of Active Galaxies: The First Stromlo Symposium, G. V. Bicknell, M. A. Dopita and P. J. Quinn (eds.), pp. 51-60 (San Francisco: Astron. Soc. Pacific Conf. Series Vol. 54, 1994).
- 37. G. M. Madejski, C. Done, T. J. Turner, R. F. Mushotzky, P. Serlemitsos, F. Fiore, M. Sikora and M. C. Begelman, "Solving the mystery of the periodicity in the Seyfert galaxy NGC 6814," in Multi-Wavelength Continuum Emission of AGN, IAU Symp. 159, T. J.-L. Courvoisier and A. Blecha (eds.), pp. 127-130 (Dordrecht: Kluwer, 1994).
- *38. M. C. Begelman, "Angular momentum transfer in the inner parsec," in Mass-Transfer Induced Activity in Galaxies, I. Shlosman (ed.), pp. 23-29 (Cambridge: Cambridge Univ. Press, 1994).
- 39. M. J. Rees, P. Mészáros and M. C. Begelman, "Why 'galactic' gamma-ray bursts might depend on environment: Blast waves around neutron stars," in Gamma-Ray Bursts, G. J. Fishman, J. J. Brainerd and K. Hurley (eds.), pp. 605-609 (New York: Am. Inst. Phys. Conf. Proc. 307, 1994).
- 40. G. Madejski, C. Done, T. J. Turner, R. F. Mushotzky, P. Serlemitsos, F. Fiore, M. Sikora and M. C. Begelman, "Solving the mystery of the periodicity in the Seyfert galaxy NGC 6814," in The Soft X-ray Cosmos, ROSAT Science Symp, AIP Vol. 313, E. M. Schlegel and R. Petre, (eds.), pp. 59-63 (New York, 1994).
- *41. M. C. Begelman, "Cosmic-ray heating of the interstellar gas," in The Physics of the Interstellar Medium and the Intergalactic Medium, A. Ferrara, C. Heiles, C. F. McKee and P. Shapiro (eds.), pp. 545-552 (San Francisco: Astron. Soc. Pacific Conf. Series Vol. 80, 1995).
- *42. M. C. Begelman, "Baby Cygnus A's" in Cygnus A - Study of a Radio Galaxy, C. Carilli and D. Harris, (eds.), pp. 209-214 (Cambridge: Cambridge Univ. Press, 1996).
- 43. M. Sikora, H. Sol, M. C. Begelman and G. Madejski, "Propagation of relativistic jets through dense radiation fields in AGN," in Proceedings, 3rd Compton Symp., Astron. Astrophys. Suppl. Ser., Vol. 120, pp. C579-C582, 1996.
- *44. G. V. Bicknell and M. C. Begelman, "The physics of the M87 jet and its interaction with the interstellar medium," in Energy Transport in Radio Galaxies and Quasars, P. E. Hardee, A. H. Bridle, and J. A. Zensus (eds.), pp. 199-208 (San Francisco: Astron. Soc. Pacific Conf. Series Vol. 100, 1996).
- 45. M. C. Begelman and G. V. Bicknell, "Physics of the M87 jet," in Extragalactic Radio Sources, IAU Symp. 175, R. Ekers, C. Fanti, and L. Padrielli (eds.), pp. 441-442 (Dordrecht: Kluwer, 1996).
- *46. P. R. Maloney and M. C. Begelman, "Radiation-driven warping: The origin of warps and precession in accretion disks," in Accretion Phenomena and Related Outflows, IAU Colloq. 163, D.

- Wickramasinghe, L. Ferrario and G. Bicknell (eds.), pp. 311-320 (San Francisco: Astron. Soc. Pacific Conf. Series Vol. 121, 1997).
47. J. Wilms, J. Dove, R. Staubert, and M. C. Begelman, "Properties of accretion disk coronae," in The Transparent Universe, C. Winkler, T. J.-L. Courvoisier, and P. Durouchoux (eds.), pp. 233-236 (Noordwijk: ESA Publications Div., ESA SP-382, 1997).
 - *48. M. C. Begelman, "Conference summary," in Proceedings, Workshop on NGC 1068, Astrophys. and Space Sci., 248, pp. 1-8 (1997).
 - *49. M. Sikora, G. M. Madejski, and M. C. Begelman, "Variability, power, and pair content of AGN jets," in Relativistic Jets in AGNs, M. Ostrowski, M. Sikora, G. Madejski and M. Begelman (eds.), pp. 287-293 (Astronomical Observatory of the Jagiellonian University, Cracow, 1997).
 50. M. Blazejowski, R. Moderski, H. Kubo, T. Takahashi, M. Tashiro, G. M. Madejski, M. Sikora, M. C. Begelman and P. Magdziarz, "Multifrequency spectra of 5 OVV quasars," in Relativistic Jets in AGNs, M. Ostrowski, M. Sikora, G. Madejski and M. Begelman (eds.), pp. 233-237 (Astronomical Observatory of the Jagiellonian University, Cracow, 1997).
 - *51. M. C. Begelman, "Black holes, jets, and accretion disks," in Proceedings of the 18th Texas Symposium on Relativistic Astrophysics, A. Olinto, J. Frieman and D. Schramm (eds.), pp. 167-175 (Singapore: World Scientific, 1998).
 52. R. V. Wagoner, D. E. Lehr, A. S. Silbergleit, M. A. Nowak and M. C. Begelman, "Relativistic diskoseismology: Search for a definitive black hole signature," in Proceedings of the 18th Texas Symposium on Relativistic Astrophysics, A. Olinto, J. Frieman and D. Schramm (eds.), pp. 758-760 (Singapore: World Scientific, 1998).
 53. J. B. Dove, J. Wilms, M. A. Nowak, B. A. Vaughan and M. C. Begelman, "RXTE observations of Cygnus X-1: spectral analysis," in The Active X-Ray Sky: Results from Beppo-SAX and Rossi-XTE, L. Scarsi, H. Bradt, P. Giommi and F. Fiore (eds.), pp. 308-311 (Nuclear Phys. B Proceedings Supplements, Vol. 69, 1998).
 54. M. A. Nowak, J. B. Dove, B. A. Vaughan, J. Wilms and M. C. Begelman, "The physical interpretation of X-ray phase lags and coherence: RXTE observations of Cygnus X-1 as a case study," in The Active X-Ray Sky: Results from Beppo-SAX and Rossi-XTE, L. Scarsi, H. Bradt, P. Giommi and F. Fiore (eds.), pp. 302-307 (Nuclear Phys. B Proceedings Supplements, Vol. 69, 1998).
 55. K. Pottschmidt, J. Wilms, M. A. Nowak, J. B. Dove, M. C. Begelman, R. Staubert, "RXTE observations of Cygnus X-1: Broad-band spectra and high-resolution timing," in Highlights in X-ray Astronomy, B. Aschenbach and M. J. Freyberg (eds.), pp. 41-44 (MPE Report 272, 1998).
 56. J. Wilms, J. B. Dove, M. A. Nowak and M. C. Begelman, "Accretion disk coronae," in Highlights in X-ray Astronomy, B. Aschenbach and M. J. Freyberg (eds.), pp. 94-97 (MPE Report 272, 1998).
 57. J. Wilms, M. A. Nowak, J. B. Dove, K. Pottschmidt, W. A. Heindl, M. C. Begelman, R. Staubert, "RXTE observations of LMC X-1 and LMC X-3," in Highlights in X-ray Astronomy, B. Aschenbach and M. J. Freyberg (eds.), pp. 98-101 (MPE Report 272, 1998).

- *58. M. C. Begelman, "Accretion onto black holes: An overview," in High Energy Processes in Accreting Black Holes, J. Poutanen and R. Svensson (eds.), pp. 3-15 (San Francisco: Astron. Soc. Pacific Conf. Series Vol. 161, 1999).
- *59. M. C. Begelman, "Young radio galaxies and their environments," in The Most Distant Radio Galaxies, H. J. A. Röttgering, P. N. Best and M. D. Lehnert (eds.), pp. 173-183 (Amsterdam: Royal Netherlands Academy of Arts and Sciences, 1999).
- *60. S. Heinz and M. C. Begelman, "The synchrotron emission from the M87 jet," in The Radio Galaxy M87: Proceedings of a workshop held at Schloss Ringberg, Germany, 15-19 September 1997, H.-J. Röser and K. Meisenheimer (eds.) pp. 229-234 (Berlin: Springer-Verlag, 1999).
- *61. G. V. Bicknell and M. C. Begelman, "Theory of the M87 jet," in The Radio Galaxy M87: Proceedings of a workshop held at Schloss Ringberg, Germany, 15-19 September 1997, H.-J. Röser and K. Meisenheimer (eds.) pp. 235-245 (Berlin: Springer-Verlag, 1999).
- 62. K. Pottschmidt, J. Wilms, M. A. Nowak, J. B. Dove, M. C. Begelman and R. Staubert, "Temporal properties of Cygnus X-1," in Proceedings of the 3rd Integral Workshop, *Astrophys. Lett. Comm.*, **38**, 257-260 (1999).
- 63. J. Wilms, M. A. Nowak, J. B. Dove, K. Pottschmidt, W. A. Heindl, M. C. Begelman and R. Staubert, "LMC X-1 and LMC X-3 as seen by RXTE," in Proceedings of the 3rd Integral Workshop, *Astrophys. Lett. Comm.* **38**, 273-276 (1999).
- 64. J. Wilms, M. A. Nowak, K. Pottschmidt, W. A. Heindl, J. B. Dove, M. C. Begelman and R. Staubert, "RXTE monitoring of LMC X-3: Recurrent hard states," in Proceedings of the 5th Compton Symposium, M. McConnell and J. Ryan (eds.) *AIP Conf. Proc.* **510**, 119-123 (2000).
- 65. M. C. Begelman and L. Maraschi, "AGN, QSOs, and Jets," in *Nuclear Physics B (Proc. Suppl.)* **80**, 203-206 (2000).
- 66. W. Junor, J. A. Biretta, F. N. Owen, and M. C. Begelman, "Multi-epoch global+VSOP/HALCA observations of Virgo A at 6 cm," in Astrophysical Phenomena Revealed by Space VLBI. Proceedings of the VSOP Symposium, H. Hirabayashi, P. G. Edwards, and D. W. Murphy (eds.) pp. 13-16 (Tokyo: Institute of Space and Astronautical Science, 2000).
- *67. M. C. Begelman, "Overview: Black holes in the universe," in Black Holes in Binaries and Galactic Nuclei: Diagnostics, Demography and Formation, ESO Astrophysics Symposia, L. Kaper, E. P. J. van den Heuvel and P. A. Woudt (eds.) pp. 16-24 (Berlin: Springer-Verlag, 2001).
- 68. J. Wilms, M. A. Nowak, K. Pottschmidt, W. A. Heindl, J. B. Dove, M. C. Begelman and R. Staubert, "RXTE monitoring of LMC X-3," in Black Holes in Binaries and Galactic Nuclei: Diagnostics, Demography and Formation, ESO Astrophysics Symposia, L. Kaper, E. P. J. van den Heuvel and P. A. Woudt (eds.) pp. 131-132 (Berlin: Springer-Verlag, 2001).
- *69. M. C. Begelman, "Are black holes fussy eaters?" in Highlights of Spanish Astrophysics II. Proceedings of the 4th Scientific Meeting of the Spanish Astronomical Society, J. Zamorano, J. Gorgas and J. Gallego (eds.) pp. 177-184 (Dordrecht: Kluwer, 2001).
- *70. M. C. Begelman, "Impact of AGNs on the surrounding medium," in Gas and Galaxy Evolution, J. E. Hibbard, M. P. Rupen and J. H. van Gorkom (eds.) (San Francisco: Astron. Soc. Pacific Conference Series, Vol. 240, 2001) (astro-ph/0207656).

- *71. M. C. Begelman, "MHD mechanisms for jet formation," in Particles and Fields in Radio Galaxies, R. A. Laing and K. M. Blundell (eds.) pp. 1-9 (San Francisco: Astron. Soc. Pacific Conference Series, Vol. 250, 2002).
- *72. M. C. Begelman, "Radio galaxies and energetics of the intracluster medium," in Particles and Fields in Radio Galaxies, R. A. Laing and K. M. Blundell (eds.) pp. 443-448 (San Francisco: Astron. Soc. Pacific Conference Series, Vol. 250, 2002).
- *73. M. C. Begelman, "Everything you always wanted to know about AGN ... but were afraid to ask," in Active Galactic Nuclei: from Central Engine to Host Galaxy, S. Collin, F. Combes, and I. Shlosman (eds.) pp. 23-29 (San Francisco: Astron. Soc. Pacific Conference Series, Vol. 290, 2003).
- 74. R. Blandford and M. C. Begelman, "Active galactic nuclei: from central engine to host galaxy." Panel Discussion in Active Galactic Nuclei: from Central Engine to Host Galaxy, S. Collin, F. Combes, and I. Shlosman (eds.) pp. 629-644 (San Francisco: Astron. Soc. Pacific Conference Series, Vol. 290, 2003).
- 75. J. Wilms, C. S. Reynolds, R. Staubert, E. Kendziorra and M. C. Begelman, "XMM-Newton observations of MCG-6-30-15," Publ. Yunnan Obs. Suppl. 95, 86-90 (2003).
- *76. M. C. Begelman, "AGN feedback mechanisms," in Carnegie Observatories Astrophysics Series, Vol. 1: Coevolution of Black Holes and Galaxies L. C. Ho (ed.) pp. 374-389 (Cambridge: Cambridge Univ. Press, 2004) (astro-ph/030340).
- 77. J. Wilms, C. S. Reynolds, M. C. Begelman, E. Kendziorra, R. Staubert, J. Reeves, and S. Molendi, "The broad Fe K α line in MCG—6-30-15," Memorie della Società Astronomica Italiana, 75, 519-522 (2004).
- 78. D. Proga, A. I. MacFadyen, P. J. Armitage and M. C. Begelman, "MHD simulations of the collapsar model for GRBs," in Gamma-Ray Bursts: 30 Years of Discovery: Gamma-Ray Burst Symposium E. E. Fenimore and M. Galassi (eds.) pp. 384-387 (Melville, NY: American Institute of Physics, 2004).
- 79. L. Stawarz, M. Sikora, M. Ostrowski and M. C. Begelman, "On multiwavelength emission and morphology of large-scale quasar jets," in Proceedings of the Workshop Growing Black Holes: Accretion in a Cosmological Context (astro-ph/0501609).
- 80. P. L. Bender and M. C. Begelman, "Massive black hole formation and growth," in Proceedings, 39th ESLAB Symposium, Trends in Space Science and Cosmic Vision 2020 (European Space Agency, 2005), pp. 33-37.
- 81. D. Lazzati, M. C. Begelman, G. Ghirlanda, G. Ghisellini and C. Firmani, "GRB jets inside and outside the star: precursors and cosmological implications," in Proceedings of the 22nd Texas Symposium on Relativistic Astrophysics and Cosmology (published on CD-ROM) (astro-ph/0503630).
- 82. M. Sikora, G. Madejski, J.-P. Lasota and M. C. Begelman, "Are quasar jets matter or Poynting flux dominated?" in Astrophysical Sources of High Energy Particles and Radiation T. Bulik et al. (eds.) pp. 165-172 (AIP Conf. Proc. Vol. 801, 2005).
- 83. D. Lazzati, G. Ghirlanda, G. Ghisellini, L. Nava, C. Firmani, B. Morsony and M. C. Begelman, "Long Gamma-Ray Bursts as standard candles," in Proceedings, Gamma-Ray Bursts in the Swift Era. S. S. Holt, N. Gehrels, and J. A. Nousek (eds.), AIP Conf. Proc. 836, 513-521 (2006).

- *84. D. Lazzati, B. J. Morsony and M. C. Begelman, “The physics of GRB jets and their interaction with the progenitor star,” in Il Nuovo Cimento B, 1177-1182 (2006) (astro-ph/0612320).
- *85. D. Lazzati, B. J. Morsony and M. C. Begelman, “Gamma-Ray Burst jet dynamics and their interaction with the progenitor star,” in Philosophical Transaction of the Royal Society A **365**, 1141-1149 (2007) (astro-ph/0611192).
- 86. W. Forman, E. Churazov, C. Jones, P. Nulsen, R. Kraft, H. Böhringer, A. Vikhlinin, M. Markevitch, J. Eilek, F. Owen, M. Begelman and S. Heinz, “Outbursts from supermassive black holes: shocks, bubbles, and filaments around M87,” in Heating Versus Cooling in Galaxies and Clusters of Galaxies, ESO Astrophysics Symposia, p. 80-86 (Berlin: Springer-Verlag, 2007).
- *87. M. C. Begelman, “Did supermassive black holes form by direct collapse?” in Proceedings of the Conference First Stars III, B. O’Shea, A. Heger and T. Abel (eds.), pp. 489-493 (AIP Conf. Proc. Vol. 990, 2008) (arXiv:0709.0545).
- 88. D. Lazzati, B. C. Morsony, R. Perna and M. C. Begelman, “X-ray flares and their relation to the inner engine activity,” Gamma-Ray Bursts 2007: Proceedings of the Santa Fe Conference, M. Galassi, D. Palmer and E. Fenimore, (eds), pp. 439-443, (AIP Conf. Proc. Vol. 1000, 2008).
- 89. L. Stawarz, L. Ostorero, M. C. Begelman, R. Moderski, J. Kataoka and S. Wagner, “Gamma-ray emission from young galaxies,” in Extragalactic Jets: Theory and Observation from Radio to Gamma Ray, T. A. Rector and D. S. DeYoung (eds.), pp. 539-548 (ASP Conf. Proc. Vol. 386, 2008).
- 90. L. Ostorero, R. Moderski, L. Stawarz, M. C. Begelman, A. Diaferio, I. Kowalska, J. Kataoka and S. J. Wagner, “Modelling the broad-band spectra of X-ray emission GPS galaxies,” in Proc. of the Fourth Workshop on Compact Steep Spectrum and GHz-Peaked Spectrum Radio Sources, Astronomische Nachrichten **330**, 275-278 (2009).
- 91. M. Cara, E. S. Perlman, Y. Uchiyama, S. Jester, M. Georganopoulos, C. C. Cheung, R. M. Sambruna, W. B. Sparks, A. Martel, C. P. O’Dea, S. A. Baum, D. Azon, M. Begelman, D. M. Worrall, M. Birkinshaw, C. M. Urry, P. Coppi and L. Stawarz, “Polarimetry and the high-energy emission mechanisms in quasar jets,” in The Monster’s Fiery Breath: Feedback in Galaxies, Groups, and Clusters, S. Heinz and E. Wilcots (eds.), pp. 162-165, (AIP Conf. Proc. Vol. 1201, 2009).
- 92. L. Ostorero, R. Moderski, L. Stawarz, M. C. Begelman, A. Diaferio, I. Kowalska, J. Kataoka and S. J. Wagner, “Young radio sources: evolution and broad-band emission,” in AGN Feedback in Galaxy Formation, V. Antonuccio-Delogu and J. Silk (eds.), Cambridge Contemporary Astrophysics Series, 75-81 (Cambridge Univ. Press, 2011).
- 93. D. Lazzati, B. Morsony and M. Begelman, “GRB Jets and Their Interaction with the Progenitor Star,” in Proc. Twelfth Marcel Grossmann Meeting on General Relativity, T. Damour, R. T. Jantzen and R. Ruffini (eds.) p.1613 (Singapore: World Scientific, 2012).
- 94. B. Cerutti, G. R. Werner, D. A. Uzdensky and M. C. Begelman, “Rapid high-energy emission variability in relativistic pair plasma reconnection,” in High Energy Gamma-Ray Astronomy: 5th International Meeting on High Energy Gamma-Ray Astronomy. AIP Conference Proceedings, Vol. 1505, 631-634 (2012).
- 95. M. C. Begelman, “Accreting black holes,” Proc. 26th Solvay Conference on Physics: “Astrophysics and Cosmology,” R. Blandford, D. Gross and A. Sevrin (eds.), 112-131 (Singapore: World Scientific) (arXiv:1410.8132) (2016).

96. P. Casella, R. Fender, M. Coriat, E. Kalemci, S. Motta, J. Neilsen, G. Ponti, M. Begelman, T. Belloni, E. Koerding, T. J. Maccarone, P.-O. Petrucci, J. Rodriguez, J. Tomsick, S. Bhattacharyya, S. Bianchi, M. Del Santo, I. Donnarumma, P. Gandhi, J. Homan, P. Jonker, M. Kalamkar, J. Malzac, S. Markoff, S. Migliari, J. Miller, J. Miller-Jones, J. Poutanen, R. Remillard, D. M. Russell, P. Uttley and A. Zdziarski, “The physics of accretion-ejection with LOFT,” white paper in support of the mission concept of the Large Observatory for X-ray Timing,” European Space Agency mission concept (arXiv:1501.02766) (2015).
97. M. Feroci et al. (465 authors). “The LOFT mission concept: a status update.” Proceedings of the SPIE. 9905 (July 2016): id. 99051R-id. 99051R.
98. R. S. Paul et al. (159 authors). “STROBE-X: X-ray timing and spectroscopy on dynamical timescales from microseconds to years.” Probe class mission concept study submitted to NASA for Astro2020 Decadal Survey (2019). Eprint arXiv:1903.03035
99. H. Krawczynski et al. (57 authors). “Using X-Ray polarimetry to probe the physics of black holes and neutron stars,” Bull. Amer. Astron. Soc., 51, 150 (11 pp) (2019). Astro2020 Decadal Survey Science White Paper no. 150. Eprint arXiv:1904.09313.
100. H. Ji et al. (100 authors). “Major scientific challenges and opportunities in understanding magnetic reconnection and related explosive phenomena throughout the Universe,” Bull. Amer. Astron. Soc., 51, 5 (6 pp) (2019). Astro2020 Decadal Survey Science White Paper no. 5.
101. D. Uzdensky, M. Begelman, A. Beloborodov, R. Blandford, S. Boldyrev, F. Fiuza, D. Giannios, M. Kunz, N. Loureiro, M. Lyutikov, M. Medvedev, A. Philippov, E. Quataert, L. Sironi, A. Spitkovsky, G. Werner, V. Zhdankin and E. Zweibel, “Extreme plasma physics,” Bull. Amer. Astron. Soc., 51, 362 (7 pp) (2019). Astro2020 Decadal Survey Science White Paper no. 362. Eprint arXiv:1903.05328.

Conference Proceedings Edited

1. M. Ostrowski, M. Sikora, G. Madejski and M. Begelman (eds.), Relativistic Jets in AGNs, Proceedings of the International Conference, Cracow (Poland), 27-30 May 1997 (Astronomical Observatory of the Jagiellonian University, Cracow, 1997).

Commentary, Book Reviews, Popular Press

1. M. C. Begelman, A. C. Fabian, N. A. Sharp, and A. Wakelin, “Gravitational waves confirmed at Texas Symposium,” Nature (News & Views), 277, 267 (1979).
2. M. C. Begelman, Review of Radiative Processes in Astrophysics, by G. B. Rybicki and A. P. Lightman, Astrophys. Lett., 26, 203-204 (1982).
3. R. D. Blandford, M. C. Begelman and M. J. Rees, “Cosmic jets,” Sci. Am. 246, 124-142 (1982). Reprinted in The Universe of Galaxies, Readings from Scientific American Series, compiled by P. W. Hodge, pp. 77-87 (New York: W. H. Freeman, 1984).
4. M. C. Begelman, Review of Astrophysical Jets, ed. by A. Ferrari and A. G. Pacholczyk, Amer. Scientist (July, 1984).
5. M. C. Begelman, Review of Accretion Power in Astrophysics, by J. Frank, A. R. King, and D. J. Raine, Foundations of Phys., 17, 887-889 (1987).

6. M. C. Begelman, Review of Quasars, Proc. IAU Symp. 119, ed. by G. Swarup and V. K. Kapahi, Amer. Scientist, 76, 507 (1988).
7. M. C. Begelman, Review of Beams and Jets in Astrophysics, ed. by P. A. Hughes, Science, 255, 1587-1588 (1992).
8. M. C. Begelman, Review of Extragalactic Radio Sources: From Beams to Jets, ed. by J. Roland, H. Sol, and G. Pelletier, Science, 260, 705 (1993).
9. M. C. Begelman, "Astrophysics," in Macmillan Encyclopedia of Physics, ed. by John S. Rigden, pp. 52-55 (Simon & Schuster Macmillan, New York, 1996).
10. M. C. Begelman and J. Bland-Hawthorn, "A well-fed black hole," Nature (News & Views), 385, 22-23 (1997).
11. M. Begelman, "The point of no return," Icon Thoughtstyle Magazine, 52-55 (June 1997).
12. M. Begelman, "A flare for acceleration," Science (Perspectives), 325, 399-400 (2009).
13. M. Begelman and M. Rees, "The formation of enormous black holes," Astronomy Beat, No. 52, 1-4 (July 12, 2010). Astronomical Society of the Pacific online magazine.
14. M. C. Begelman, "Black Holes," in Discoveries in Modern Science: Exploration, Invention, Technology, 1st Edition, ed. by J. Trefil, pp. 85-88 (Macmillan Reference USA, 2014).
15. M. C. Begelman, "Supermassive Black Holes," in Discoveries in Modern Science: Exploration, Invention, Technology, 1st Edition, ed. by J. Trefil, pp. 1093-1094 (Macmillan Reference USA, 2014).
16. M. Karouzos and M. C. Begelman, "Black holes," Nature Astronomy, 3, 2-5 (2019). DOI: 10.1038/s41550-018-0671-1 (editorial/commentary: Q&A feature)
17. M. C. Begelman, "The First 'Photograph' of a Black Hole," Cambridge University Press Science and Engineering blog, 4/24/19. <http://www.cambridgeblog.org/2019/04/the-first-photograph-of-a-black-hole/> (Invited blog post).