

Curriculum Vitae

Eliot Quataert

University of California at Berkeley
Department of Astronomy
601 Campbell Hall
Berkeley, CA 94720

E-mail : eliot@astron.berkeley.edu
Web: : <http://astron.berkeley.edu/~eliot>
Phone : (510) 642-3792
Fax : (510) 642-3411

ACADEMIC POSITIONS

7/08 – present	Professor of Astronomy & Physics, UC Berkeley
7/06 – present	Director, Theoretical Astrophysics Center, UC Berkeley
7/05 – 7/08	Associate Professor of Astronomy, UC Berkeley
7/01 – 7/05	Assistant Professor of Astronomy, UC Berkeley
9/99 – 7/01	Long Term (5-Year) Member, Institute for Advanced Study
9/96 – 8/99	Graduate Research and Teaching Assistant, Astronomy Department, Harvard
9/95 – 8/96	Research Scientist, Physics Department, MIT (during yr. btw. undergrad & grad)

EDUCATION

9/96-8/99	Harvard University, M.A. & Ph.D. in Astronomy
9/91-6/95	Massachusetts Institute of Technology, B.S. in Physics

SELECTED FELLOWSHIPS and AWARDS

2008	Helen B. Warner Prize (American Astronomical Society)
2005	Bart J. Bok Prize in Astronomy (Harvard)
2003	Packard Fellowship for Science and Engineering
2003	Hellman Faculty Fund Award (Berkeley)
2002	Alfred P. Sloan Research Fellowship
1999-2001	Chandra Fellowship
1997	Margaret Weyerhaeuser Jewett Memorial Fellowship (Harvard)
1996-1999	National Science Foundation Graduate Research Fellowship
1995	Joel M. Orloff Award for Outstanding Scholastic Achievement in Physics (MIT)
1995	Phi Beta Kappa, Sigma Xi, and Sigma Pi Sigma Honor Societies (MIT)
1994-1995	Barry M. Goldwater Scholarship
1993-1994	Burchard Scholar (MIT)
1993	Leslie C. Patron Award for Research in Astrophysics (MIT)

PUBLIC OUTREACH

I regularly give non-technical talks describing the physics and astrophysics of black holes to the public, community colleges, and amateur astronomical societies.

PUBLICATIONS IN REFEREED JOURNALS

1. A. A. Schekochihin, S. C. Cowley, W. Dorland, G. W. Hammett, G. G. Howes, E. Quataert, & T. Tatsuno, 2008, “Astrophysical Gyrokinetics: Kinetic and Fluid Turbulent Cascades in Magnetized Weakly Collisional Plasmas,” ApJS submitted
2. B. D. Metzger, A. L. Piro, & E. Quataert, 2008, “Time Dependent Models of Accretion Disks Formed During Compact Object Mergers,” MNRAS submitted
3. P. Sharma, E. Quataert, & J. M. Stone, 2008, “Spherical Accretion with Anisotropic Thermal Conduction,” MNRAS submitted
4. N. N. Weinberg & E. Quataert, 2008, “Nonlinear Saturation of g-modes in Proto-Neutron Stars: Quieting the Acoustic Engine,” MNRAS Letters in press
5. T. Robishaw, E. Quataert, & C. Heiles, 2008, “Extragalactic Zeeman Detections in OH Megamasers,” ApJ in press
6. G. G. Howes, S. C. Cowley, W. Dorland, G. W. Hammett, E. Quataert, & A. A. Schekochihin, 2008, “A Model of Turbulence in Magnetized Plasmas: Implications for the Dissipation Range in the Solar Wind,” JGR in press
7. B. D. Metzger, E. Quataert, & T. A. Thompson, 2008, “Short Duration Gamma-ray Bursts with Extended Emission from Proto-Magnetar Spin-Down,” MNRAS, 385, 1455
8. I. J. Parrish & E. Quataert, 2008, “Nonlinear Simulations of the Heat Flux Driven Buoyancy Instability and its Implications for Galaxy Clusters,” ApJ, 677, L9
9. B. D. Metzger, T. A. Thompson, & E. Quataert, 2008, “On the Conditions for Neutron-rich Gamma-ray Burst Outflows,” ApJ, 676, 1130
10. G. G. Howes, W. Dorland, S. C. Cowley, G. W. Hammett, E. Quataert, A. A. Schekochihin, & T. Tatsuno, 2008, “Kinetic Simulations of Magnetized Turbulence in Astrophysical Plasmas,” PRL, 100, 6, 065004
11. E. Quataert, 2008, “Buoyancy Instabilities in Weakly Magnetized Low Collisionality Plasmas,” ApJ, 673, 758
12. M. Boylan-Kolchin, C.P. Ma, & E. Quataert, 2008, “Dynamical Friction and Galaxy Merging Timescales,” MNRAS, 383, 93
13. N. Bucciantini, E. Quataert, J. Arons, B. D. Metzger, & T. A. Thompson, 2008, “Relativistic Jets and Long-Duration Gamma-ray Bursts from the Birth of Magnetars,” MNRAS, 383, L25
14. P. Sharma, E. Quataert, & J. M. Stone, 2007, “Faraday Rotation in Global Accretion Disk Simulations: Implication for Sgr A*,” ApJ, 671, 1696
15. N. Bucciantini, E. Quataert, J. Arons, B. D. Metzger, & T. A. Thompson, 2007, “Magnetar Driven Bubbles and the Origin of Collimated Outflows in Gamma-ray Bursts,” MNRAS, 380, 1541

16. P. Chang, R. Murray-Clay, E. Chiang, & E. Quataert, 2007, “The Origin of the Young Stars in the Nucleus of M31,” *ApJ*, 668, 236
17. P. Sharma, E. Quataert, G. W. Hammett, & J. M. Stone, 2007, “Electron Heating in Hot Accretion Flows,” *ApJ*, 667, 714
18. N. J. Turner, E. Quataert, & H. W. Yorke, 2007, “Photon Bubbles in the Circumstellar Envelopes of Young Massive Stars,” *ApJ*, 662, 1052
19. P. Chang, E. Quataert, & N. Murray, 2007, “From Thin to Thick: the Impact of X-ray Irradiation on Accretion Disks in Active Galactic Nuclei,” *ApJ*, 662, 94
20. L. Desroches, E. Quataert, C.P. Ma, & A. West, 2007, “Luminosity Dependence in the Fundamental Plane Projections of Elliptical Galaxies,” *MNRAS*, 377, 402
21. B. Johnson & E. Quataert, 2007, “The Effects of Thermal Conduction on Radiatively-Inefficient Accretion Flows,” *ApJ*, 660, 1273
22. N. Murray, C. L. Martin, E. Quataert, & T. A. Thompson, 2007, “The Ionization State of Sodium in Galactic Winds,” *ApJ*, 660, 211
23. B. D. Metzger, T. A. Thompson, & E. Quataert, 2007, “Proto-Neutron Star Winds with Magnetic Fields and Rotation,” *ApJ*, 659, 561
24. T. A. Thompson, E. Quataert, & E. Waxman, 2007, “The Starburst Contribution to the Extragalactic γ -ray Background,” *ApJ*, 654, 219
25. G. G. Howes, S. C. Cowley, W. Dorland, G. W. Hammett, E. Quataert, & A. A. Schekochihin, 2006, “Astrophysical Gyrokinetics: Basic Equations and Linear Theory,” *ApJ*, 651, 590
26. M. Boylan-Kolchin, C.P. Ma, & E. Quataert, 2006, “Red Mergers and the Assembly of Massive Elliptical Galaxies: the Fundamental Plane and its Projections,” *MNRAS*, 369, 1081
27. T. Thompson, E. Quataert, E. Waxman, N. Murray, & C. L. Martin, 2006, “Magnetic Fields in Starburst Galaxies and the Origin of the FIR-Radio Correlation,” *ApJ*, 645, 186
28. N. Bucciantini, T. A. Thompson, J. Arons, E. Quataert, & L. DelZanna, 2006, “Relativistic MHD Winds from Rotating Neutron Stars,” *MNRAS*, 368, 1717
29. S. Gillessen, F. Eisenhauer, E. Quataert, et al., 2006, “Variations in the Spectral Slope of Sgr A* during a NIR Flare,” *ApJ*, 640, L163
30. Y. Xu, R. Narayan, E. Quataert, & F. Yuan, 2006, “Thermal X-ray Line Emission from the Galactic Center Black Hole Sagittarius A*,” *ApJ*, 640, 319
31. P. Sharma, G. W. Hammett, E. Quataert, & J. M. Stone, 2006, “Shearing Box Simulations of the MRI in a Collisionless Plasma,” *ApJ*, 637, 952
32. E. Quataert & A. Loeb, 2005, “Nonthermal THz to TeV Emission from Stellar Wind Shocks in the Galactic Center,” *ApJ*, 635, L45

33. M. Boylan-Kolchin, C.P. Ma, & E. Quataert, 2005, "Dissipationless Mergers of Elliptical Galaxies and the Evolution of the Fundamental Plane," *MNRAS*, 362, 184
34. T. A. Thompson, E. Quataert, & N. Murray, 2005, "Radiation Pressure Supported Starburst Disks and AGN Fueling," *ApJ*, 630, 167
35. J. Goldston, E. Quataert, & I. Igumenshchev, 2005, "Synchrotron Radiation from Radiatively Inefficient Accretion Flow Simulations: Applications to Sgr A*," *ApJ*, 621, 785
36. T. Thompson, E. Quataert, & A. Burrows, 2005, "Viscosity and Rotation in Core-Collapse Supernovae," *ApJ*, 620, 861
37. M. Volonteri, P. Madau, E. Quataert, & M. Rees, 2005, "The Distribution and Cosmic Evolution of Massive Black Hole Spins," *ApJ* 620, 69
38. R. Narayan & E. Quataert, 2005, "Black Hole Accretion," *Science*, 307, 77
39. N. Murray, E. Quataert, & T. A. Thompson, 2005, "On the Maximum Luminosity of Galaxies & Their Central Black Holes: Feedback From Momentum-Driven Winds," *ApJ*, 618, 569
40. M. Boylan-Kolchin, C.P. Ma, & E. Quataert, 2004, "Core Formation in Galactic Nuclei Due to Recoiling Black Holes," *ApJ Letters*, 613, L37
41. E. Quataert, 2004, "A Dynamical Model for Hot Gas in the Galactic Center," *ApJ*, 613, 322
42. Z. Haiman, E. Quataert, & G. Bower, 2004, "Modeling the Counts of Faint Radio Loud Quasars: Constraints on the Supermassive Black Hole Population and Predictions for High Redshift," *ApJ*, 612, 698
43. T. A. Thompson, P. Chang, & E. Quataert, 2004, "Magnetar Spindown, Hyper-Energetic Supernovae, and Gamma Ray Bursts," *ApJ*, 611, 380
44. P. Madau & E. Quataert, 2004, "The Effect of Gravitational-Wave Recoil on the Demography of Massive Black Holes," 606, L17
45. F. Yuan, E. Quataert, & R. Narayan, 2004, "On the Nature of the Variable Infrared Emission from Sgr A*," *ApJ*, 606, 894
46. A. Ptak, Y. Terashima, L. C. Ho, & E. Quataert, 2004, "Testing Radiatively-Inefficient Accretion Flow Theory: an XMM-Newton Observation of NGC 3998," *ApJ*, 606, 173
47. F. Yuan, E. Quataert, & R. Narayan, 2003, "Nonthermal Electrons in Radiatively Inefficient Accretion Flow Models of Sgr A*," *ApJ*, 598, 301
48. P. Sharma, G. W. Hammett, & E. Quataert, 2003, "Transition from Collisionless to Collisional MRI," *ApJ*, 596, 1121
49. E. Quataert, W. Dorland, & G. W. Hammett, 2002, "The Magnetorotational Instability in a Collisionless Plasma," *ApJ*, 577, 524

50. R. Narayan, E. Quataert, I. Igumenshchev, & M. Abramowicz, 2002, "The Magnetohydrodynamics of Convection-Dominated Accretion Flows," *ApJ*, 577, 295
51. E. Quataert, 2002, "A Thermal Bremsstrahlung Model For the Quiescent X-ray Emission from Sagittarius A*", *ApJ*, 575, 855
52. M. Abramowicz, I. Igumenshchev, E. Quataert, & R. Narayan, 2002, "On the Radial Structure of Radiatively Inefficient Accretion Flows with Convection," *ApJ* 565, 1101
53. K. Menou & E. Quataert, 2001, "Activity From Tidal Disruptions in Galactic Nuclei," *ApJ*, 562, L137
54. A. Aguirre, J. Schaye, & E. Quataert, 2001, "Problems for MOND in Clusters and the Lyman- α Forest," *ApJ*, 561, 550
55. M. Loewenstein, R. F. Mushotzky, L. Angelini, K. A. Arnaud, & E. Quataert, 2001, "Chandra Limits on X-ray Emission Associated with the Supermassive Black Holes in Three Giant Elliptical Galaxies," *ApJ*, 555, L21
56. G. Ball, R. Narayan, & E. Quataert, 2001, "Spectral Models of Convection Dominated Accretion Flows," *ApJ*, 552, 221
57. K. Menou & E. Quataert, 2001, "Ionization, Magneto-rotational, and Gravitational Instabilities in Thin Accretion Disks Around Supermassive Black Holes," *ApJ*, 552, 204
58. E. Quataert & A. Gruzinov, 2000, "Constraining the Accretion Rate onto Sagittarius A* Using Linear Polarization," *ApJ*, 545, 842
59. E. Quataert & E. Chiang, 2000, "Angular Momentum Transport in Particle and Fluid Disks," *ApJ*, 543, 432
60. E. Quataert & A. Gruzinov, 2000, "Convection-Dominated Accretion Flows," *ApJ*, 539, 809
61. Z. Haiman, M. Spaans, & E. Quataert, 2000, "Lyman Alpha Cooling Radiation from High-Redshift Halos," *ApJ*, 537, L5
62. T. Di Matteo, E. Quataert, S. Allen, R. Narayan, & A.C. Fabian, 2000, "Low Radiative Efficiency Accretion in the Nuclei of Elliptical Galaxies," *MNRAS*, 311, 507
63. E. Quataert and R. Narayan, 2000, "The Cooling Flow to Accretion Flow Transition," *ApJ*, 528, 236
64. E. Quataert, T. Di Matteo, R. Narayan, & Luis C. Ho, 1999, "Possible Evidence for Truncated Thin Disks in the Low-Luminosity Active Galactic Nuclei M81 and NGC 4579," 525, L89
65. A. Gruzinov & E. Quataert, 1999, "The Proton Distribution Function in Weakly Magnetized Turbulent Plasmas," *ApJ*, 520, 849
66. E. Quataert & R. Narayan, 1999, "Spectral Models of Advection-Dominated Accretion Flows with Winds," *ApJ*, 520, 298

67. E. Quataert & A. Gruzinov, 1999, "Turbulence and Particle Heating in Advection-Dominated Accretion Flows," *ApJ*, 520, 248
68. E. Quataert, R. Narayan, & M. Reid, 1999, "What is the Accretion Rate in Sgr A*?," *ApJ*, 517, L101
69. E. Quataert & R. Narayan, 1999, "On the Energetics of Advection-Dominated Accretion Flows," *ApJ*, 516, 399
70. E. Quataert, 1998, "Particle Heating by Alfvénic Turbulence in Hot Accretion Flows," *ApJ*, 500, 978
71. P. Kumar & E. Quataert, 1998, "On the Orbital Decay of the PSR J0045-7319 Binary," *ApJ*, 493, 412
72. R. Mahadevan & E. Quataert, 1997, "Are Particles in Advection Dominated Accretion Flows Thermal?" *ApJ*, 490, 605
73. P. Kumar & E. Quataert, 1997, "Differential Rotation Enhanced Dissipation of Tides in the PSR J0045-7319 Binary," *ApJ*, 479, L51
74. P. Kumar & E. Quataert, 1996, "Angular Momentum Transport by Gravity Waves and Its Effect on the Rotation of the Solar Interior," *ApJ*, 475, L143
75. E. Quataert, P. Kumar, & C. Ao, 1996, "On the Validity of the Classical Apsidal Motion Formula," *ApJ*, 463, 284
76. P. Kumar, E. Quataert, & J. Bahcall, 1996, "Observational Searches for Solar g-modes: Some Theoretical Considerations," *ApJ*, 458, L83
77. P. Kumar, C. Ao, & E. Quataert, 1995, "Tidal Excitation of Modes in Binary Systems with Applications to Binary Pulsars," *ApJ*, 449, 294

SELECTED NON-REFEREED PUBLICATIONS

1. T. A. Thompson, E. Quataert, E. Waxman, & A. Loeb, 2006, "Assessing The Starburst Contribution to the Gamma-Ray and Neutrino Backgrounds," astro-ph/0608699
2. E. Quataert, 2006, "Nuclear Starbursts and AGN Fueling," *Memorie della Societa Astronomica Italiana*, 77, 614
3. Z. Haiman & E. Quataert, 2004, "The Formation and Evolution of the First Massive Black Holes," in *Supermassive Black Holes in the Distant Universe*, ed. A. J. Barger, Kluwer Academic Publishers
4. E. Quataert, 2004, "Inefficient Accretion," in *AGN Physics with the Sloan Digital Sky Survey*, ed. G. T. Richards and P. B. Hall (San Francisco: ASP)
5. E. Quataert, 2003, "On the Viability of Two-temperature Accretion Flows," astro-ph/0308451
6. E. Quataert, 2003, "Radiatively Inefficient Accretion Flow Models of Sgr A*," in *The central 300 parsecs of the Milky Way*, eds. A. Coteria et al., *Astron. Nachr.*, 324, S1
7. E. Quataert, 2001, "Low-Radiative Efficiency Accretion Flows," in *Probing the Physics of Active Galactic Nuclei by Multiwavelength Monitoring*, eds. B. M. Peterson, R. S. Polidan, & R. W. Pogge (San Francisco: Astronomical Society of the Pacific), p. 71
8. E. Quataert & A. Gruzinov, 2000, "Chandra, GLAST, and the Galactic Center," astro-ph/0003367
9. E. Quataert, 1999, "Particle Heating in Advection-Dominated Accretion Flows," in *High Energy Processes in Accreting Black Holes*, eds. J. Poutanen & R. Svensson. p. 404
10. R. Narayan, R. Mahadevan, & E. Quataert, 1998, "Advection-Dominated Accretion around Black Holes," in *The Theory of Black Hole Accretion Discs*, eds. M.A. Abramowicz, G. Bjornsson, & J. E. Pringle
11. K. Menou, E. Quataert, & R. Narayan, 1998, "Astrophysical Evidence for Black Hole Event Horizons" in *Gravitation and Relativity: At the turn of the Millennium*, eds. N. Dadhich and J. Narlikar, p. 43