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Personal

Born: 6th October 1971
UK citizen

Education

Ph.D. in Theoretical Astrophysics, University of Cambridge, September 1996
Thesis title: *Accretion disks in T Tauri stars and interacting binaries*
Thesis advisor: Cathie J. Clarke

B.A. and M.A.: Physics and Theoretical Physics
University of Cambridge, St. John's College, 1990 - 1993

Appointments

from January 2002

Assistant Professor, Department of Astrophysical and Planetary Sciences, University of
Colorado, Boulder
Associate Fellow, JILA, University of Colorado and National Institute of Standards and
Technology, Boulder

October 2000 – January 2002

Lecturer, School of Physics and Astronomy, University of St. Andrews, UK

October 1999 – October 2000

Institute Postdoctoral Fellow, Max-Planck Institute for Astrophysics, Garching, Germany

October 1996 – October 1999

Junior Research Associate, Canadian Institute for Theoretical Astrophysics (CITA),
University of Toronto, Canada

Research Interests

Planet formation and extrasolar planets
Theory of accretion flows
Astrophysics of black holes
Computational astrophysics

Refereed Publications

1. *Magnetically modulated accretion in T Tauri stars*
C. J. Clarke, P. J. Armitage, K. W. Smith and J. E. Pringle, 1995, Mon. Not. R. Astron. Soc. 273, 639
2. *Magnetic cycles and photometric variability of T Tauri stars*
P. J. Armitage, 1995, Mon. Not. R. Astron. Soc. 274, 1242
3. *Dynamo-driven accretion disks and dwarf nova eruptions*
P. J. Armitage, M. Livio and J. E. Pringle, 1996, Astrophys. J. 457, 332
4. *Magnetic braking of T Tauri stars*
P. J. Armitage and C. J. Clarke, 1996, Mon. Not. R. Astron. Soc. 280, 458
5. *Accretion disks in interacting binaries: Simulations of the stream-disk*
P. J. Armitage and M. Livio, 1996, Astrophys. J. 470, 1024
6. *Red giant-disk encounters: Food for quasars?*
P. J. Armitage, W. H. Zurek and M. B. Davies, 1996, Astrophys. J. 470, 237
7. *The ejection of T Tauri stars from molecular clouds and the fate of circumstellar discs*
P. J. Armitage and C. J. Clarke, 1997, Mon. Not. R. Astron. Soc. 285, 540
8. *Radiation-induced warping of protostellar accretion disks*
P. J. Armitage and J. E. Pringle, 1997, Astrophys. J. 488, L47
9. *Hydrodynamics of the stream-disk impact in interacting binaries*
P. J. Armitage and M. Livio, 1998, Astrophys. J. 493, 898
10. *Simulations of spiral structure in the accretion disc of IP Pegasi during outburst*
P. J. Armitage and J. R. Murray, 1998, Mon. Not. R. Astron. Soc. 297, L81
11. *Turbulence and angular momentum transport in a global accretion disk simulation*
P. J. Armitage, 1998, Astrophys. J. 501, L189
12. *Tilted accretion discs in cataclysmic variables: tidal instabilities and superhumps*
J. R. Murray and P. J. Armitage, 1998, Mon. Not. R. Astron. Soc. 300, 561

13. *The effects of tidally induced disc structure on white dwarf accretion in intermediate polars*
J. R. Murray, P. J. Armitage, L. Ferrario and D. T. Wickramasinghe, 1999, Mon. Not. R. Astron. Soc. 302, 189
14. *Accretion disc evolution in single and binary T Tauri stars*
P. J. Armitage, C. J. Clarke and C. A. Tout, 1999, Mon. Not. R. Astron. Soc. 304, 425
15. *The Blandford-Znajek mechanism and the emission from isolated accreting black holes*
P. J. Armitage and P. Natarajan, 1999, Astrophys. J. 523, L7
16. *Warped discs and the directional stability of jets in active galactic nuclei*
P. Natarajan and P. J. Armitage, 1999, Mon. Not. R. Astron. Soc. 309, 961
17. *Lense-Thirring precession of accretion disks around compact objects*
P. J. Armitage and P. Natarajan, 1999, Astrophys. J. 525, 909
18. *Early planet formation as a trigger for further planet formation*
P. J. Armitage and B. M. S. Hansen, 1999, Nature 402, 633
19. *Black hole formation via hypercritical accretion during common-envelope evolution*
P. J. Armitage and M. Livio, 2000, Astrophys. J. 532, 540
20. *Suppression of giant planet formation in stellar clusters*
P. J. Armitage, 2000, Astron. Astrophys. 362, 968
21. *Simulations of accretion flows crossing the last stable orbit*
P. J. Armitage, C. S. Reynolds and J. Chiang, 2001, Astrophys. J. 548, 868
22. *Episodic accretion in magnetically layered protoplanetary discs*
P. J. Armitage, M. Livio and J. E. Pringle, 2001, Mon. Not. R. Astron. Soc. 324, 705
23. *A variable efficiency for thin-disk black hole accretion*
C. S. Reynolds and P. J. Armitage, 2001, Astrophys. J. 561, L81
24. *The brown dwarf desert as a consequence of orbital migration*
P. J. Armitage and I. A. Bonnell, 2002, Mon. Not. R. Astron. Soc. 330, L11
25. *Magnetic activity in accretion disc boundary layers*
P. J. Armitage, 2002, Mon. Not. R. Astron. Soc. 330, 895
26. *Accretion during the merger of supermassive black holes*
P. J. Armitage and P. Natarajan, 2002, Astrophys. J. 567, L9
27. *Predictions for the frequency and orbital radii of massive extrasolar planets*

- P. J. Armitage, M. Livio, S. H. Lubow and J. E. Pringle, 2002, Mon. Not. R. Astron. Soc. 334, 248
28. *Astrometric signatures of self-gravitating protoplanetary discs*
W. K. M. Rice, P. J. Armitage, M. R. Bate, and I. A. Bonnell, 2003 Mon. Not. R. Astron. Soc. 338, 227
29. *The effect of cooling on the global stability of self-gravitating protoplanetary discs*
W. K. M. Rice, P. J. Armitage, M. R. Bate, and I. A. Bonnell, 2003, Mon. Not. R. Astron. Soc. 339, 1025
30. *The variability of accretion on to Schwarzschild black holes from turbulent magnetized discs*
P. J. Armitage and C. S. Reynolds, 2003, Mon. Not. R. Astron. Soc. 341, 1041
31. *A reduced efficiency of terrestrial planet formation following giant planet migration*
P. J. Armitage, 2003, Astrophys. J. Lett. 582, L47-50
32. *Constraints on a planetary origin for the gap in the protoplanetary disc of GM Aurigae*
W. K. M. Rice, K. Wood, P. J. Armitage, B. A. Whitney and J. E. Bjorkman, 2003, Mon. Not. R. Astron. Soc. 342, 79-85
33. *Axisymmetric MHD simulations of the collapsar model for gamma-ray bursts*
D. Proga, A. I. MacFadyen, P. J. Armitage and M. C. Begelman, 2003, Astrophys. J. (Letters) 599, L5-8
34. *Orbital migration and the brown dwarf desert*
P. J. Armitage and I. A. Bonnell, 2003, in Brown Dwarfs, IAU Symposium 211 (Astron. Soc. Pacific), pp. 31-34
35. *On the formation time scale and core masses of gas giant planets*
W. K. M. Rice and P. J. Armitage, 2003, Astrophys. J. (Letters) 598, L55-58
36. *The spectroscopic signature of hot Jupiters in FU Orionis objects*
C. J. Clark and P. J. Armitage, 2003, Mon. Not. R. Astron. Soc. 345, 691
37. *Dispersion in the lifetime and accretion rate of T Tauri discs*
P. J. Armitage, C. J. Clarke and F. Palla, 2003, Mon. Not. R. Astron. Soc. 342, 1139
38. *Substellar companions and isolated planetary-mass objects from protostellar disc fragmentation*
W. K. M. Rice, P. J. Armitage, I. A. Bonnell, M. R. Bate, S. V. Jeffers and S. G. Vine, 2003, Mon. Not. R. Astron. Soc. 346, L36
39. *MHD simulations of the collapsar model for GRBs*

- D. Proga, A. I. MacFadyen, P. J. Armitage and M. C. Begelman, 2003 GRB Conference (in press)
40. *Outward migration of extrasolar planets to large orbital radii*
D. Veras and P. J. Armitage, 2004, Mon. Not. R. Astron. 347, 613
 41. *The dynamics of two massive planets on inclined orbits*
D. Veras and P. J. Armitage, 2004, Icarus 172, 349-371
 42. *Accelerated planetesimal growth in self-gravitating protoplanetary discs*
W. K. M. Rice, G. Lodato, J. E. Pringle, P. J. Armitage and I. A. Bonnell, 2004, Mon. Not. R. Astron. Soc. 355, 543-552
 43. *The influence of massive planet scattering on nascent terrestrial planets*
D. Veras and P. J. Armitage, 2005, Astrophys. J. 620, L111-L114
 44. *Quantifying orbital migration from exoplanet statistics and host metallicities*
W. K. M. Rice and P. J. Armitage, 2005, Astrophys. J. 630, 1107-1113
 45. *Planetary migration*
P. J. Armitage and W. K. M. Rice, 2005, in Proceedings, A Decade of Extrasolar Planets Around Normal Stars, STScI May Symposium (in press)
 46. *Theory of disk accretion onto supermassive black holes*
P. J. Armitage, 2004, Chapter 3 in Supermassive Black Holes in the Distant Universe (A. J. Barger, Ed., Astrophysics and Space Science Library Vol. 308), pp. 89-126
 47. *Eccentricity of supermassive black hole binaries coalescing from gas rich mergers*
P. J. Armitage and P. Natarajan, 2005, Astrophys. J. 634, 921-927
 48. *Investigating fragmentation conditions in self-gravitating accretion discs*
W. K. M. Rice, G. Lodato and P. J. Armitage, 2005, Mon. Not. R. Astron. Soc. 363, L56-60
 49. *Flares in long and short gamma-ray bursts: a common origin in a hyperaccreting accretion disk*
R. Perna, P. J. Armitage and B. Zhang, 2006, Astrophys. J. (Letters) 636, L29-32
 50. *The stellar mass-accretion rate relation in T Tauri stars and brown dwarfs*
R. D. Alexander and P. J. Armitage, 2006, Astrophys. J. (Letters) 639, L83-86
 51. *Spiral shocks in astrophysical disks*
W. K. M. Rice, G. Lodato and P. J. Armitage, The Physics of Collisionless Shocks (G. Li et al., Eds., AIP Conf. Proc. 781, 2005), pp. 325-330
 52. *Predictions for the correlation between giant and terrestrial extrasolar planets in*

- dynamically evolved systems*
D. Veras and P. J. Armitage, 2006, *Astrophys. J.* 645, 1509-1515
53. *Constraints on the stellar mass function from stellar dynamics at the Galactic Center*
R. D. Alexander, M. C. Begelman and P. J. Armitage, *Astrophys. J.* 654, 907-914 (2007).
54. *Planetesimal formation via fragmentation in self-gravitating protoplanetary discs*
W. K. M. Rice, G. Lodato, J. E. Pringle, P. J. Armitage and I. A. Bonnel, *Mon. Not. R. Astron. Soc.* 372, L9-L13 (2006).
55. *Dust filtration at gap edges: implications for the spectral energy distributions of discs with embedded planets*
W. K. M. Rice, P. J. Armitage, K. Wood and G. Lodato, *Mon. Not. R. Astron. Soc.* 373, 1619-1626 (2006).
56. *Dust dynamics during protoplanetary disc clearing*
R. D. Alexander and P. J. Armitage, *Mon. Not. R. Astron. Soc.* 375, 500-512 (2007).
57. *Extrasolar planetary dynamics with a generalized planar Laplace-Lagrange secular theory*
D. Veras and P. J. Armitage, *Astrophys. J.* 661, 1311-1322 (2007).
58. *Massive planet migration: theoretical predictions and comparison with observations*
P. J. Armitage, *Astrophys. J.* 665, 1381-1390 (2007).
59. *Self-gravitating fragmentation of eccentric accretion disks*
R. D. Alexander, P. J. Armitage, J. Cuadra and M. C. Begelman, *Astrophys. J.* 674, 927-935 (2008).
60. *Vertical structure of hyper-accreting disks and consequences for gamma-ray burst outflows*
E. M. Rossi, P. J. Armitage and T. Di Matteo, *Astrophys. Space Sci.* 311, 185-190 (2007).
61. *Why are there so few hot Jupiters?*
W. K. M. Rice, P. J. Armitage and D. F. Hogg, *Mon. Not. R. Astron. Soc.* 384, 1242-1248 (2008).
62. *Quasi-stars: accreting black holes inside massive envelopes*
M. C. Begelman, E. M. Rossi and P. J. Armitage, *Mon. Not. R. Astron. Soc.* 387, 1649-1659 (2008).
63. *Eccentricity of masing disks in active galactic nuclei*
P. J. Armitage, *Astrophys. J.* (submitted).

64. *Stellar dynamical evidence against a cold disc origin for stars in the Galactic Centre*
J. Cuadra, P. J. Armitage and R. D. Alexander, Mon. Not. R. Astron. Soc.
(submitted).