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EDUCATION

Ph.D., Princeton University (Astrophysical Sciences), 1981

M.A., Princeton University (Astrophysical Sciences), 1979

M.S.E., University of Michigan (Nuclear Engineering), 1978

M.S., University of Michigan (Physics), 1976

B.Sc. (First Class Honors in Physics), Indian Institute of Technology, Kharagpur, 1975

PROFESSIONAL HISTORY

Peter T. Paul Professor, Institute of Earth, Oceans, and Space (EOS) and the Department of Physics, University of New Hampshire, 2003 to present.

Director, Center for Integrated Computation and Analysis of Reconnection and Turbulence (CICART), University of New Hampshire (a DOE EPSCoR Cluster in collaboration with Dartmouth College), 2007-10

Senior Editor, Journal of Geophysical Research-Space Physics, January 1, 2006-December 31, 2009.

Member, Isaac Newton Institute of Mathematical Sciences, University of Cambridge, Summer 2004.

Director, Center for Magnetic Reconnection Studies (CMRS), University of New Hampshire (a DOE SciDAC Consortium with the University of Chicago and the University of Texas at Austin), 2001-05.

Professor, Department of Physics and Astronomy, University of Iowa, 1995-2003.

Associate Professor, Department of Physics and Astronomy, University of Iowa, 1993-1995.

Visiting Professor, Nagoya University, Japan, Fall 1993.

Associate Professor of Applied Physics, Columbia University, 1987-1993.

Member, Applied Mathematics Group, Columbia University, 1991-1993.

Visiting Member, Institute of Theoretical Physics, University of California, Santa Barbara, Fall 1991.

Assistant Professor of Applied Physics, Columbia University, 1984-1987.

Consultant, National Synchrotron Light Source, Brookhaven National Laboratory, 1986-1989.

Fellow, Faculty of the Plasma Physics Programme, Physical Research Laboratory, Ahmedabad, 1983-1984.

Research Fellow, Institute for Fusion Studies, University of Texas at Austin, 1980-1983.

HONORS

Fellow, American Physical Society, 1993

James Van Allen Natural Sciences Fellowship, University of Iowa, 1996

University of Iowa Faculty Scholar, 1997-2000

Fellow, American Association for the Advancement of Science, 2000

Collegiate Fellow, College of Liberal Arts and Sciences, University of Iowa, 2003.

Michael J. Brody Award, University of Iowa, 2003.

Keynote Speaker, Honors Commencement, University of New Hampshire, 2007

PROFESSIONAL MEMBERSHIPS

American Astronomical Society

American Geophysical Union

American Physical Society

American Association for the Advancement of Science

PROFESSIONAL SERVICE

Chair and Chair-Elect, Division of Plasma Physics, American Physical Society, 2007-09.

Fusion Energy Science Advisory Committee (FESAC), Ex-Officio Member, 2008-09.

Chair, Fellowship Committee, Division of Plasma Physics, American Physical Society, 2007.

NASA Living With a Star Targeted Research and Technology Steering Committee, 2007-2009

Executive Committee, Space Physics and Aeronomy, American Geophysical Union, July 1, 2006 – present.

Advisory Council of the Program in Plasma Physics, Princeton University, July 1, 2001-June 30, 2009.

Chair-Elect and Chair, Topical Group in Plasma Astrophysics, American Physical Society, 2002-04.

Executive Committee, Division of Plasma Physics, American Physical Society, 2002-05.

Associate Editor, Journal of Geophysical Research-Space Physics, January 1, 2002-December 31, 2005.

Associate Editor, Physics of Plasmas, January 1, 2001-December 31, 2005.

Chair, Program Committee, IPELS (Interrelationship between Plasma Experiments in Laboratory and Space) 2003, Whitefish, Montana, June 29-July 3, 2003.

Convenor, Mini-Conference on “Singularities in Fluids and Plasmas: Geometry and Dynamics”, 44th Annual Meeting of the Division of Plasma Physics, American Physical Society, Orlando, Florida, November 11-15, 2002.

Program Committee, 44th Annual Meeting, American Physical Society, Division of Plasma Physics, 2002, 2007.

Convenor, Mini-Workshop on “Basic Studies in Fusion Science”, 43rd Annual Meeting, American Physical Society, Division of Plasma Physics, Long Beach, October 28, 2001.

Organizing Committee, Workshop on Burning Plasma Science, Austin, Texas, December 11-13, 2000.

Executive Committee, University Fusion Association, 1994-1997, 2000-03.

Scientific Organizer, 9th Workshop on the Physics of Dusty Plasmas, May 21-23, 2001, Iowa City.

Founding Chair (1998-99) and Executive Committee (1998-2000), Topical Group in Plasma Astrophysics, American Physical Society.

Convenor, Mini-Conference on "Turbulence in the Interstellar Medium and Solar Wind", 41st Annual Meeting of the Division of Plasma Physics, American Physical Society, Seattle, Washington, November 15-19, 1999.

Associate Editor, Geophysical Research Letters, 1998-2001.

F. L. Scarf Award Committee, American Geophysical Union, 1998-2000.

Fellowship Committee, Division of Plasma Physics, American Physical Society, 1999.

Chair (1998-99) and Vice-Chair (1997-98), Selection Committee for the Simon Ramo Award for Outstanding Doctoral Thesis in Plasma Physics, American Physical Society.

Program Committee, 37th Annual Meeting, American Physical Society, Division of Plasma Physics, 1995.

Co-Chairman, US-Japan-Australia Workshop on *New Concepts in MHD*, Greenpia Ena, Japan, November 25-27, 1993.

Chairman (1993-94) and Vice-Chairman (1992-93), Executive Committee of the Sherwood Fusion Theory Conference.

Chairman, Program Subcommittee, 1989 Sherwood Theory Conference.

Panelist, Small Business Innovation Research Program, National Science Foundation, 1988.

BOOKS

Introduction to Plasma Physics with Space and Laboratory Applications, D. A. Gurnett and A. Bhattacharjee (Cambridge University Press, United Kingdom, 2005).

Basic Science Book Award 2007, International Academy of Astronautics, Paris, France.

The Plasma Universe, written by Curt Suplee, edited by A. Bhattacharjee and designed by Kristi Donahue (Cambridge University Press, United Kingdom, 2009).

ARCHIVAL PUBLICATIONS

1. Neutron emission profiles in the beam-heated Princeton Large Tokamak, J. D. Strachan, A. Bhattacharjee, D. L. Jassby and H. H. Towner, *Physics Letters* **66A**, 295 (1978).
2. Energy principle with global invariants for toroidal plasmas, A. Bhattacharjee, R. L. Dewar and D. A. Monticello, *Physical Review Letters* **45**, 347 (1980); **45**, 1217(E) (1980).
3. Statistical characterization of periodic, area-preserving mappings, J. R. Cary, J. D. Meiss and A. Bhattacharjee, *Physical Review A* **23**, 2744 (1981).
4. Energy principle with global invariants, A. Bhattacharjee and R. L. Dewar, *Physics of Fluids* **25**, 887 (1982).
5. Energy principle with global invariants: applications, A. Bhattacharjee, R. L. Dewar, A. H. Glasser, M. S. Chance and J. C. Wiley, *Physics of Fluids* **26**, 526 (1983).
6. Some minimum-energy toroidal equilibria, A. Bhattacharjee and J. C. Wiley, *Physics of Fluids* **26**, 520 (1983).
7. Drift waves in a straight stellarator, A. Bhattacharjee, J. E. Sedlak, P. L. Similon, M. N. Rosenbluth and D. W. Ross, *Physics of Fluids (Letter)* **26**, 880 (1983).
8. Magnetic reconnection driven by the coalescence instability, A. Bhattacharjee, F. Brunel and T. Tajima, *Physics of Fluids* **26**, 3332 (1983).
9. Variational method for three-dimensional toroidal equilibria, A. Bhattacharjee, J. C. Wiley and R. L. Dewar, *Computer Physics Communications* **31**, 213 (1984).
10. Variational method for toroidal equilibria with imperfect flux surfaces, A. Bhattacharjee, *Plasma Physics and Controlled Fusion* **26**, 977 (1984).
11. Relaxation of toroidal plasmas, A. Bhattacharjee, A. H. Glasser, Avinash and J. E. Sedlak, *Physics of Fluids* **29**, 242 (1986).
12. Relaxation of toroidal plasmas with finite pressure, A. Bhattacharjee and Y.-C. Kwok, *Physics of Fluids* **29**, 1156 (1986).

13. Self-consistent dynamo-like activity in turbulent plasmas, A. Bhattacharjee and E. Hameiri, *Physical Review Letters* **57**, 206 (1986).
14. Start-up from noise and high-gain regime of the free- electron laser: a Hamiltonian formulation, I. Gjaja and A. Bhattacharjee, *Optics Communications* **58**, 201 (1986).
15. Start-up from noise and high-gain regime of the free electron laser: a Hamiltonian formulation, Part 2, I. Gjaja and A. Bhattacharjee, *Optics Communications* **62**, 39 (1987).
16. Entropy production and plasma relaxation, E. Hameiri and A. Bhattacharjee, *Physical Review A* **35**, 768 (1987).
17. Turbulent magnetic diffusion and magnetic field-reversal, E. Hameiri and A. Bhattacharjee, *Physics of Fluids* **30**, 1743 (1987).
18. Local MHD instabilities of cylindrical plasma with sheared equilibrium flows, A. Bondeson, R. Iacono and A. Bhattacharjee, *Physics of Fluids* **30**, 2167 (1987).
19. Optical guiding in a Raman free electron laser, S. Y. Cai, A. Bhattacharjee and T. C. Marshall, *IEEE Journal of Quantum Electronics* **QE-23**, 1651 (1987).
20. Relaxation of magnetotail plasmas, A. Bhattacharjee, *Journal of Geophysical Research* **92**, 4735 (1987).
21. Generation of squeezed radiation from a free-electron laser, I. Gjaja and A. Bhattacharjee, *Physical Review A (Rapid Communications)* **36**, 5486 (1987).
22. Energetic particle stabilization of ballooning modes in finite-aspect-ratio tokamaks, X.-H. Wang, A. Bhattacharjee, M. E. Mauel and J. W. Van Dam, *Physics of Fluids* **31**, 332 (1988).
23. Relativistic quantum dynamics and quantum noise in short-wavelength free electron lasers, I. Gjaja and A. Bhattacharjee, *Physical Review A* **37**, 1009 (1988).
24. Observations of optical guiding in a Raman free electron laser, A. Bhattacharjee, S.Y. Cai, S. P. Chang, J. W. Dodd and T. C. Marshall, *Physical Review Letters* **60**, 1254 (1988).
25. "Diffraction-free" optical beams in inverse free-electron laser accelerators, S. Y. Cai, A. Bhattacharjee and T. C. Marshall, *Nuclear Instruments and Methods in Physics Research A* **272**, 481 (1988).
26. Energy confinement in turbulent fluid plasmas, A. Bhattacharjee and E. Hameiri, *Physics of Fluids* **31**, 1153 (1988).

27. Geometric angles in cyclic evolutions of a classical system, A. Bhattacharjee and T. Sen, *Physical Review A* **38**, 4389 (1988).
28. Relaxation of magnetotail plasmas with field-aligned currents, C. Paranicas and A. Bhattacharjee, *Journal of Geophysical Research* **94**, 479 (1989).
29. Magnetic island formation in three-dimensional plasma equilibria, C.C. Hegna and A. Bhattacharjee, *Physics of Fluids B* **1**, 392 (1989).
30. Sideband instabilities and optical guiding in a free electron laser: experiment and theory, A. Bhattacharjee, S. Y. Cai, S. P. Chang, J. W. Dodd and T. C. Marshall, *Nuclear Instruments and Methods in Physics Research A* **285**, 158 (1989).
31. Effects of optical guiding on sideband instabilities in a free-electron laser, S.Y. Cai, A. Bhattacharjee, S. P. Chang, J. W. Dodd and T.C. Marshall, *Physical Review A* **40**, 3127 (1989).
32. Ballooning stability of axisymmetric plasmas with sheared equilibrium flows, A. Bhattacharjee, R. Iacono, J. Milovich and C. Paranicas, *Physics of Fluids B* **1**, 2207 (1989).
33. Theory and observation of optical guiding in a free-electron laser, A. Bhattacharjee, S.Y. Cai, S. P. Chang, J. W. Dodd, A. Fruchtman and T.C. Marshall, *Physical Review A* **40**, 5081 (1989).
34. Suppression of the tearing mode by energetic ions, C.C. Hegna and A. Bhattacharjee, *Physical Review Letters* **63**, 2056 (1989).
35. Divergences in the iterative and perturbative methods for computing Hannay's angle, I. Gjaja and A. Bhattacharjee, *Physical Review A* **41**, 5650 (1990).
36. Suppression of magnetic islands by energetic ions in toroidal plasmas, C. C. Hegna and A. Bhattacharjee, *Physics of Fluids B* **2**, 1804 (1990).
37. Collisionless tearing instability in magnetotail plasmas, X. Wang, A. Bhattacharjee and A. T. Y. Lui, *Journal of Geophysical Research* **95**, 15047 (1990).
38. Linear theory of superradiance in a free-electron laser, S. Y. Cai, J. Cao and A. Bhattacharjee, *Physical Review A* **42**, 4120 (1990).
39. Ballooning stability of anisotropic, rotating plasmas, X.-H. Wang and A. Bhattacharjee, *Physics of Fluids B* **2**, 2346 (1990).
40. Equilibrium beta limits in Heliotron-E due to magnetic island overlap, Y. Nakamura, M. Wakatani, C. C. Hegna and A. Bhattacharjee, *Physics of Fluids B* **2**, 2528 (1990).

41. Inverse-Free-Electron-Laser Beat-Wave-Accelerator, S. Y. Cai and A. Bhattacharjee, *Physical Review A* **42**, 4853 (1990).
42. Observation of temperature-dependent transport in the TFTR Tokamak, P. C. Efthimion, D. K. Mansfield, B. C. Stratton, E. Synakowski, A. Bhattacharjee, H. Biglari, P. H. Diamond, R. J. Goldston, C. C. Hegna, D. McCune, G. Rewoldt, S. Scott, W. M. Tang, G. Taylor, R. Wieland and M. Zarnstorff, *Physical Review Letters* **66**, 421(1991).
43. Ginzburg-Landau equation: a nonlinear model for the radiation field of a free-electron laser, S. Y. Cai and A. Bhattacharjee, *Physical Review A* **43**, 6934 (1991).
44. Islands in three-dimensional steady flows, C. C. Hegna and A. Bhattacharjee, *Journal of Fluid Mechanics* **227**, 527 (1991).
45. Upper bounds on fluctuational power absorption in a turbulent pinch, C. Wang, A. Bhattacharjee and E. Hameiri, *Physics of Fluids B* **3**, 715 (1991).
46. Current sheet formation and rapid reconnection in the solar corona, A. Bhattacharjee and X. Wang, *The Astrophysical Journal* **372**, 321 (1991).
47. Effective density matrix for free electron laser radiation, I. Gjaja and A. Bhattacharjee, *Physical Review A (Rapid Communications)* **43**, 3206 (1991).
48. Optical spikes in a free-electron laser: theory and experiment, A. Bhattacharjee, S. Y. Cai, J. W. Dodd and T. C. Marshall, *Nuclear Instruments and Methods in Physics Research A* **304**, 99 (1991).
49. Inverse FEL accelerator : experiment and theory, T. C. Marshall, A. Bhattacharjee, S. Y. Cai, Y. P. Chou and I. Wernick, *Nuclear Instruments and Methods in Physics Research A* **304**, 683 (1991).
50. Suppression and control of magnetic islands in toroidal plasmas (Invited Paper at the 32nd Annual Meeting of the Division of Plasma Physics of the American Physical Society, November 12-16, 1990), C. C. Hegna, A. Bhattacharjee, Y. Nakamura and M. Wakatani, *Physics of Fluids B* **3**, 2285 (1991).
51. Bootstrap current and Ware pinch in drift-wave turbulent transport, C. C. Hegna, A. Bhattacharjee and P. C. Efthimion, *Physics of Fluids B* **3**, 3263 (1991).
52. Optimum theory for the energy dissipation in a turbulent pinch, C. Y. Wang and A. Bhattacharjee, *Physics of Fluids B* **3**, 3462 (1991).
53. Asymptotics of reflectionless potentials, I. Gjaja and A. Bhattacharjee, *Physical Review Letters* **68**, 2413 (1992).

54. Poloidal beta scaling for a bootstrapped tokamak, R. Iacono and A. Bhattacharjee, *Physics of Fluids B (Letter)* **4**, 1685 (1992).
55. Forced reconnection and current sheet formation in Taylor's model, X. Wang and A. Bhattacharjee, *Physics of Fluids B* **4**, 1795 (1992).
56. On Arnold diffusion in a perturbed magnetic dipole field, H. Warren, A. Bhattacharjee and M. E. Mauel, *Geophysical Research Letters* **19**, 941 (1992).
57. Geometric phase, rotational transforms and adiabatic invariants in toroidal magnetic fields, A. Bhattacharjee, G. M. Schreiber and J. B. Taylor, *Physics of Fluids B* **4**, 2737 (1992).
58. Finite-time vortex singularity in a model of three-dimensional Euler flows, A. Bhattacharjee and X. Wang, *Physical Review Letters* **69**, 2196 (1992).
59. Forced reconnection, current sheets and coronal heating, X. Wang and A. Bhattacharjee, *The Astrophysical Journal* **401**, 371 (1992).
60. A class of three-dimensional isothermal laminated equilibria and their stability, Y. P. Chou, B. C. Low and A. Bhattacharjee, *The Astrophysical Journal* **416**, 379 (1993).
61. Global asymptotic equilibria and collisionless tearing stability of magnetotail plasmas, X. Wang and A. Bhattacharjee, *Journal of Geophysical Research* **98**, 19,419 (1993).
62. Nonlinear dynamics of the $m = 1$ instability and fast sawtooth collapse in high-temperature plasmas, X. Wang and A. Bhattacharjee, *Physical Review Letters* **70**, 1627 (1993).
63. Suppression of $m=2$ islands by electron cyclotron heating in the Texas Experimental Tokamak : experiment and theory, D. C. Sing, M. E. Austin, D. L. Brower, J. Y. Chen, R. F. Gandy, C. X. Yu, X.-H. Wang, A. Bhattacharjee and D. D. Schnack, *Physics of Fluids B* **5**, 3239 (1993).
64. Neoclassical tearing dynamo and self-sustainment of a steady-state bootstrapped tokamak, Y. Yuan and A. Bhattacharjee, *Physics of Fluids B* **5**, 3661 (1993).
65. Gradient-drift eigenmodes in the equatorial electrojet, X.-H. Wang and A. Bhattacharjee, *Journal of Geophysical Research* **99**, 13219 (1994).
66. Current sheets and reconnection driven by footpoint motion in two-dimensional coronal loops with X-type neutral lines, X. Wang and A. Bhattacharjee, *The Astrophysical Journal* **420**, 415 (1994).

67. Elimination of the sideband instability in variable-parameter free-electron lasers and inverse free-electron lasers, R. P. Pilla and A. Bhattacharjee, *Physics of Plasmas* **1**, 390 (1994).
68. Stability of tearing modes in finite-beta plasmas, R. Iacono, A. Bhattacharjee, C. Ronchi, J. M. Greene and M. H. Hughes, *Physics of Plasmas* **1**, 2645 (1994).
69. Nonlinear dynamics of $m=1$ kink-tearing modes in a modified magnetohydrodynamic model, X. Wang and A. Bhattacharjee, *Physics of Plasmas* **2**, 171 (1995).
70. Theory of pressure-induced islands and self-healing in three-dimensional toroidal magnetohydrodynamic equilibria, A. Bhattacharjee, T. Hayashi, C. C. Hegna, N. Nakajima and T. Sato, *Physics of Plasmas* **2**, 883 (1995).
71. Self-consistency constraints on the dynamo mechanism, A. Bhattacharjee and Y. Yuan, *The Astrophysical Journal* **449**, 739 (1995).
72. Dynamics of current sheet formation and reconnection in two-dimensional coronal loops, Z. W. Ma, C. S. Ng, X. Wang, and A. Bhattacharjee, *Physics of Plasmas* **2**, 3184 (1995).
73. Finite-time vortex singularity and Kolmogorov spectrum in a symmetric three-dimensional spiral model, A. Bhattacharjee, C. S. Ng and X. Wang, *Physical Review E* **52**, 5110 (1995).
74. Tearing stability of the two-dimensional magnetotail, B. G. Harrold, A. Bhattacharjee, and X. Wang, *Physics of Plasmas* **2**, 3857 (1995).
75. Growth, sudden enhancement, and relaxation of current sheets in the magnetotail : two-dimensional substorm dynamics, Z. W. Ma, X. Wang and A. Bhattacharjee, *Geophysical Research Letters* **22**, 2985 (1995).
76. Sufficient condition for a finite-time singularity in a high-symmetry Euler flow: Analysis and statistics, C. S. Ng and A. Bhattacharjee, *Physical Review E* **54**, 1530 (1996).
77. A three-dimensional reconnection model of the magnetosphere: geometry and kinematics, X. Wang and A. Bhattacharjee, *Journal of Geophysical Research* **101**, 2641 (1996).
78. Sideband elimination and high efficiencies in a strongly tapered free-electron laser amplifier, J. Chen and A. Bhattacharjee, *Nuclear Instruments and Methods in Physics Research A* **375**, 363 (1996).
79. Fast reconnection and sudden enhancement of current sheets due to inward boundary flows, X. Wang, Z. W. Ma, and A. Bhattacharjee (Invited Paper at the 36th Annual

- Meeting of the Division of Plasma Physics of the American Physical Society, 7-11 November 1995), *Physics of Plasmas* **3**, 2129 (1996).
80. Interaction of shear-Alfvén wave packets: implications for weak MHD turbulence in astrophysical plasmas, C. S. Ng and A. Bhattacharjee, *The Astrophysical Journal* **465**, 845 (1996).
81. On a kinetic theory for strongly coupled dusty plasmas, X. Wang and A. Bhattacharjee, *Physics of Plasmas (Letters)* **3**, 1189 (1996).
82. Forced magnetic reconnection and the persistence of current sheets in static and rotating plasmas due to a sinusoidal boundary perturbation, Z. W. Ma, X. Wang, and A. Bhattacharjee, *Physics of Plasmas* **3**, 2427 (1996).
83. Fast impulsive reconnection and current sheet intensification due to electron pressure gradients in semi-collisional plasmas, Z. W. Ma and A. Bhattacharjee, *Geophysical Research Letters* **23**, 1673 (1996).
84. Role of photospheric footpoint shear in the impulsive dynamics of the solar corona, Z. W. Ma and A. Bhattacharjee, *Geophysical Research Letters* **23**, 2955 (1996).
85. Lower hybrid waves generated in the wake of the Galileo spacecraft, A. E. Keller, D. A. Gurnett, W. S. Kurth, Y. Yuan, and A. Bhattacharjee, *Planetary and Space Science* **45**, 201 (1997).
86. Forced reconnection and mode-locking in cylindrical plasmas, X. Wang and A. Bhattacharjee, *Physics of Plasmas* **4**, 748 (1997).
87. Linear gradient-drift instabilities in the daytime equatorial electrojet, S. Hu, A. Bhattacharjee and B. G. Harrold, *Journal of Geophysical Research* **102**, 337 (1997).
88. Scaling of anisotropic spectra due to weak interaction of shear-Alfvén wave packets, C. S. Ng and A. Bhattacharjee, *Physics of Plasmas* **4**, 605 (1997).
89. Debye shielding and particle correlations in strongly-coupled dusty plasmas, N. Otani and A. Bhattacharjee, *Physical Review Letters* **78**, 1468 (1997).
90. Continuous spectrum of a nonneutral plasma column, S. N. Bhattacharyya and A. Bhattacharjee, *Physics of Plasmas (Brief Communication)* **4**, 895 (1997).
91. Comments on "Collisionless $m=1$ reconnection in tokamaks" by B. Rogers and L. Zakharov [*Phys. Plasmas* **3**, 2411 (1996)], X. Wang and A. Bhattacharjee, *Physics of Plasmas* **4**, 1173 (1997).
92. Effect of the flow continuum on magnetohydrodynamic stability, S. N. Bhattacharyya and A. Bhattacharjee, *Physics of Plasmas* **4**, 3744 (1997).

93. Hydrodynamic waves and correlation functions in dusty plasmas, X. Wang and A. Bhattacharjee, *Physics of Plasmas* **4**, 3759 (1997).
94. Weakly compressible magnetohydrodynamic turbulence in the solar wind and the interstellar medium, A. Bhattacharjee, C. S. Ng and S. Spangler, *The Astrophysical Journal* **494**, 409 (1998).
95. Structure and dynamics of current sheets at Alfvén resonances in a differentially rotating plasma, X. Wang, A. Bhattacharjee, Z. W. Ma, C. Ren, C. C. Hegna and J. D. Callen, *Physics of Plasmas* **5**, 2291 (1998).
96. Dynamics of thin current sheets and their disruption by ballooning instabilities: a mechanism for magnetospheric substorms, A. Bhattacharjee, Z. W. Ma, and X. Wang (Invited Paper at the 38th Annual Meeting of the Division of Plasma Physics of the American Physical Society, 17-21 November 1997), *Physics of Plasmas* **5**, 2001 (1998).
97. Nonequilibrium and current sheet formation in line-tied magnetic fields, C. S. Ng and A. Bhattacharjee, *Physics of Plasmas* **5**, 4028 (1998).
98. Ballooning instability of a thin current sheet in the high-Lundquist-number magnetotail, A. Bhattacharjee, Z. W. Ma and X. Wang, *Geophysical Research Letters* **25**, 861 (1998).
99. Ginzburg-Landau model for mode competition and single-mode operation of a free-electron laser, C. S. Ng and A. Bhattacharjee, *Physical Review E* **58**, 3826 (1998).
100. Ginzburg-Landau model of a free-electron laser: from single mode to spikes, C. S. Ng and A. Bhattacharjee, *Nuclear Instruments and Methods in Physics Research A* **407**, 34 (1998).
101. Two-dimensional simulations of gradient-drift turbulence in the daytime equatorial electrojet, S. Hu and A. Bhattacharjee, *Journal of Geophysical Research* **103**, 20,749 (1998).
102. Pair correlations in strongly coupled dusty plasmas, X. Wang and A. Bhattacharjee, *Physical Review E* **58**, 4967 (1998).
103. Ionospheric storm forecast for high-frequency communications, S. Hu, A. Bhattacharjee, J. Hou, B. Sun, D. Roesler, S. Friedrich, N. Gibbs and J. Whited, *Radio Science* **33**, 1413 (1998).
104. Sudden enhancement and partial disruption of thin current sheets in the magnetotail due to Hall MHD effects, Z. W. Ma and A. Bhattacharjee, *Geophysical Research Letters* **25**, 3277 (1998).

105. A unified model of acoustic and lattice waves in a one-dimensional strongly coupled dusty plasma, N. Otani, A. Bhattacharjee and X. Wang, *Physics of Plasmas (Brief Communication)* **6**, 409 (1999).
106. Impulsive reconnection dynamics in weakly collisional laboratory and space plasmas, A. Bhattacharjee, Z. W. Ma and X. Wang, *Journal of Geophysical Research* **104**, 14,543 (1999).
107. A comparative study of four-field and fully compressible magnetohydrodynamic turbulence in the solar wind, A. Bhattacharjee, C. S. Ng, S. Ghosh and M. L. Goldstein, *Journal of Geophysical Research* **104**, 24, 835 (1999).
108. Ginzburg-Landau model for a long-pulse low-gain free-electron laser oscillator, C. S. Ng and A. Bhattacharjee, *Nuclear Instruments and Methods in Physics Research A* **429**, 88 (1999).
109. An equilibrium model of the earth's magnetotail: thin current sheet and a near-earth neutral line, X. Wang and A. Bhattacharjee, *Journal of Geophysical Research* **104**, 7045 (1999).
110. Ginzburg-Landau model and single-mode operation of a free-electron laser oscillator, C. S. Ng and A. Bhattacharjee, *Physical Review Letters* **82**, 2665 (1999).
111. Exponential nonlinear growth of a resistive $m=1$ island, X. Wang and A. Bhattacharjee, *Physics of Plasmas (Brief Communication)* **6**, 1674 (1999).
112. Gradient-drift instabilities and turbulence in the nighttime equatorial electrojet, S. Hu and A. Bhattacharjee, *Journal of Geophysical Research* **104**, 28,123 (1999).
113. Four-field model for dispersive field-line resonances: effects of coupling between shear-Alfvén and slow modes, A. Bhattacharjee, C. A. Kletzing, Z. W. Ma, C. S. Ng, N. F. Otani and X. Wang, *Geophysical Research Letters* **26**, 3281 (1999).
114. Transverse electrostatic modes in a one-dimensional strongly-coupled dusty plasma, X. Wang and A. Bhattacharjee, *Physics of Plasmas (Brief Communication)* **6**, 4388 (1999).
115. Kinetic eigenmodes and discrete spectrum of plasma oscillations in a weakly collisional plasma, C. S. Ng, A. Bhattacharjee and F. Skiff, *Physical Review Letters* **83**, 1974 (1999).
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36. A numerical study of magnetic reconnection: a central scheme for Hall MHD, X. Qian, J. Balbas, A. Bhattacharjee, and H. Yang, in *Proceedings of the 12th International Conference on Hyperbolic Problems: Theory, Numerics, Applications, University of Maryland, College Park, June 9-13, 2008*, edited by E. Tadmor, J.-G. Liu, and T. Tzavarus (American Mathematical Society, Providence, 2009), to appear.

INVITED/SELECTED TALKS IN CONFERENCES AND WORKSHOPS

1. Minimum-energy equilibria for toroidal plasmas, Gordon Research Conference on Plasma Physics, Ventura, California, June 16-20, 1980. (Collaborators: R. L. Dewar and D. A. Monticello)
2. Variational method for three-dimensional toroidal equilibria, European Workshop on "Computational problems in the calculation of MHD equilibria," Wildhaus, Switzerland, September 12-14, 1983. (Collaborators: J. C. Wiley and R. L. Dewar)
3. Self-consistent dynamo in reversed field pinches, 1985 Sherwood Theory Conference, Madison, Wisconsin, April 15-17, 1985. (Collaborator: E. Hameiri)
4. Resistive MHD turbulence, scaling laws and the dynamo effect, U.S. Japan Workshop on "MHD relaxation processes," Hiroshima University, Hiroshima, Japan, March 16-19, 1987. (Collaborator: E. Hameiri)
5. Energy confinement in turbulent fluid plasmas, 1987 Sherwood Theory Conference, San Diego, California, April 6-8, 1987. (Collaborator: E. Hameiri)
6. MHD equilibrium and stability of axisymmetric plasmas in the presence of rotation, Joint Varenna-Lausanne International Workshop, International School of Plasma Physics <<Piero Caldirola>>, Varenna, Italy, August 24-28, 1987. (Collaborators: A. Bondeson, R. Iacono, and C. Paranicas)

7. Quantum effects in a free-electron laser, 9th International FEL Conference, Williamsburg, Virginia, September 14-18, 1987. (Collaborator: I. Gjaja)
8. Destabilization of ballooning modes by sheared equilibrium flows in axisymmetric plasmas, 1988 Sherwood Theory Conference, Gatlinburg, Tennessee, April 18-20, 1988. (Collaborators: R. Iacono, J. Milovich, and C. Paranicas)
9. Sideband instabilities and optical guiding in a free-electron laser: experiment and theory, 10th International FEL Conference, Jerusalem, Israel, August 29 - September 2, 1988. (Collaborators: S.Y. Cai, S. P.. Chang, J. W. Dodd, and T.C. Marshall)
10. Ballooning stability of rotating magnetospheres, Third Neil Brice Memorial Symposium on the Magnetospheres of the Outer Planets (Jupiter, Saturn, Uranus, Neptune), Max-Planck Institut fur Aeronomie, Lindau, Federal Republic of Germany, October 10 – 13, 1988. (Collaborator: C. Paranicas)
11. Ballooning stability of axisymmetric rotating plasmas, 30th Annual Meeting of the Division of Plasma Physics, American Physical Society, Hollywood, Florida, October 31 - November 4, 1988. (Collaborators: R. Iacono, J. Milovich, and C. Paranicas)
12. Island formation in magnetostatics and Euler flows, in the IUTAM Symposium on Topological Fluid Mechanics, Cambridge University, Cambridge, United Kingdom, August 13-18, 1989. (Collaborator : C. C. Hegna)
13. Summary Talk on Status of Theory, 1989 International Conference on Plasma Physics, New Delhi, India, November 22-28, 1989.
14. Theory of current disruption and diversion in magnetotail plasmas, 1990 Cambridge Workshop in Theoretical Geoplasma Physics, Massachusetts Institute of Technology, Boston, Massachusetts, July 16-20, 1990. (Collaborators: X. Wang and A. T. Y. Lui)
15. Optical spikes in a free-electron laser: experiment and theory, Twelfth International Free-electron Laser Conference, Paris, France, September 17-21, 1990. (Collaborators: S. Y. Cai, J. W. Dodd and T. C. Marshall)
16. Suppression and control of magnetic islands in toroidal plasmas, Second International Toki Conference on Nonlinear Phenomena in Fusion Plasmas, Toki, Japan, November 27-30, 1990. (Collaborators: C. C. Hegna, Y. Nakamura and M. Wakatani)
17. Current sheet formation and rapid reconnection in the solar corona, Second International Toki Conference on Nonlinear Phenomena in Fusion Plasmas, Toki, Japan, November 27-30, 1990. (Collaborator: X. Wang)
18. Current sheet formation in the solar corona, Tutorial Lecture, 1991 Cambridge Workshop in Theoretical Geoplasma Physics, Massachusetts Institute of Technology, Boston, Massachusetts, June 24-28, 1991.

19. Current sheets and vortex singularities, NATO Advanced Research Workshop on Topological Fluid Mechanics, Institute for Theoretical Physics, University of California, Santa Barbara, California, November 1-5, 1991. (Collaborator : X. Wang)
20. Current sheets (Dedicated to Professor E. N. Parker on the occasion of his 1992 Alfvén Lecture), 1992 Twelfth Annual MIT Symposium, Massachusetts Institute of Technology, Boston, Massachusetts, January 24, 1992.
21. Separatrices and singularities, NATO Advanced Research Workshop on Singularities in Plasmas, Fluids and Optics, University of Crete, Heraklion, Crete, July 6-11, 1992.
22. Global asymptotic equilibria and collisionless tearing stability of magnetotail plasmas, Mini-Workshop on Substorms, Johns Hopkins University Applied Physics Laboratory, Baltimore, Maryland, March 22, 1993. (Collaborator : X. Wang)
23. Current and vortex singularities, Elizabeth and Frederick White Workshop on Fundamental Problems in the Physics of Magnetically Confined Plasmas, Australian Academy of Sciences, Canberra, Australia, 12-15 July, 1993. (Collaborator : X. Wang)
24. Fast sawtooth collapse in tokamaks, Elizabeth and Frederick White Workshop on Fundamental Problems in the Physics of Magnetically Confined Plasmas, Australian Academy of Sciences, Canberra, Australia, 12-15 July, 1993. (Collaborator : X. Wang)
25. Separatrices, singularities and turbulence, 1993 Cambridge Workshop on the Physics of Space Plasmas, Massachusetts Institute of Technology, Boston, Massachusetts, July 19-23, 1993.
26. Suppression of the sideband instability in tapered FELs and IFELs, 15th International Free Electron Laser Conference, The Hague, The Netherlands, August 23-27, 1993. (Collaborator : R. Pilla)
27. Collisionless tearing instabilities and their possible relevance for substorms, The International Conference on Substorms-2, University of Alaska, Fairbanks, Alaska, March 7-11, 1994. (Collaborator : X. Wang)
28. Role of current sheets in nonlinear magnetic island dynamics, *Theory of Fusion plasmas*, Joint Varenna-Lausanne International Workshop, International School of Plasma Physics <<Piero Caldirola>>, Varenna, Italy, August 22-26, 1994.
29. Geometry and dynamics of free and forced magnetic reconnection in the magnetosphere, 1994 Cambridge Workshop on the Physics of Space Plasmas, Bermuda, February 20-25, 1995. (Collaborators : Z.-W. Ma and X. Wang)

30. Separatrices, singularities and the Kolmogorov spectrum, March Meeting of the American Physical Society, San Jose, California, 20-24 March, 1995. (Collaborators: C. S. Ng and X. Wang)
31. Geometry and dynamics of reconnection: implications for substorms, Tutorial Lecture, Plenary Session of the GEM Workshop, Snowmass, Colorado, June 26-30, 1995.
32. Sideband elimination and high efficiencies in a strongly tapered FEL amplifier: Theory and simulation, 17th International Free Electron Laser Conference, New York, New York, August 21-25, 1995. (Collaborator: J. Chen)
33. Lectures on magnetic reconnection, SERC School on Magnetic Reconnection, Institute for Plasma Research, Ahmedabad, India, December 10-30, 1995.
34. Lectures on current sheets and vortex singularities, Nice School on "Vortex Tubes: Observations, Stability, Topology," Observatoire de la Côte d'Azur, Nice, France, May 19-25, 1996.
35. Geometry and dynamics of magnetic reconnection: implications for magnetotail plasmas, The Fifth International School/Symposium for Space Simulations, Radio Atmospheric Science Center, Kyoto University, Kyoto, Japan, March 13-19, 1997.
36. Particle correlations and hydrodynamics of a strongly coupled dusty plasma, Workshop on Dusty Plasmas, Institute for Theoretical Atomic and Molecular Physics, Harvard-Smithsonian Center for Astrophysics, Harvard University, Cambridge, Massachusetts, May 15-17, 1997.
37. Ginzburg-Landau model for single-mode operation of a free-electron laser, 19th International Free Electron Laser Conference, Beijing, China, August 18-22, 1997. (Collaborator: C. S. Ng)
38. Dynamics of thin current sheets and their disruption by ballooning instabilities: a mechanism for magnetospheric substorms, 39th Annual Meeting of the Division of Plasma Physics, American Physical Society, November 17-21, 1997, Pittsburgh, Pennsylvania. (Collaborators: Z. W. Ma and X. Wang)
39. Finite-time singularity of Euler flows, International Chandrasekhar Symposium on Mathematical Physics, Calcutta Mathematical Society, India, December 28, 1997-January 1, 1998.
40. Dynamics of thin current sheets and their disruption by ballooning instabilities: a mechanism for substorm onset, International Conference on Substorms-4, Lake Hamana, Japan, March 9-13, 1998. (Collaborators: Z. W. Ma and X. Wang)
41. Finite-time singularity of a high-symmetry Euler flow, Modern Developments in Computational Fluid Dynamics and Computational Plasma Physics, A Symposium to

Celebrate the 70th Birthday of C. K. Chu, Columbia University, New York, May 14-15, 1998.

42. Impulsive collisionless reconnection and particle acceleration, 1998 Spring Meeting, American Geophysical Union, Boston, Massachusetts, May 26-29, 1998. (Collaborators: Z. W. Ma and J. D. Scudder).

43. Four-field equations: a new model for weakly compressible MHD turbulence in the solar wind, 1998 Cambridge Workshop on the Physics of Space Plasmas, Cascais, Portugal June 23-July 2, 1998. (Collaborators: S. Ghosh, M. L. Goldstein, C. S. Ng, and S. Spangler)

44. Dynamics of thin current sheets and their disruption by ballooning instabilities: a mechanism for substorm onset, 1998 Cambridge Workshop on the Physics of Space Plasmas, Cascais, Portugal, June 23-July 2, 1998. (Collaborators: Z. W. Ma and X. Wang)

45. Ginzburg-Landau equation: a unified nonlinear model for high-gain amplifiers and low-gain oscillators, 20th International Free Electron Laser Conference, Williamsburg, Virginia August 16-21, 1998. (Collaborator: C. S. Ng)

46. Impulsive reconnection dynamics in collisionless laboratory and space plasmas, Mini-Conference on Space Physics, 40th Annual Meeting of the Division of Plasma Physics, American Physical Society, New Orleans, Louisiana, November 16-20, 1998. (Collaborators: Z. W. Ma and X. Wang)

47. Four-field equations: a new model for weakly compressible MHD turbulence in the solar wind and the interstellar medium, Workshop on "Nonlinear MHD Waves and Turbulence," Observatoire de la Côte d'Azur, Nice, France, December 1-4, 1998. (Collaborators: S. Ghosh, M. L. Goldstein, C. S. Ng, and S. R. Spangler)

48. Geometric phase, adiabatic invariants, and reflectionless potentials, "Fusion, Turbulence, and Topology: A Symposium in Honor of J. B. Taylor's 70th Birthday," University of Texas at Austin, Austin, Texas, January 11-12, 1999.

49. Hall magnetohydrodynamic reconnection in collisionless space plasmas, 24th General Assembly of the European Geophysical Society, The Hague, The Netherlands 19-23 April, 1999. (Collaborators: Z. W. Ma, X. Wang, and J. D. Scudder)

50. Magnetic reconnection and dynamos, Fusion Science Assessment Committee Meeting, National Research Council, National Academy of Sciences, La Jolla, California, May 16-19, 1999.

51. Reduced models for MHD turbulence: implications for density fluctuations and anisotropic spectra, Workshop on "Plasma Turbulence and Energetic Particles in

Astrophysics," Cracow, Poland, September 6-10, 1999. (Collaborators: S. Ghosh, M. L. Goldstein, C. S. Ng, and S. R. Spangler)

52. Pair correlations and waves in strongly coupled dusty plasmas, Mini-Conference on Dusty Plasmas, 41st Annual Meeting of the Division of Plasma Physics, American Physical Society, Seattle, November 15-19, 1999. (Collaborators: N. F. Otani and X. Wang)

53. Reduced models for MHD turbulence: implications for density fluctuations and anisotropic spectra, Mini-Conference on Turbulence in the Solar Wind and the Interstellar Medium, 41st Annual Meeting of the Division of Plasma Physics, American Physical Society, Seattle, November 15-19, 1999. (Collaborators: S. Ghosh, M. L. Goldstein, C. S. Ng, and S. R. Spangler)

54. Theory of growth, pre-onset enhancement, and disruption of thin current sheets in the collisionless magnetotail, 1999 Fall Meeting, The American Geophysical Union, San Francisco, December 13-17, 1999. (Collaborator: Z. W. Ma)

55. Collisionless magnetic reconnection: geometry and dynamics, ISTP Science Workshop, NASA Goddard Space Flight Center, Maryland, March 27-29, 2000. (Collaborators: Z. W. Ma, J. D. Scudder, and X. Wang)

56. Magnetic reconnection and the dynamo effect, 2000 April Meeting, The American Physical Society, Long Beach, California, April 29-May 2, 2000.

57. Gradient-drift instabilities and turbulence in the daytime and nighttime equatorial electrojet, The Tenth International Symposium on Equatorial Aeronomy, Antalya, Turkey, May 17-23, 2000. (Collaborator: S. Hu)

58. Landau damping in weakly collisional plasmas and galaxies, Sherwood 2000, Los Angeles, March 27-29, 2000. (Collaborators: C. S. Ng and F. Skiff)

59. Longitudinal and transverse waves in Yukawa crystals, International Topical Conference on Plasma Physics: Colloidal Science, Abdus Salam International Centre for Theoretical Physics, July 3-7, 2000. (Collaborators: X. Wang and S. Hu)

60. Vortex and current singularities in fluids and plasmas, Workshop on Singularities in Classical, Quantum and Magnetic Fluids, Jointly organized by the Isaac Newton Institute for Mathematical Sciences, Cambridge University and Mathematics Research Centre, University of Warwick, Warwick, United Kingdom, October 20-23, 2000. (Collaborator: C. S. Ng.)

61. Recent developments in collisionless reconnection theory: applications to laboratory and space plasmas, Tutorial at the 42nd Annual Meeting of the Division of Plasma Physics of the American Physical Society, Quebec City, Canada, October 23-27, 2000. (Collaborators: Z. W. Ma and X. Wang)

62. Ballooning instabilities: a mechanism for substorm onset, NSF Geospace Environment Modeling Workshop, Snowmass, Colorado, June 17-22, 2001.
63. Recent developments in collisionless reconnection theory: applications to laboratory and astrophysical plasmas, Simulations of Magnetohydrodynamic Turbulence in Astrophysics: Recent Achievements and Perspectives, Paris, France, July 2-6, 2001
64. Collisionless reconnection: scaling and dynamics, IAGA-IASPEI 2001 Joint Scientific Assembly, Hanoi, Vietnam, 19-31 August, 2001.
65. Role of ballooning instabilities and reconnection in substorm dynamics, IAGA-IASPEI 2001 Joint Scientific Assembly, Hanoi, Vietnam, 19-31 August, 2001.
66. Scaling of collisionless reconnection, Mini-Conference on Reconnection in Space and Astrophysical Plasmas, 43rd Annual Meeting of the Division of Plasma Physics of the American Physical Society, Long Beach, California, October 29-November 2, 2001. (Collaborators: Z. W. Ma and X. Wang).
67. Role of reconnection and ballooning instabilities in substorm dynamics, International Conference on Substorms-6, Seattle, Washington, March 25-29, 2002. (Collaborators: L.-J. Chen, Z. W. Ma and P. Zhu).
68. Ionization instabilities and void formation in dusty plasmas, 3rd International Conference on the Physics of Dusty Plasmas, Durban, 20-24 May, 2002 (Collaborators: K. Avinash and S. Hu).
69. Anisotropic MHD turbulence in the solar wind and the interstellar medium, Solar Wind 10, Pisa, June 17-21, 2002 (Collaborator: C.-S. Ng).
70. Summary of Mini-Conference on Singularities in Fluids and Plasmas: Geometry and Dynamics, 44th Annual Meeting of the Division of Plasma Physics, American Physical Society, Orlando, Florida, November 11-15, 2002.
71. Anisotropic fluid turbulence in the solar wind and the interstellar medium, UCR-IGPP Second Annual Astrophysics Conference, Palm Springs, California, February 8-12, 2003 (Collaborator: C. S. Ng).
72. Magnetic Reconnection: From Fusion to Astrophysics, Conference on Turbulence, Department of Mathematics, Institute for Advanced Study, Princeton, March 20-22, 2003.
73. Current and Vortex Singularities: Drivers of Impulsive Reconnection in Plasmas and Fluids, Workshop on Subgrid Scale Turbulence Methods for Geodynamo Simulations, UCLA-Institute of Geophysics and Planetary Physics, Los Angeles, California, July 28-August 1, 2003 (Collaborators: K. Germaschewski and C. S. Ng).

74. Vortex and Current Singularities: Drivers of Impulsive Reconnection, Computations in Science Seminar, University of Chicago, September 10, 2003.
75. Relationship between astrophysical and laboratory dynamos, Dynamo Workshop, Center for Magnetic Self-Organization in Astrophysical and Laboratory Plasmas, University of Chicago, October 13-14, 2003.
76. Current and Vortex Singularities: Drivers of Impulsive Reconnection Dynamics, 45th Annual Meeting of the Division of Plasma Physics of the American Physical Society, Albuquerque, New Mexico, October 27-31, 2003. (Collaborators: K. Germaschewski, R. Grauer, D. Keyes, C. S. Ng, and B. Smith).
77. Fast reconnection and self-organization in laboratory and astrophysical plasmas, Mini-Conference on Laboratory Plasma Astrophysics, 45th Annual Meeting of the Division of Plasma Physics of the American Physical Society, Albuquerque, New Mexico, October 27-31, 2003 (Collaborators: K. Germaschewski, Z. W. Ma, and C. S. Ng).
78. Magnetic Reconnection: Applications to Fusion, Space, and Astrophysical Plasmas, 2004 SciDAC PI Meeting, Charleston, South Carolina, March 22-24, 2004.
79. Role of collisionless reconnection and ballooning instabilities at substorm onset: theory, simulation, and observations, Alfven 2004 Workshop on Space Environment Turbulence, Beaulieu, France, 19-23 April 2004 (Collaborators: N. Bessho, K. Germaschewski, Z. W. Ma, C. S. Ng, and P. Zhu).
80. The spherical tearing mode, GEM 2004 Workshop, Snowmass, Colorado, June 20-25, 2004 (Collaborators: J. Dorelli, J. M. Greene, and S. Hu).
81. Recent Developments in Reconnection Theory: Connections with CMSO Research, General Meeting of the Center for Magnetic Self-Organization (CMSO) in Astrophysical and Laboratory Plasmas, University of Wisconsin, Madison, August 5-6, 2004.
82. Current and Vortex Singularities: Drivers of Impulsive Reconnection Dynamics, Workshop on Magnetic Reconnection in the Sun and Magnetosphere, Isaac Newton Institute of Mathematical Sciences, University of Cambridge, United Kingdom, Spitalfields Day, August 9, 2004. (Collaborators: K. Germaschewski, and C. S. Ng).
83. Collisionless Dynamics and Geometry of Reconnection: Implications for Observations, The 8th Cluster Workshop, University of New Hampshire, Durham, New Hampshire, September 27-October 1, 2004 (Collaborators: N. Bessho, J. Dorelli, K. Germaschewski, J. Greene, S. Hu, Z. W. Ma, and C. S. Ng).
84. Collisionless Reconnection: Dynamics and Geometry, UCR-IGPP Fourth International Astrophysics Conference, Palm Springs, California, February 26-March 3,

- 2005 (Collaborators: J. Dorelli, T. Forbes, K. Germaschewski, J. Greene, S. Hu, Z. W. Ma, and C. S. Ng).
85. Collisionless Reconnection: Dynamics and Geometry, Magnetic Reconnection 2005, Astrophysical Reconnection and Particle Acceleration, Awaji-shima Island, Japan, March 8-10, 2005 (Collaborators: J. Dorelli, T. Forbes, K. Germaschewski, J. Greene, S. Hu, Z. W. Ma, and C. S. Ng).
86. Multi-Scale Modeling of Collisionless Plasmas: From Fusion to Astrophysics, Symposium on the Future of Integrated Modeling (in Honor of Professor Arnold Kritz's 70th Birthday), Princeton Plasma Physics Laboratory, Princeton, New Jersey, July 19-20, 2005 (Collaborators: K. Germaschewski, Z. W. Ma, C. S. Ng, and P. Zhu).
87. Current and Vortex Singularities: Drivers of Impulsive Reconnection in Plasmas and Fluids, Mini-Conference on Reconnection and Turbulence in Fluids and Plasmas, 47th Annual Meeting of the Division of Plasma Physics of the American Physical Society, Denver, Colorado, October 24-28, 2005 (Collaborators: K. Germaschewski and C. S. Ng).
88. Lectures on Magnetic Reconnection, Center for Multiscale Plasma Dynamics/Center for Magnetic Self-Organization Winter School 2006 on the Physics of Magnetic Reconnection, UCLA Department of Physics and Astronomy, January 9-14, 2006.
89. Current Sheets in Line-Tied Systems: Structure and Stability, Workshop on Magnetic Reconnection in Line-Tied Systems, Center for Magnetic Self-Organization, Los Alamos National Laboratory, Los Alamos, New Mexico, March 2-3, 2006 (Collaborators: J. Dorelli, K. Germaschewski, J. Greene, S. Hu, C. S. Ng, and P. Zhu).
90. Role of Nonlinear Ballooning Modes and Magnetic Reconnection at Substorm Onset, Eighth International Conference on Substorms, Banff, Canada, March 27-31, 2006 (Collaborators: L.-J. Chen, M. Fillingim, K. Germaschewski, R. Lin, Z. W. Ma, C. Mouikis, K. Sigsbee, G. Parks, and P. Zhu).
91. Current and Vortex Singularities: Drivers of Impulsive Reconnection in Plasmas and Fluids, Numerical Modeling of Space Plasma Flows, CalSpace-IGPP/UCR Conference, March 27-31, 2006 (Collaborators: K. Germaschewski and C.-S. Ng).
92. Magnetic Reconnection: Collisionless Dynamics and Three-Dimensional Geometry, Review Presentation, 48th Annual Meeting of the Division of Plasma Physics of the American Physical Society, Philadelphia, Pennsylvania, October 30 – November 3, 2006.
93. Vortex and Current Singularities, Minisymposium on Fluid Dynamics and Plasma Physics, 59th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, Tampa Bay, Florida, November 19-21, 2006 (Collaborators: K. Germaschewski, R. Grauer, and C.-S. Ng).

94. Weakly Compressible MHD Turbulence in the Solar Wind: Scaling of Density and Anisotropic Magnetic Fluctuation Spectra, 6th Annual International Astrophysics Conference, IGPP-UCR, Turbulence and Nonlinear Processes in Astrophysical Plasmas, March 16-22, 2007 (Collaborators: C.-S. Ng, C. Smith, and B. Vasquez).
95. Role of Collisionless Reconnection in Magnetospheric Substorms and Solar Flares: a Comparative Study, The CAWSES Workshop on Comparative Study of Solar Flares and Magnetospheric Substorms as a Basis for Space Weather Research, Fairbanks, Alaska, March 18-20, 2007.
96. Fast Reconnection and its Nonlinear Stabilization in Laboratory and Space Plasmas, MR2007, US-Japan Workshop on Magnetic Reconnection, St. Michaels, Maryland, March 26-29, 2007.
97. Separator Reconnection at the Earth's Magnetopause, 2007 Joint Assembly, Acapulco, Mexico, May 22-25, 2007 (Collaborators: J. Dorelli and J. Raeder)
98. Fast Reconnection and its Nonlinear Stabilization in Laboratory and Magnetospheric Plasmas, 2007 Joint Assembly, Acapulco, Mexico, May 22-25, 2007 (Collaborators: K. Germaschewski and P. Zhu)
99. Landau Damping in Weakly Collisional Plasmas and BGK Waves, Symposium on Recent Advances in Plasma Physics---In Celebration of Ronald C. Davidson's 40 Years of Plasma Physics Research and Graduate Education, Princeton Plasma Physics Laboratory, Princeton University, June 10-12, 2007 (Collaborators: C.-S. Ng and F. Skiff).
100. Current and Vortex Singularities: Drivers of Impulsive Reconnection in Plasmas and Fluids, Frontiers of Nonlinear Physics, Nizhny Novgorod, Russia, July 3-9, 2007.
101. Fast Reconnection and its Nonlinear Stabilization in Laboratory and Space Plasmas, IPELS (Interrelationship between Plasma Experiments in Laboratory and Space) 2007, Cairns, Australia, August 6-10, 2007.
102. Relaxation of Line-Tied Coronal Plasmas to MHD Equilibria with Current Singularities, 2007 Fall Meeting, The American Geophysical Union, San Francisco, December 10-14, 2007 (Collaborator: C.-S. Ng).
103. Onset of Fast Reconnection and its Nonlinear Stabilization in Laboratory and Space Plasmas, MR2008, US-Japan Workshop on Magnetic Reconnection, Okinawa, Japan, March 3-6, 2008 (Collaborators: K. Germaschewski, Q. Xin, and H. Yang).
104. Scaling of Reconnection and Stability of Current Sheets in Large Systems, EGU General Assembly 2008, Vienna, Austria, April 14-18, 2008 (Collaborators: Q. Xin and H. Yang).

105. Role of Reconnection and Secondary Instabilities in Triggering Substorms and Flares/CMEs, ICS 9, Ninth International Conference on Substorms, Schloss Seggau, Austria, May 5-9, 2008.
106. Scaling of Energy Spectra and Implications for Ion Heating in the Solar Wind, GEM-SHINE Workshop, Zermatt, Utah, June 23-27, 2008 (Collaborators: C. S. Ng, P. Isenberg, and D. Munsi)
107. Role of Reconnection and Secondary Instabilities in the Onset of Substorms and Flares/CMEs, GEM-SHINE Workshop, Zermatt, Utah, June 23-27, 2008 (Collaborators: C. S. Ng, P. Isenberg, and D. Munsi)
108. Onset of Fast Reconnection in Laboratory and Space Plasmas, 37th COSPAR (Committee on Space Research) Scientific Assembly, Montreal, Canada, July 13-20, 2008.
109. Magnetic Reconnection in the Heliosphere: Impulsive Dynamics and Particle Acceleration, Cracow 2008 Conference on Kinetic Modeling of Astrophysical Plasmas, Krakow, Poland, October 5-9, 2008.
110. Magnetic Reconnection, Grand Challenges in Fusion Energy Sciences and the Role of Computing at the Extreme Scale, Washington D. C., March 18-20, 2009.