

Chung-Sang Ng

Address: Geophysical Institute, University of Alaska Fairbanks, PO Box 757320, Fairbanks, AK 99775, USA (Office); P. O. Box 750224, Fairbanks, NH 99775 (Home).
Phone: (907) 474-7367 (Office); Fax: (907) 474-7125; E-mail: cng2@alaska.edu

Employment History

2008 — present	Associate Professor	University of Alaska Fairbanks
2013 — 2014	Visiting Researcher (sabbatical)	Princeton Plasma Physics Laboratory
2006 — 2008	Adjunct Associate Professor	University of Maryland University College
2003 — 2008	Research Assistant Professor	University of New Hampshire
2002 — 2003	Associate Research Scientist	The University of Iowa
1996 — 2002	Assistant Research Scientist	The University of Iowa
1994 — 1996	Research Investigator	The University of Iowa
1989 — 1994	Research/Teaching Assistant	Auburn University
1988 — 1989	Full-time Teaching Assistant	The Chinese University of Hong Kong
1986 — 1988	Graduate Teaching Assistant	The Chinese University of Hong Kong

Education

1994 Ph.D.	physics	Auburn University, Auburn, Alabama, USA
1988 M.Phil.	physics	The Chinese University of Hong Kong, Hong Kong
1986 B.S.	physics	The Chinese University of Hong Kong, Hong Kong

Research Interests

Main area: *Theoretical/computational plasma physics, with applications in space and fusion plasmas.* Topics (main results/publications – see list below): *MHD turbulence* (show general existence of 3-wave interaction [11], derive scaling of weak turbulence [13,18,25], confirm IK spectrum and local anisotropy in 2D MHD simulations [29,30,37], show importance of background inhomogeneity in compressible turbulence [14,22], show consistency of IK energy cascade with solar wind heating observations [43], found scale-dependent alignment of velocity and magnetic fluctuations even in 2D MHD [ongoing work]), *heating of the solar corona* (analytical and computational support of the Parker's theory [17], developing new computational scheme [40,41], show that heating rate is independent of dissipation mechanism with random footpoint motion [39,45,49], and relate to complex systems [52,55,56]) and *heating of the solar wind* [43,46], *Landau damping* (show a complete discrete spectrum which tends to Landau's roots in weak collision limit [21,31,35,54], support experimental work [24,28]), *BGK modes* (exact 3D Vlasov solutions [33], 2D Vlasov-Maxwell solutions [35,44], stability studies [48], and in dusty plasmas [in preparation]), *magnetic reconnection* (analytic support of simulations of solar corona [9], and lab plasmas [32,36], systems with multiple magnetic null points [42] or turbulence [47]), *dusty plasmas* (simulations of dust void formation [34,38], waves [53]), *field-line resonances in ionosphere/magnetosphere* (analysis [23] and simulations [ongoing work]), *hydrodynamic singularities* (possible Euler singularity in a model [10], and the highly-symmetric Kida flow [12,27]), *free-electron laser* (describe an oscillator by the Ginzburg-Landau model [19-20], study mode competition [15-16], and application in whistler waves in

the magnetosphere [50]), *mode conversion in fusion plasmas* (new method in calculating scattering parameters [5,6], emission [7,8]), *classical electrodynamics* (new method of calculating radiation energy from a point charge [4], radiation from a moving source in media [2,3], axially enhanced radiation in plasmas [1] and biaxial media [26]), *GPU computing* [51].

Grants

Principal Investigator: National Aeronautics and Space Administration Award NNX15AU61G, *Heating of the Solar Wind and Corona by Imbalanced Magnetohydrodynamic Turbulence*, \$228,765, 9/1/2015 - 8/31/2017.

Principal Investigator: Alaska NASA EPSCoR RID Seed Grant (NNX13AB28A), *Observation of Kinetic Flux Ropes during the Magnetospheric Multiscale (MMS) Mission*, \$29,900, 5/1/2015 – 4/30/2016.

Co-Investigator: National Aeronautics and Space Administration Award NNX14AM27G (PI: P. Delamere), *Large-scale radial plasma transport and heating in planetary magnetosphere*, \$739,697, 6/1/2014 – 5/31/2017 (one month per year).

Principal Investigator: National Natural Science Foundation of China grant 41128004, *Theory and Simulations of Multi-dimensional Electron Phase Space Holes in Plasmas*, 200,000.00 CN¥ (~\$31,339.12), 01/01/2012 – 12/31/2013.

Principal Investigator: US Air Force Subcontract UOA43S Under Contract FA8718-09-C-OOS2, *Dynamics of Interchange Instability in the Presence of Finite Larmor Radius Effects and Collisions with Neutrals*, \$37,900.00, 07/20/2011 – 12/20/2011.

Principal Investigator: National Science Foundation Award PHY-1004357, *Nonlinear Studies of a Weakly Collisional Plasma: Landau Damping and 3D BGK Modes*, \$435,000, 09/01/2010 – 02/29/2016.

Principal Investigator: National Science Foundation Award AGS-0962477, *SHINE: Self-Consistent Turbulent Magnetic Reconnection in the Solar Corona*, \$383,718, 04/01/2010 – 09/30/2014.

Principal Investigator: National Aeronautics and Space Administration Award NNX08BA71G *Heating and Acceleration of the Solar Wind and Corona by Anisotropic MHD and Hall MHD Turbulence*, \$370,909, 09/01/2008 – 08/31/2014.

Principal Investigator: National Science Foundation Award AST-0434322: *Spectral Element Method for the Study of Current Sheets in Astronomical Magnetic Fields*, \$449,789, 10/01/2004 – 09/30/2008.

Principal Investigator: Grants of HPC resources from the Arctic Region Supercomputing Center and the DoD High Performance Computing Modernization Program, 2,480,000 total CPU hours of allocation since October, 2008 to present.

Teaching Experience

2018 PHYS 612 Mathematical Physics II (*Graduate level*)

2017 PHYS 611 Mathematical Physics I (*Graduate level*)

2017-now Advising one Physics MS student

2016-now Advising one Space Physics PhD student

2016 PHYS 672 Magnetospheric Physics (*Graduate level*)

Since 2015 PHYS 472G Solar Physics (*Upper undergraduate level*) – two times

2013 Advised one undergraduate student research

Since 2012 PHYS 622 Statistical Mechanics (*Graduate level*) – two times

2011 PHYS 673 Space Physics (*Graduate level*)

Since 2011 PHYS 632 Electromagnetic Theory II (*Graduate level*) – four times

Since 2010 PHYS 471C Space and Auroral Physics (*Upper undergraduate level*) – three times

Since 2010 PHYS 631 Electromagnetic Theory I (*Graduate level*) – five times

2010 – 2012 Advised two graduate students on their research for master degrees (*one graduated in May 2012*)

2009 PHYS 626 Fundamentals of Plasma Physics (*Graduate level*)

2009 Advised a graduate student during the summer for a research project

Since 2009 PHYS 301 Introduction To Mathematical Physics (*Undergraduate level*) – two times

2007 – 2011 Advised a graduate student on PhD research (*at UNH, and continue remotely from UAF; Graduated in September 2011*)

2007 NSCI 100 Introduction to Physical Science (*online course with UMUC*)

2006 Took a course to learn the online teaching system at UMUC

2006 PHYS/EOS 940 Physics of Fluids (*Graduate level at UNH*)

2005, 2007 PHYS 407 General Physics I (*Lower undergraduate level/calculus at UNH*)

2005 PHYS/EOS 712/812 Introduction to Space Plasma (*Upper undergraduate/Graduate level at UNH*)

2004 PHYS 401 Introduction to Physics I (*Lower undergraduate level/noncalculus at UNH*)

2004 PHYS 407R General Physics I Recitation (*Lower undergraduate level/calculus at UNH*)

1986-1994 Statistical Mechanics Recitation, Modern Physics Recitation, Quantum Mechanics Recitation, Nuclear Physics Lab, Modern Physics Lab, Optics Lab, Electronics Lab, E &M Lab, General Physics Labs.

Partial List of Invited/Selected Talks in Conferences/Workshops

- 2016 Invited talk: *Simulations and Transport Models for Imbalanced Magnetohydrodynamic Turbulence*, ASTRONUM 2016 - 11th International Conference on Numerical Modeling of Space Plasma Flows, Monterey, California, June 6-10.
- 2015 Invited talk: *Exact Vlasov Solutions for Kinetic Flux Ropes Generated during Magnetic Reconnection*, 2015 AGU Chapman Conference, Fairbanks, AK, September 28 – October 2.
- 2014 Invited talk: *Surface Currents during a Major Disruption*, 2014 Theory and Simulation of Disruptions Workshop, Princeton, New Jersey, July 9-11.
- 2014 Invited talk: *From the Parker Model to Turbulent Heating of the Solar Corona*, 9th Annual International Conference on Numerical Modeling of Space Plasma Flows (ASTRONUM-2014), Long Beach, CA, June 23-27.
- 2013 Invited talk: *MHD Simulations of the Parker Model of Solar Coronal Heating*, given at the Space Seminar at the Princeton Plasma Physics Laboratory on November 19.
- 2013 Invited talk: *MHD Turbulence and the Heating of the Solar Wind*, given at the School of Earth and Space Sciences, University of Science and Technology of China, Hefei, Anhui, China, on August 19.
- 2013 Invited talk: *Distribution of Nanoflares as Spatially Resolved Current Sheets in the Solar Corona*, 12th Annual International Astrophysics Conference: Outstanding Problems in Heliosphysics: from Coronal Heating to the Edge of the Heliosphere, Myrtle Beach, South Carolina, April 15-19.
- 2012 Invited talk: *Stability Studies of Two-dimensional Magnetic Bernstein-Greene-Kruskal Modes using PIC Simulations*, 1st International Workshop on Ionospheric Turbulence, Dayton, OH, August 7-9.
- 2012 Invited talk: *Reduced MHD Simulations of the Solar Corona using GPU Accelerated Machines*, given at the State Key Laboratory of Space Weather at Beijing, China, on July 12.
- 2012 Invited talk: *Stability Studies of Two-dimensional Magnetic Bernstein-Greene-Kruskal Modes using PIC Simulations*, given at the School of Earth and Space Sciences, University of Science and Technology of China, Hefei, Anhui, China, on July 9.
- 2012 Invited talk: *Current Sheet Statistics in Three-Dimensional Simulations of Coronal Heating*, 7th Annual International Conference on Numerical Modeling of Space Plasma Flows (ASTRONUM-2012), Big Island, HI, June 24-29.
- 2012 Invited talk: *Energy Distribution of Nanoflares in Three-Dimensional Simulations of Coronal Heating*, 11th Annual International Astrophysics Conference: The Space Radiation Environment, Palm Springs, California, March 19-23.
- 2011 Invited talk: *Turbulent Magnetic Reconnection in High-Lundquist Number Two-Dimensional Resistive MHD Simulations*, The 8th International Cambridge Workshop on Magnetic Reconnection 2011, Durham, NH, August 15-19.
- 2011 Invited talk: *Stability Studies of Two-dimensional Magnetic Bernstein-Greene-Kruskal Modes using PIC Simulations*, the 7th Joint Meeting of the Chinese Physicists Worldwide and International Conference on Physics Education and Frontier Physics (OCPA7), Kaohsiung, Taiwan, August 1-5.

- 2011 Invited talk: *Large-Scale High-Lundquist Number Reduced MHD Simulations of the Solar Corona using GPU Accelerated Machines*, ASTRONUM-2011 - the 6th Annual International Conference on Numerical Modeling of Space Plasma Flows, Valencia, Spain, June 13-17.
- 2011 Invited talk: *Electrostatic Structures in Space Plasmas: Properties of Two-dimensional Magnetic Bernstein-Greene-Kruskal Modes*, 10th Annual International Astrophysics Conference: Physics of the Heliosphere: A 10-year Retrospective, Maui, Hawaii, March 13 - 18.
- 2010 Invited talk: *High Lundquist Number Resistive MHD Simulations of Magnetic Reconnection: Searching for Secondary Island Formation*, ASTRONUM-2010 - the 5th Annual International Conference on Numerical Modeling of Space Plasma Flows, San Diego, California, June 13-18.
- 2010 Invited talk: *The Effect of Magnetic Turbulence Energy Spectra and Pickup Ions on The Heating of the Solar Wind*, 9th Annual International Astrophysics Conference: Pickup Ions Throughout the Heliosphere and Beyond, Maui, Hawaii, March 14 - 19.
- 2009 Invited talk: *Three Dimensional Simulations of the Parker's Model of Solar Coronal Heating: Lundquist Number Scaling due to Random Photospheric Footpoint Motion*, ASTRONUM-2009 – the 4th International Conference on Numerical Modeling of Space Plasma Flows, June 29th - July 3rd, 2009, Chamonix, France.
- 2008 Invited talk: *A Comparison of Spectral Element and Finite Difference Methods Using Statically Refined Nonconforming Grids for the MHD Island Coalescence Instability Problem*, ASTRONUM-2008 – the 3rd International Conference on Numerical Modeling of Space Plasma Flows at St. John, U.S. Virgin Islands.
- 2007 Selected talk: *The Effect of Magnetic Turbulence Energy Spectral Scaling on the Heating of the Solar Wind*, Living With a Star Science Workshop 2007, Boulder, Colorado.
- 2007 Invited talk: *Anisotropic MHD Turbulence*, 6th IGPP Annual International Astrophysics Conference on "Turbulence and Nonlinear Processes in Astrophysical Plasmas" in Honolulu, Hawaii.
- 2005 Invited talk: *Weakly Collisional Landau Damping and 3D BGK Modes: New Results on Old Problems*, 47th Annual Meeting, APS Division of Plasma Physics, Denver, Colorado.
- 2003 Invited talk: *Four-field model for dispersive field-line resonances*, 7th Workshop on the Interrelationship between Plasma Experiment in Laboratory and Space (IPELS) in Whitefish, Montana.
- 2002 Invited talk: *Anisotropic MHD turbulence in the interstellar medium and the solar wind*, 44th Annual Meeting, APS Division of Plasma Physics, Orlando, Florida.
- 2002 Invited talk: *Non-equilibrium and current sheet formation in line-tied magnetic fields*, Mini-Conference on Singularities in Fluids and Plasmas, 44th Annual Meeting, APS Division of Plasma Physics, Orlando, Florida.
- 1999 Invited talk: *Anisotropic MHD turbulence spectra due to the weak interaction of shear-Alfvén wave packets*, Mini-Conference on Turbulence in the Interstellar Medium and Solar Wind, 41st Annual Meeting, APS Division of Plasma Physics, Seattle, Washington.

1998 Selected talk: *Interaction of shear-Alfvén wave packets: implication for anisotropic MHD turbulence in the interstellar medium*, Interstellar Turbulence, Guillermo Haro International Program, Puebla, Mexico.

Refereed Publications (as of 10/1/17, 907 total citations according to ISI – h-index: 16; 1208 citations according to Google Scholar – h-index: 18)

See: <http://www.researcherid.com/rid/F-2980-2011> using ISI data, and <http://scholar.google.com/citations?user=DQHk1LwAAAAJ>

- [63] C. S. Ng and T. Dennis, *From the Parker Heating to Turbulent Heating of the Solar Corona*, to be submitted to *Astrophysical Physics Journal Letters*, in preparation.
- [62] C. S. Ng and T. Dennis, *Non-Axisymmetric Three-Dimensional Magnetic Bernstein-Greene-Kruskal (BGK) Modes*, to be submitted to *Physics of Plasmas*, in preparation.
- [61] C. S. Ng, T. Dennis, S. J. Soundararajan, M. Wu, and Q. Lu, *Stability of Two-dimensional Magnetic Bernstein-Green-Kruskal Modes*, to be submitted to *Physics of Plasmas*, in preparation.
- [60] C. S. Ng, T. Dennis, A. Bains, and L.-J. Chen, *Three-dimensional Bernstein-Greene-Kruskal Modes in Finite Magnetic Field as Electrostatic Solitary Waves in Space Plasmas*, to be submitted to *Physics of Plasmas*, in preparation.
- [59] C. S. Ng, P. A. Delamere, V. Kaminker, and P. A. Damiano *Radial Transport and Plasma Heating in Jupiter’s Magnetodisc*, *Journal of Geophysical Research*, 123 (2018).
- [58] C. S. Ng, and A. Bhattacharjee, *Surface Currents Associated with External Kink Modes in Tokamak Plasmas during a Major Disruption*, *Physics of Plasmas*, **24**, 102520 (2017).
- [57] V. Kaminker, P. A. Delamere, C. S. Ng, T. Dennis, A. Otto, and X. Ma, *Local time dependence of turbulent magnetic fields in Saturn’s magnetodisc*, *Journal of Geophysical Research*, **122**, 3972-3984 (2017).
- [56] C. S. Ng and L. Lin, *Distribution of Nanoflares as Spatially Resolved Current Sheets in the Solar Corona*, *ASP Conf. Ser.*, **484**, 162 (2014).
- [55] L. Lin, C. S. Ng, and A. Bhattacharjee, *Current Sheet Statistics in Three-Dimensional Simulations of Coronal Heating*, *ASP Conf. Ser.*, **474**, 159
- [54] C. Black, K. Germaschewski, A. Bhattacharjee, and C. S. Ng, *Discrete Kinetic Eigenmode Spectra of Electron Plasma Oscillations in Weakly Collisional Plasma: A Numerical Study*, *Phys. Plasmas*, **20**, 012125 (2013).
- [53] A. S. Bains, M. Tribeche, and C. S. Ng, *Dust-acoustic wave modulation in the presence of q-nonextensive electrons and/or ions in dusty plasma*, *Astrophys. Space Sci*, **343**, 621 (2013).
- [52] C. S. Ng and L. Lin, *Energy Distribution of Nanoflares in Three-Dimensional Simulations of Coronal Heating*, *AIP Conf. Proc.*, **1500**, 38 (2012).
- [51] L. Lin, C. S. Ng, and A. Bhattacharjee, *Large-Scale High-Lundquist Number Reduced MHD Simulations of the Solar Corona using GPU Accelerated Machines*, *ASP Conference Series*, **459**, 222 (2012).

- [50] A. R. Soto Chavez, A. Bhattacharjee, and C. S. Ng, *Chorus Wave Amplification: A Free Electron Laser in the Earth's Magnetosphere*, Phys. Plasmas, **19**, 010701 (2012).
- [49] C. S. Ng, L. Lin, and A. Bhattacharjee, *High-Lundquist Number Scaling in Three-Dimensional Simulations of Parker's Model of Coronal Heating*, Astrophys. J., **747**, 109 (2012).
- [48] C. S. Ng, S. J. Soundararajan, and E. Yasin, *Electrostatic Structures in Space Plasmas: Stability of Two-dimensional Magnetic Bernstein-Greene-Kruskal Modes*, AIP Conf. Proc. **1436**, 55 (2012).
- [47] C. S. Ng and S. Rangunathan, *High-Lundquist Number Resistive MHD Simulations of Turbulent Magnetic Reconnection with Secondary Island Formation and Enhanced Reconnection Rate*, ASP Conference Series, **444**, 124, (2011).
- [46] C. S. Ng, A. Bhattacharjee, D. Munsi, P. A. Isenberg, and C. W. Smith, *The Effect of Magnetic Turbulence Energy Spectra and Pickup Ions on the Heating of the Solar Wind*, AIP Conf. Proc., **1302**, 174 (2010).
- [45] C. S. Ng, L. Lin, and A. Bhattacharjee, *Three-Dimensional Simulations of the Parker's Model of Solar Coronal Heating: Lundquist Number Scaling due to Random Photospheric Footpoint Motion*, ASP Conference Series, **429**, 201 (2010).
- [44] C. S. Ng and A. Bhattacharjee, *Response to "Comment on 'Weakly collisional Landau damping and three-dimensional Bernstein-Greene-Kruskal modes: New results on old problems'"*, Phys. Plasmas **17**, 054701 (2010).
- [43] C. S. Ng, A. Bhattacharjee, D. Munsi, P. A. Isenberg, and C. W. Smith, *Kolmogorov versus Iroshnikov-Kraichnan spectra: Consequences for ion heating in the solar wind*, J. Geophys. Res., **115**, A02101 (2010).
- [42] X. H. Deng, M. Zhou, S. Y. Li, W. Baumjohann, M. Andre, N. Cornilleau, O. Santolík, D. I. Pontin, H. Reme, E. Lucek, A. N. Fazakerley, P. Decreau, P. Daly, R. Nakamura, R. X. Tang, Y. H. Hu, Y. Pang, J. Büchner, H. Zhao, A. Vaivads, J. S. Pickett, C. S. Ng, X. Lin, S. Fu, Z. G. Yuan, Z. W. Su, and J. F. Wang, *Dynamics and waves near multiple magnetic null points in reconnection diffusion region*, J. Geophys. Res., **114**, A07216, doi:10.1029/2008JA013197 (2009).
- [41] C. S. Ng, D. Rosenberg, K. Germaschewski, A. Pouquet, and A. Bhattacharjee, *A Comparison of spectral element and finite difference methods using statically refined nonconforming grids for the MHD island coalescence instability problem*, ASP Conference Series, **406**, 255 (2009).
- [40] C. S. Ng, D. Rosenberg, K. Germaschewski, A. Pouquet, and A. Bhattacharjee, *A Comparison of Spectral Element and Finite Difference Methods Statically Refined Nonconforming Grids for the MHD Island Coalescence Instability Problem*, Astrophys. J. Suppl., **177**, 613 (2008).
- [39] C. S. Ng and A. Bhattacharjee, *A Constrained Tectonics Model for Coronal Heating*, Astrophys. J., **675**, 899 (2008).

- [38] C. S. Ng, A. Bhattacharjee, S. Hu, Z. W. Ma, and K. Avinash, *Generalizations of a nonlinear fluid model for void formation in dusty plasmas*, Plasma Phys. Control. Fusion, **49**, 1583 (2007).
- [37] C. S. Ng and A. Bhattacharjee, *Anisotropic MHD Turbulence*, AIP Conf. Proc., **932**, 137 (2007).
- [36] K. Germaschewski, A. Bhattacharjee, and C. S. Ng, *The Magnetic Reconnection Code: an AMR-based fully implicit simulation suite*, ASP Conf. Ser., **359**, 151 (2006).
- [35] C. S. Ng, A. Bhattacharjee, and F. Skiff, *Weakly Collisional Landau Damping and Three-Dimensional Bernstein-Greene-Kruskal Modes: New Results on Old Problems*, Phys. Plasmas, **13**, 055903 (2006).
- [34] A. Bhattacharjee, C. S. Ng, K. Avinash, S. Hu, and Z. W. Ma, *Nonlinear Theory and Simulation of Void Formation in Dusty Plasmas*, AIP Conf. Proc., **799**, 145 (2005).
- [33] C. S. Ng and A. Bhattacharjee, *Bernstein-Greene-Kruskal Modes in a Three-Dimensional Plasma*, Phys. Rev. Lett., **95**, 245004 (2005).
- [32] A. Bhattacharjee, K. Germaschewski, and C. S. Ng, *Current Singularities: Drivers of Impulsive Reconnection*, Phys. Plasmas, **12**, 042305 (2005).
- [31] C. S. Ng, A. Bhattacharjee, and F. Skiff, *Complete Spectrum of Kinetic Eigenmodes for Plasma Oscillations in a Weakly Collisional Plasma*, Phys. Rev. Lett., **92**, 065002 (2004).
- [30] A. Bhattacharjee and C. S. Ng, *Anisotropic MHD Turbulence in the Interstellar Medium and Solar Wind*, AIP Conf. Proc., **679**, 433 (2003).
- [29] C. S. Ng, A. Bhattacharjee, K. Germaschewski, and S. Galtier, *Anisotropic Fluid Turbulence in the Interstellar Medium and the Solar Wind*, Phys. Plasmas, **10**, 1954 (2003).
- [28] F. Skiff, H. Gunell, A. Bhattacharjee, C. S. Ng, and W. A. Noonan, *Electrostatic Degrees of Freedom in Non-Maxwellian Plasma*, Phys. Plasmas, **9**, 1931 (2002).
- [27] C. S. Ng, and A. Bhattacharjee, *Sufficient condition for finite-time singularity and tendency towards self-similarity in a high-symmetry flow*, in "TUBES, SHEETS and SINGULARITIES in FLUID DYNAMICS", K. Bajer, and H. K. Moffatt (Eds.) (Kluwer, Dordrecht, 2002) pp. 317-328.
- [26] H. M. Lai, B. Y. Xu, and C. S. Ng, *Unusual $1/r$ -Dependent Radiation Intensity in any Biaxial Crystal*, Phys. Rev. E, **64**, 016606 (2001).
- [25] A. Bhattacharjee, and C. S. Ng, *Random Scattering and Anisotropic Turbulence of Shear-Alfvén Wave Packets*, Astrophys. J., **548**, 318 (2001).
- [24] F. Skiff, C. S. Ng, A. Bhattacharjee, W. A. Noonan, and A. Case, *Wave-particle Interaction*, Plasma Phys. Contr. Fusion, **42**, B27 (2000).
- [23] A. Bhattacharjee, C. A. Kletzing, Z. W. Ma, C. S. Ng, N. F. Otani, and X. Wang, *Four-Field Model for Dispersive Field-Line Resonances: Effects of Coupling between Shear-Alfvén and Slow Modes*, Geophys. Res. Lett., **26**, 3281 (1999).
- [22] A. Bhattacharjee, C. S. Ng, S. Ghosh, and M. L. Goldstein, *A Comparative Study of Four-Field and Fully Compressible Magnetohydrodynamic Turbulence in the Solar Wind*, J. Geophys. Res., **104**, 24835 (1999).

- [21] C. S. Ng, A. Bhattacharjee, and F. Skiff, *Kinetic Eigenmodes and Discrete Spectrum of Plasma Oscillations in a Weakly Collisional Plasma*, Phys. Rev. Lett., **83**, 1974 (1999).
- [20] C. S. Ng, and A. Bhattacharjee, *Ginzburg-Landau Model for a Long-Pulse Low-Gain Free-Electron Laser Oscillator*, Nucl. Instrum. Methods Phys. Res. A, **429**, 88, (1999).
- [19] C. S. Ng, and A. Bhattacharjee, *Ginzburg-Landau Model and Single-Mode Operation of a Free-Electron Laser Oscillator*, Phys. Rev. Lett., **82**, 2665 (1999).
- [18] A. Bhattacharjee, and C. S. Ng, *Reduced Models of Magnetohydrodynamic Turbulence in the Interstellar Medium and the Solar Wind*, in "Nonlinear MHD waves and turbulence: proceedings of the workshop, held in Nice, France, 1-4 December 1998", T. Passot, P.-L. Sulem (eds.) (Springer, Berlin, 1999) pp. 182-197.
- [17] C. S. Ng, and A. Bhattacharjee, *Non-Equilibrium and Current Sheet Formation in Line-Tied magnetic Fields*, Phys. Plasmas, **5**, 4028 (1998).
- [16] C. S. Ng, and A. Bhattacharjee, *Ginzburg-Landau Model for Mode Competition and Single-Mode Operation of a Free-Electron Laser*, Phys. Rev. E., **58**, 3826 (1998).
- [15] C. S. Ng, and A. Bhattacharjee, *Ginzburg-Landau Model for a Free-Electron Laser: From Single Mode to Spikes*, Nucl. Instrum. Methods Phys. Res. A., **407**, 34 (1998).
- [14] A. Bhattacharjee, C. S. Ng, and S. R. Spangler, *Weakly Compressible Magnetohydrodynamic Turbulence in the Solar Wind and the Interstellar Medium*, Astrophys. J., **494**, 409 (1998).
- [13] C. S. Ng, and A. Bhattacharjee, *Scaling of Anisotropic Energy Spectra Due to the Weak Interaction of Shear-Alfvén Wave Packets*, Phys. Plasmas, **4**, 605 (1997).
- [12] C. S. Ng, and A. Bhattacharjee, *Sufficient Condition for a Finite-Time Singularity in a High-Symmetry Euler Flow: Analysis and Statistics*, Phys. Rev. E, **54**, 1530 (1996).
- [11] C. S. Ng, and A. Bhattacharjee, *Interaction of Shear Alfvén Wave Packets: Implication for Weak MHD Turbulence in Astrophysical Plasmas*, Astrophys. J., **465**, 845 (1996).
- [10] A. Bhattacharjee, C. S. Ng and Xiaogang Wang, *Finite-Time Vortex Singularity and Kolmogorov Spectrum in a Symmetric Three Dimensional Spiral Model*, Phys. Rev. E, **52**, 5110 (1995).
- [9] Z. W. Ma, C. S. Ng, Xiaogang Wang, and A. Bhattacharjee, *Dynamics of Current Sheet Formation and Reconnection in Two Dimensional Coronal Loops*, Phys. Plasma, **2**, 3184 (1995).
- [8] C. S. Ng, V. F. Shvets and D. G. Swanson, *Inhomogeneous Cyclotron Emission Source for the Five Branch Mode Conversion Problem*, Phys. Plasmas, **2**, 1791 (1995).
- [7] D. G. Swanson and C. S. Ng, *Modification of Emission from the X-mode at the Third Electron Cyclotron Harmonic from Mode Conversion and Reflection*, Phys. Plasmas, **2**, 599 (1995).
- [6] C. S. Ng and D. G. Swanson, *Analytic Calculation of the Certain Scattering Parameters from a Mode Conversion Analysis of X-mode—O-mode Coupling*, Phys. Plasmas, **1**, 3751 (1994).

- [5] **C. S. Ng** and D. G. Swanson, *Analytic Calculation of the Nonzero Fast Wave Reflection Coefficient from the Tunneling Equation with Absorption*, Phys. Plasmas, **1**, 815 (1994).
- [4] **Chung-Sang Ng**, *Energy Conservation of a Uniformly Accelerated Point Charge*, Phys. Rev. E, **47**, 2038 (1993).
- [3] H. M. Lai and **C. S. Ng**, *Analytic Expressions for Far Fields and Radiation Fluxes Caused by a Moving Source in some Anisotropic Dispersive Media*, Phys Fluids B, **2**, 1968 (1990).
- [2] H. M. Lai and **C. S. Ng**, *Relation Between Emitted and Received Powers from a Moving Radiating Source in a Medium*, Astro. Lett. and Communications, **28**, 27 (1990).
- [1] H. M. Lai, **C. S. Ng**, and S. S. Tong, *Axially Enhanced Far Field and Radiation Flux in a*

Non-refereed Publications

- [N2] **C. S. Ng**, *Rutherford Scattering Made Simple* (1993).
- [N1] **C. S. Ng**, *WKB - Not So Bad After All*, [<http://arxiv.org/abs/1106.1065>] (1992).

Partial List of Conference Presentations

- [A154] 2017 **C. S. Ng**, A. Bhattacharjee, P. Bolgert, and J. Breslau, “Surface Currents during a Major Disruption”, presented in 20th Anniversary Workshop For The NSF/DOE Partnership in Basic Plasma Science and Engineering, Arlington, Virginia, January 9 – 11 (2017).
- [A153] 2016 **C. S. Ng**, and T. J. Dennis, “Comparison between Simulations and Transport Models for Imbalanced Magnetohydrodynamic Turbulence”, Abstract SH41A-2525, 2016 AGU Fall Meeting, San Francisco, Calif., 12-16 Dec. (2016).
- [A152] 2016 **C. S. Ng**, and T. J. Dennis, “Simulations and Transport Models for Imbalanced Magnetohydrodynamic Turbulence”, 58th Annual Meeting of the Division of Plasma Physics, Bull. Am. Phys. Soc., JP10.00086, San Jose, CA, Oct. 31-Nov. 4 (2016).
- [A151] 2016 **C. S. Ng**, and T. J. Dennis, “Simulations and Transport Models for Imbalanced Magnetohydrodynamic Turbulence”, ASTRONUM 2016 - 11th International Conference on Numerical Modeling of Space Plasma Flows, Monterey, California, 6-10 June (2016).
- [A150] 2016 **C. S. Ng**, “Observation of Kinetic Flux Ropes during the Magnetospheric Multiscale (MMS) Mission”, Alaska Space Grant and NASA EPSCoR Education and Research Symposium, Anchorage, Alaska, 15-16 April (2016).
- [A149] 2015 **C. S. Ng**, “Possible Properties of Kinetic Flux Ropes Generated by Magnetic Reconnection”, Abstract SM51A-2560, 2015 AGU Fall Meeting, San Francisco, Calif., 14-18 Dec. (2015).
- [A148] 2015 Bishwa Neupane, Peter Delamere, **C. S. Ng**, and Vitaliy Kaminker, “On asymmetries of turbulent magnetic fluctuations in Jupiter's and Saturn's magnetospheres”, Abstract SM31C-2520, 2015 AGU Fall Meeting, San Francisco, Calif., 14-18 Dec. (2015).
- [A147] 2015 Vitaliy Kaminker, **C. S. Ng**, Peter Delamere, and Bishwa Neupane, “A New Model for Turbulent Heating of Jupiter's Magnetosphere”, Abstract SM31C-2519, 2015 AGU Fall Meeting, San Francisco, Calif., 14-18 Dec. (2015).

- [A146] 2015 **C. S. Ng**, “Exact Vlasov Solutions for Kinetic Flux Ropes Generated during Magnetic Reconnection”, 2015 AGU Chapman Conference, Fairbanks, AK, September 28 – October 2 (2015).
- [A145] 2014 T. J. Dennis, and **C. S. Ng**, “Coronal Heating: Parker Model or Turbulence, or Both?”, Abstract SH13C-4137 presented at 2014 AGU Fall Meeting, San Francisco, Calif., 15-19 Dec. (2014).
- [A144] 2014 **C. S. Ng**, “Exact Vlasov Solutions of Kinetic Flux Ropes”, Abstract SM13C-4184 presented at 2014 AGU Fall Meeting, San Francisco, Calif., 15-19 Dec. (2014).
- [A143] 2014 P. Bolgert, **C. S. Ng**, J. Breslau, and A. Bhattacharjee, “Surface Currents during a Major Disruption”, 56th Annual Meeting of the Division of Plasma Physics, Bull. Am. Phys. Soc., BP8.00012, New Orleans, Louisiana, October 27-31 (2014).
- [A142] 2014 **C. S. Ng**, “Two-Dimensional Current Carrying Bernstein- Greene-Kruskal (BGK) Modes for the Vlasov-Poisson-Ampere System”, 56th Annual Meeting of the Division of Plasma Physics, Bull. Am. Phys. Soc., JP8.00086, New Orleans, Louisiana, October 27-31 (2014).
- [A141] 2014 **C. S. Ng**, and T. J. Dennis, “Unifying the Parker and the Turbulence Models of Solar Coronal Heating”, 56th Annual Meeting of the Division of Plasma Physics, Bull. Am. Phys. Soc., PM10.00003, New Orleans, Louisiana, October 27-31 (2014).
- [A140] 2014 **C. S. Ng**, A. Bhattacharjee, J. Breslau, and P. Bolgert, “Surface Currents during a Major Disruption”, 2014 Theory and Simulation of Disruptions Workshop, Princeton, New Jersey, July 9-11 (2014).
- [A139] 2014 **C. S. Ng**, and T. J. Dennis, “From the Parker Model to Turbulent Heating of the Solar Corona”, 9th Annual International Conference on Numerical Modeling of Space Plasma Flows (ASTRONUM-2014), Long Beach, CA, June 23-27 (2014).
- [A138] 2014 T. J. Dennis, and **C. S. Ng**, “From the Parker Model to Turbulent Heating of the Solar Corona”, SHINE Conference 2014, Telluride, CO, June 23rd- 27th (2014).
- [A137] 2014 **C. S. Ng**, A. Bhattacharjee, and J. Breslau, “Surface Currents during a Major Disruption”, 2014 International Sherwood Fusion Theory Conference, San Diego, CA, March 24-26 (2014).
- [A136] 2013 T. J. Dennis, **C. S. Ng**, and L. Lin, “Three-Dimensional Simulations of the Parker Model of Coronal Heating Using Four-Field Equations”, Abstract SH33A-2047 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec. (2013).
- [A135] 2013 **C. S. Ng**, “Non Axisymmetric Three-Dimensional Magnetic Bernstein-Greene-Kruskal (BGK) Modes”, 55th Annual Meeting of the Division of Plasma Physics, Bull. Am. Phys. Soc., YP8.83, Denver, CO, Nov. 11-15 (2013).
- [A134] 2013 **C. S. Ng** and L. Lin, “Distribution of Nanoflares in Three-Dimensional Simulations of Coronal Heating”, SHINE Conference 2013, Buford, GA, June 24-28 (2013).
- [A133] 2013 T. J. Dennis, **C. S. Ng**, and L. Lin, “3-D Simulations of Turbulent and Non-Turbulent Hall Magnetic Reconnection Via the Four-Field Equations”, SHINE Conference 2013, Buford, GA, June 24-28 (2013).
- [A132] 2013 L. Lin and **C. S. Ng**, “Distribution of Nanoflares as Spatially Resolved Current Sheets in the Solar Corona”, 12th Annual International Astrophysics Conference: Outstanding Problems in Heliosphysics: from Coronal Heating to the Edge of the Heliosphere, Myrtle Beach, South Carolina, April 15-19 (2013).

- [A131] 2012 **C. S. Ng**, L. Lin, and A. Bhattacharjee, “Nanoflare and Current Sheet Distributions in Three-Dimensional Simulations of Coronal Heating”, Abstract SH33D-2254 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec. (2012).
- [A130] 2012 **C. S. Ng**, T. J. Dennis, and L. Lin, “Interaction Between Flux Ropes in Three-Dimensional Simulations of the Solar Corona”, 54th Annual Meeting of the Division of Plasma Physics, Bull. Am. Phys. Soc., UM9.2 (2012).
- [A129] 2012 **C. S. Ng** and S. J. Soundararajan, “Stability Studies of Two-dimensional Magnetic Bernstein-Greene-Kruskal Modes using PIC Simulations”, 1st International Workshop on Ionospheric Turbulence, Dayton, OH, August 7-9 (2012).
- [A128] 2012 L. Lin, **C. S. Ng**, and A. Bhattacharjee, “Current Sheet Statistics in Three-Dimensional Simulations of Coronal Heating”, 7th Annual International Conference on Numerical Modeling of Space Plasma Flows (ASTRONUM-2012), Big Island, HI, June 24-29 (2012).
- [A127] 2012 **C. S. Ng** and L. Lin, “Energy Distribution of Nanoflares in Three-Dimensional Simulations of Coronal Heating”, 11th Annual International Astrophysics Conference: The Space Radiation Environment, Palm Springs, California, March 19-23 (2012).
- [A126] 2011 E. S. Yasin, **C. S. Ng**, and L. Lin, “Three-Dimensional Numerical Simulations of Interaction Between Flux Ropes in the Solar Corona”, Abstract SH51A-1991 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec. (2011).
- [A125] 2011 **C. S. Ng**, S. J. Soundararajan, and E. Yasin, “Particle-in-Cell Simulations of Two-dimensional Bernstein-Greene-Kruskal (BGK) Modes and Electrostatic Structures”, Abstract SM13A-2029 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec. (2011).
- [A124] 2011 A. S. Bains, **C. S. Ng**, and L.-J. Chen, “Three-dimensional Bernstein-Greene-Kruskal (BGK) Modes in a Finite Magnetic Field”, Abstract SM13A-2030 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec. (2011).
- [A123] 2011 V. I. Sotnikov, B. Himed, I. Paraschiv, E. S. Yasin, **C. S. Ng**, B. Oliver, and T. A. Mehlhorn, “Scattering of high-frequency electromagnetic waves in the presence of interchange instability in a finite-beta plasma”, Abstract SM13A-2031 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec. (2011).
- [A122] 2011 A. R. Soto Chavez, A. Bhattacharjee, and **C. S. Ng**, “Whistler Wave Amplification: A Free Electron Laser in the Earth's Magnetosphere”, Abstract SM13B-2055 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec. (2011).
- [A121] 2011 **C. S. Ng**, S. J. Soundararajan, and E. Yasin, “Particle-in-Cell Simulations of Two-dimensional Electrostatic Structures”, 53rd Annual Meeting of the Division of Plasma Physics, Bull. Am. Phys. Soc., **56** (16), JO5.00011 (2011).
- [A120] 2011 L. Lin, **C. S. Ng**, and A. Bhattacharjee, “GPU Accelerated Reduced MHD Simulations: An Application to Magnetic Island Coalescence in 3D Line-Tied Geometry”, 53rd Annual Meeting of the Division of Plasma Physics, Bull. Am. Phys. Soc., **56** (16), NP9.00024 (2011).
- [A119] 2011 A. R. Soto Chavez, A. Bhattacharjee, and **C. S. Ng**, “Whistler Wave Amplification: A Free Electron Laser in the Earth's Magnetosphere”, 53rd Annual Meeting of the Division of Plasma Physics, Bull. Am. Phys. Soc., **56** (16), UO5.00013 (2011).
- [A118] 2011 L. Lin, **C. S. Ng**, and A. Bhattacharjee, “GPU Accelerated Reduced MHD Simulations of Coronal Loops”, the 22nd International Conference on Numerical Simulation of Plasmas (ICNSP '2011), Long Branch, New Jersey, September 7-9 (2011).

- [A117] 2011 **C. S. Ng**, L. Lin, and A. Bhattacharjee, "Reduced MHD Simulations of the Heating of the Solar Corona --- New Physics in the High-Lundquist Number Regime", The 8th International Cambridge Workshop on Magnetic Reconnection 2011, Durham, NH, August 15-19 (2011).
- [A116] 2011 **C. S. Ng** and S. Rangunathan, "Turbulent Magnetic Reconnection in High-Lundquist Number Two-Dimensional Resistive MHD Simulations", invited talk presented in The 8th International Cambridge Workshop on Magnetic Reconnection 2011, Durham, NH, August 15-19 (2011).
- [A115] 2011 **C. S. Ng**, S. J. Soundararajan, and E. Yasin, "Stability Studies of Two-dimensional Magnetic Bernstein-Greene-Kruskal Modes using PIC Simulations", invited talk presented in the 7th Joint Meeting of the Chinese Physicists Worldwide and International Conference on Physics Education and Frontier Physics (OCPA7), Kaohsiung, Taiwan, August 1-5 (2011).
- [A114] 2011 L. Lin, **C. S. Ng**, and A. Bhattacharjee, "High-Lundquist Number Simulations of Solar Coronal Heating using GPU Accelerated Machines", SHINE Conference 2011, Snowmass, Colorado, July 11-15 (2011).
- [A113] 2011 **C. S. Ng**, S. J. Soundararajan, and E. Yasin, "Stability Studies of Two-dimensional Magnetic Bernstein-Greene-Kruskal Modes using Particle-in-Cell Simulations", 2011 CEDAR-GEM Joint Workshop, Santa Fe, New Mexico, June 26-July 1 (2011).
- [A112] 2011 L. Lin, **C. S. Ng**, and A. Bhattacharjee, "Large-Scale High-Lundquist Number Reduced MHD Simulations of the Solar Corona using GPU Accelerated Machines", invited talk presented in ASTRONUM-2011 - the 6th Annual International Conference on Numerical Modeling of Space Plasma Flows, Valencia, Spain, June 13-17 (2011).
- [A111] 2011 **C. S. Ng**, E. Yasin, and S. J. Soundararajan, "Electrostatic Structures in Space Plasmas: Properties of Two-dimensional Magnetic Bernstein-Greene-Kruskal Modes", invited talk presented in the 10th Annual International Astrophysics Conference: A 10-year Retrospective, Maui, Hawaii, March 13 - March 18 (2011).
- [A110] 2011 **C. S. Ng** and S. J. Soundararajan, "Electrostatic Structures in Space Plasmas: Studies of Two-dimensional Magnetic Bernstein-Greene-Kruskal Modes", Chapman Conference: The Relationship Between Auroral Phenomenology and Magnetospheric Processes, Fairbanks, Alaska, February 27 - March 4 (2011).
- [A109] 2010 S. Rangunathan, and **C. S. Ng**, "High-Lundquist Number Resistive MHD Simulations of Turbulent Magnetic Reconnection with Secondary Island Formation and Enhanced Reconnection Rate", Abstract SM51C-1836 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec. (2010).
- [A108] 2010 **C. S. Ng**, L. Lin, and A. Bhattacharjee, "High-Lundquist Number Scaling Analysis on the Parker's Model of Solar Coronal Heating due to Random Photospheric Footpoint Motion", Abstract SH31C-1809 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec. (2010).
- [A107] 2010 L. Lin, **C. S. Ng** and A. Bhattacharjee, "Large-scale Reduced MHD Simulations of Coronal Heating via GPGPUs", Abstract IN44A-05 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec. (2010).
- [A106] 2010 **C. S. Ng**, and S. J. Soundararajan, "Two-dimensional Bernstein-Greene-Kruskal Modes in a Magnetized Plasma: Exact Solutions and Particle-in-Cell Simulations", 52nd Annual Meeting of the Division of Plasma Physics, Bull. Am. Phys. Soc., **55** (15), BP9.00028, 36 (2010).

- [A105] 2010 L. Lin, A. Bhattacharjee, and **C. S. Ng**, "High-Lundquist Number Numerical Simulations of Coronal Heating: Reduced MHD via GPGPUs", 52nd Annual Meeting of the Division of Plasma Physics, Bull. Am. Phys. Soc., **55** (15), NP9.00119, 226 (2010).
- [A104] 2010 L. Lin, **C. S. Ng**, and A. Bhattacharjee, "Reduced MHD via GPGPUs applied to Coronal Heating", workshop on Advanced Computational Capabilities for Exploration in Heliophysical Sciences (ACCEHS), Boulder, Colorado, August 16-18 (2010).
- [A103] 2010 **C. S. Ng** and S. Rangunathan, "High Lundquist Number Resistive MHD Simulations of Laminar or Turbulent Magnetic Reconnection: Conditions for Secondary Island Formation and Fast Reconnection", 2010 SHINE Workshop, Santa Fe, New Mexico, July 26-30 (2010).
- [A102] 2010 **C. S. Ng** and S. Rangunathan, "Secondary Island Formation in Numerical Simulations of Magnetic Reconnection in Resistive MHD under Laminar or Turbulent Conditions", 2010 Western Pacific Geophysics Meeting, 22–25 June, Taipei, Taiwan, Eos Trans. AGU, 91(26), West. Pac. Geophys. Meet. Suppl., Abstract SPA31B-109 (2010).
- [A101] 2010 **C. S. Ng** and S. Rangunathan, "High Lundquist Number Resistive MHD Simulations of Magnetic Reconnection: Searching for Secondary Island Formation", invited talk presented in the 5th Annual International Conference on Numerical Modeling of Space Plasma Flows, San Diego, California, June 13-18 (2010).
- [A100] 2010 **C. S. Ng**, A. Bhattacharjee, P. A. Isenberg, D. Munsi, and C. W. Smith, "The Effect of Magnetic Turbulence Energy Spectra and Pickup Ions on The Heating of the Solar Wind", invited talk presented in the 9th Annual International Astrophysics Conference: Pickup Ions Throughout the Heliosphere and Beyond, Maui, Hawaii, March 14 - March 19 (2010).
- [A99] 2010 **C. S. Ng**, "Heating and Acceleration of the Solar Wind and Corona by Anisotropic MHD and Hall MHD Turbulence", University of Alaska Computational Science Symposium, Fairbanks, AK, February 15-26 (2010).
- [A98] 2009 C. Black, A. Bhattacharjee, K. Germaschewski, and **C. S. Ng**, "Anomalous Resistivity Generated by the Current Driven Ion Acoustic Instabilities in Weakly Collisional Plasmas", 2009 American Geophysical Union (AGU) Fall Meeting, San Francisco, California, Eos Trans. AGU, 90 (52), Fall Meet. Suppl., Abstract SM21A-1557 (2009).
- [A97] 2009 **C. S. Ng**, A. Bhattacharjee, B. Bigot, and Y. Ponty, "Scale-Dependent Alignment of Velocity and Magnetic Fluctuations in Anisotropic MHD Turbulence", 2009 American Geophysical Union (AGU) Fall Meeting, San Francisco, California, Eos Trans. AGU, 90 (52), Fall Meet. Suppl., Abstract SM41C-08 (2009).
- [A96] 2009 D. L. Rosenberg, **C. S. Ng**, A. Bhattacharjee, A. Pouquet, "A Comparison of Spectral Element and Finite Difference Methods for MHD", 2009 American Geophysical Union (AGU) Fall Meeting, San Francisco, California, Eos Trans. AGU, 90 (52), Fall Meet. Suppl., Abstract SM41C-06 (2009).
- [A95] 2009 S. Rangunathan and **C. S. Ng**, "Searching for Secondary Island Formation in Numerical Simulations of Magnetic Reconnection in Resistive MHD", 2009 American Geophysical Union (AGU) Fall Meeting, San Francisco, California, Eos Trans. AGU, 90 (52), Fall Meet. Suppl., Abstract SM43B-1768 (2009).
- [A94] 2009 C. Black, A. Bhattacharjee, K. Germaschewski, and **C. S. Ng**, "Anomalous Resistivity Generated By Ion Acoustic Instabilities in Weakly Collisional Plasmas", 51st Annual Meeting of the Division of Plasma Physics, Atlanta, Georgia, Bull. Am. Phys. Soc., 54 (15), GP8.00128, 128 (2009).

- [A93] 2009 **C. S. Ng**, L. Lin, and A. Bhattacharjee, "The Tectonics Model of Coronal Heating: Unsteady Dynamics and Scaling in Statistical Steady State", 51st Annual Meeting of the Division of Plasma Physics, Dallas, Texas, Bull. Am. Phys. Soc., 54 (15), GM9.00002, 133 (2009).
- [A92] 2009 **C. S. Ng**, "Turbulent Magnetic Reconnection Near a 3D Magnetic Null", a talk presented in the 2009 Cambridge Workshop on Magnetic Reconnection, August 7th -12th, 2009, Fairbanks, Alaska.
- [A91] 2009 **C. S. Ng**, L. Lin, and A. Bhattacharjee, "Parker's Model of Solar Coronal Heating: Lundquist Number Scaling due to Random Photospheric Footpoint Motion in Three Dimensional Simulations", a talk presented in 2009 The Dynamics of Complex Systems: Viewing the World from a New Perspective, August 4th - 6th, 2009, Fairbanks, Alaska.
- [A90] 2009 L. Lin, **C. S. Ng**, and A. Bhattacharjee, "Parker's Model of Solar Coronal Heating: Lundquist Number Scaling due to Random Photospheric Footpoint Motion in Three Dimensional Simulations", a poster presented in the 2009 Solar Heliospheric and Interplanetary Environment (SHINE) Workshop, August 3rd -7th, 2009, Wolfville, Nova Scotia, Canada.
- [A89] 2009 **C. S. Ng**, L. Lin, and A. Bhattacharjee, "Three Dimensional Simulations of the Parker's Model of Solar Coronal Heating: Lundquist Number Scaling due to Random Photospheric Footpoint Motion", invited talk presented in the 4th International Conference on Numerical Modeling of Space Plasma Flows, June 29th - July 3rd, 2009, Chamonix, France.
- [A88] 2009 **C. S. Ng** and L.-J. Chen, "3D BGK Modes in Finite Magnetic Field as Electrostatic Solitary Waves in Space Plasmas", a poster presented in the 2009 Geospace Environment Modeling (GEM) Workshop, June 21st -26th, 2009 at the Snowmass Conference Center in Snowmass, Colorado.
- [A87] 2009 **C. S. Ng**, A. Bhattacharjee, P. A. Isenberg, D. Munsi, and C. W. Smith, "The Effect of Magnetic Turbulence Energy Spectra on the Heating of the Solar Wind", a talk presented in the Fairbanks Workshop on Plasma Entry and Transport in the Magnetosphere, March 8th - 13th, 2009, Fairbanks, Alaska.
- [A86] 2008 **C. S. Ng** and L.-J. Chen, "3D BGK Modes in Finite Magnetic Field as Electrostatic Solitary Waves in Space Plasmas", 2008 American Geophysical Union (AGU) Fall Meeting, San Francisco, California, Eos Trans. AGU, 89 (53), Fall Meet. Suppl., Abstract NG31B-1199 (2008).
- [A85] 2008 C. Black, K. Germaschewski, **C. S. Ng**, and A. Bhattacharjee, The Effect of Weak Collisions on the Plasma Wave Echo, 50th Annual Meeting of the Division of Plasma Physics, Dallas, Texas, Bull. Am. Phys. Soc., 53 (14), GP6.00066, 104 (2008).
- [A84] 2008 A. Bhattacharjee, **C. S. Ng**, C.W. Smith, B. Vasquez, Flux-Tube Texture of the Solar Wind: Implications for the Scaling of Anisotropic Magnetic Fluctuation Spectra, 50th Annual Meeting of the Division of Plasma Physics, Dallas, Texas, Bull. Am. Phys. Soc., 53 (14), UM7.3, 316 (2008).
- [A83] 2008 L. Lin, **C. S. Ng**, and A. Bhattacharjee, "Lundquist number scaling of solar coronal heating due to random photospheric footpoint motion in a three-dimensional tectonics model", 50th Annual Meeting of the Division of Plasma Physics, Dallas, Texas, Bull. Am. Phys. Soc., 53 (14), UP6.00010, 293 (2008).

- [A82] 2008 **C. S. Ng**, and A. Bhattacharjee, "Alignment of velocity and magnetic fluctuations in anisotropic MHD turbulence", 50th Annual Meeting of the Division of Plasma Physics, Dallas, Texas, Bull. Am. Phys. Soc., 53 (14), UP6.00011, 293 (2008).
- [A81] 2008 **C. S. Ng**, A. Bhattacharjee, P. A. Isenberg, D. Munsi, and C. W. Smith, "The effect of magnetic turbulence energy spectra on the heating of the solar wind", 50th Annual Meeting of the Division of Plasma Physics, Dallas, Texas, Bull. Am. Phys. Soc., 53 (14), PM7.00006, 233 (2008).
- [A80] 2008 **C. S. Ng**, D. Rosenberg, K. Germaschewski, A. Pouquet, and A. Bhattacharjee, A comparison of spectral element and finite difference methods using statically refined nonconforming grids for the MHD island coalescence instability problem, an invited talk presented in the 3rd International Conference on Numerical Modeling of Space Plasma Flows, June 8-13, 2008 St. John, U.S. V.I.
- [A79] 2007 **C. S. Ng**, A. Bhattacharjee, P. A. Isenberg, and D. Munsi, "Kolmogorov Versus Iroshnikov-Kraichnan Spectra: Consequences for Ion Heating in the Solar Wind", 2007 Fall Meeting of the American Geophysical Union
- [A78] 2007 A. Bhattacharjee, **C. S. Ng**, and L. Lin, "Relaxation of Line-tied Coronal Plasmas to MHD Equilibria with Current Singularities", 2007 Fall Meeting of the American Geophysical Union
- [A77] 2007 A. Bhattacharjee and **C. S. Ng**, "BGK Waves: Nonlinear Saturated States in Space Plasmas?", 2007 Fall Meeting of the American Geophysical Union
- [A76] 2007 **C. S. Ng**, and A. Bhattacharjee, "Alignment of Velocity and Magnetic Fluctuations in Simulations of Anisotropic MHD Turbulence", 49th Annual Meeting of the Division of Plasma Physics, Orlando, Florida
- [A75] 2007 D. Munsi, **C. S. Ng**, A. Bhattacharjee, and P.A. Isenberg, "The Effect of Magnetic Turbulence Energy Spectral Scaling on the Heating of the Solar Wind", 49th Annual Meeting of the Division of Plasma Physics, Orlando, Florida
- [A74] 2007 M. Gilson, **C. S. Ng**, and A. Bhattacharjee, "Solar Coronal Heating and Magnetic Energy Build-Up in a Tectonics Model", 49th Annual Meeting of the Division of Plasma Physics, Orlando, Florida
- [A73] 2007 Liwei Lin, **C. S. Ng**, and A. Bhattacharjee, "Lagrangian Simulations of Current Sheet Formation During Relaxation of an Unstable Line-Tied Equilibrium", 49th Annual Meeting of the Division of Plasma Physics, Orlando, Florida
- [A72] 2007 C. Black, K. Germaschewski, **C. S. Ng**, and A. Bhattacharjee, "Plasma Wave Echoes in a Weakly Collisional Plasma", 49th Annual Meeting of the Division of Plasma Physics, Orlando, Florida
- [A71] 2007 **C. S. Ng**, D. Munsi, A. Bhattacharjee, and P. A. Isenberg, "The Effect of Magnetic Turbulence Energy Spectral Scaling in the Heating of the Solar Wind", From the Sun towards the Earth -- A Living With a Star science meeting, 10-13 September 2007; Boulder, CO.
- [A70] 2007 A. Bhattacharjee and **C. S. Ng**, "Solar Coronal Heating and Building up of Magnetic Energy in a Tectonics Model", From the Sun towards the Earth -- A Living With a Star science meeting, 10-13 September 2007; Boulder, CO.
- [A69] 2007 **C. S. Ng** and A. Bhattacharjee, "Anisotropic MHD Turbulence", 6th IGPP Annual International Astrophysics Conference, Hawaii, March 16-22, 2007

- [A68] 2007 A. Bhattacharjee, **C. S. Ng**, C. W. Smith, B. Vasquez, "Weakly Compressible MHD Turbulence in the Solar Wind: Scaling of Density and Anisotropic Magnetic Field Spectra", an invited talk presented in the 6th IGPP Annual International Astrophysics Conference, Hawaii, March 16-22, 2007
- [A67] 2006 **C. S. Ng** and A. Bhattacharjee, "Reconnection and Current Sheet Formation in Line-Tied Magnetic Flux Tubes: Energetics and Stability", 2006 Fall Meeting of the American Geophysical Union
- [A66] 2006 M. P. Miralles, A. Bhattacharjee, E. Landi, S. Murkowski, S. R. Cranmer, G. A. Doschek, T. G. Forbes, P. A. Isenberg, J. L. Kohl, **C. S. Ng**, J. C. Raymond, B. Vasquez, "2006 LWS TR & T Solar Wind Focused Science Topic Team: The Beginnings", 2006 Fall Meeting of the American Geophysical Union
- [A65] 2006 **C. S. Ng**, and A. Bhattacharjee, "Three-dimensional Bernstein-Greene-Kruskal modes in a multi-species plasma: Void solutions in a dusty plasma?", 48th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A64] 2006 D. Rosenberg, A. Pouquet, K. Germaschewski, **C. S. Ng**, and A. Bhattacharjee, "Spectral-element adaptive refinement magnetohydro-dynamic simulations of the island coalescence instability", 48th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A63] 2006 K. Germaschewski, A. Bhattacharjee, **C. S. Ng**, X. Wang, and L. Chacon, "Compressible Resistive and Hall MHD Dynamics of the $m=1$ Sawtooth Instability", 48th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A62] 2006 K. Germaschewski, A. Bhattacharjee, and **C. S. Ng**, "The Magnetic Reconnection Code: an AMR-based fully implicit simulation suite", Numerical Modeling of Space Plasma Flows: Astronom-2006.
- [A61] 2006 **C. S. Ng**, and A. Bhattacharjee, "Analytic and Numerical Studies of a Tectonics Model for Solar Coronal Heating", 37th Meeting of the AAS Solar Physics Division 25-30 June 2006, Durham, NH
- [A60] 2005 **C. S. Ng**, "Turbulent Magnetic Reconnection Near a 3D Magnetic Null", 2005 Fall Meeting of the American Geophysical Union.
- [A59] 2005 A. Bhattacharjee, K. Germaschewski, and **C. S. Ng**, "Impulsive Collisionless Magnetic Reconnection In Laboratory and Space Plasmas", 2005 Fall Meeting of the American Geophysical Union.
- [A58] 2005 C. S. Ng, "Weakly Collisional Landau Damping and 3D BGK Modes: New Results on Old Problems", 47th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A57] 2005 A. Bhattacharjee, K. Germaschewski, and **C. S. Ng**, "Current and Vortex Singularities: Drivers of Impulsive Reconnection in Plasmas and Fluids", 47th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A56] 2005 A. Bhattacharjee, K. Germaschewski, **C. S. Ng**, and P. Zhu, "Current Sheet Formation and Parker Instability in Line-Tied Flux Tubes", 47th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A55] 2005 C. S. Ng, A. Bhattacharjee, S. Hu, and Z. W. Ma, "Theory and Simulation of a Nonlinear Fluid Model for Void Formation in Dusty Plasmas", 47th Annual Meeting of the Division of Plasma Physics of the American Physical Society.

- [A54] 2005 A. Bhattacharjee, **C. S. Ng**, K. Avinash, S. Hu, and Z. W. Ma, "Nonlinear Theory and Simulation of Void Formation in Dusty Plasmas", Fourth International Conference on the Physics of Dusty Plasmas, Orléans, France, 13-17 June 2005.
- [A53] 2004 **C. S. Ng** and A. Bhattacharjee, "Non-Equilibrium and Current Sheet Formation in Astronomical Magnetic Fields", 2004 Fall Meeting of the American Geophysical Union.
- [A52] 2004 K. Germaschewski, **C. S. Ng**, and A. Bhattacharjee, "Anisotropic MHD/EMHD Turbulence in the Solar Wind and the Interstellar Medium", 2004 Fall Meeting of the American Geophysical Union.
- [A51] 2004 A. Bhattacharjee, K. Germaschewski, Z. W. Ma, and **C. S. Ng**, "Impulsive Reconnection Dynamics: From the Laboratory to the Local Cosmos", 2004 Fall Meeting of the American Geophysical Union.
- [A50] 2004 K. Germaschewski, A. Bhattacharjee, and **C. S. Ng**, "Nonlinear $m=1$ modes: Hall MHD Versus Four-Field Studies", 46th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A49] 2004 **C. S. Ng** and A. Bhattacharjee, "Bernstein-Greene-Kruskal Solution in a Three Dimensional Unmagnetized Plasma", 46th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A48] 2004 Z. W. Ma, C. S. Ng, A. Bhattacharjee, and S. Hu, "Theory and Simulation of a Nonlinear Fluid Model for Void Formation in Dusty Plasmas", 46th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A47] 2003 **C. S. Ng** and A. Bhattacharjee, "Complete Spectrum of Kinetic Eigenmodes for Plasma Oscillations in a Weakly Collisional Plasma", 45th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A46] 2003 Z. W. Ma, A. Bhattacharjee, and **C. S. Ng**, "Nonlinear Dynamics of the Sawtooth Instability and its Diamagnetic Stabilization: Results from a Toroidal Hall MHD Simulation", 45th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A45] 2003 K. Germaschewski, A. Bhattacharjee, **C. S. Ng**, T. Linde, L. Malyshkin, R. Rosner, F. Dobrian, D. Keyes, and B. Smith, "Solving Elliptic Problems Using the Magnetic Reconnection Code", 45th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A44] 2003 A. Bhattacharjee, K. Germaschewski, Z. W. Ma, and **C. S. Ng**, "Current and Vortex Singularities: Drivers of Impulsive Reconnection Dynamics", 7th Workshop on the Interrelationship between Plasma Experiment in Laboratory and Space (IPELS) in Whitefish, Montana.
- [A43] 2003 **C. S. Ng**, A. Bhattacharjee, and Z. W. Ma, "Four-Field Model for Dispersive Field-Line Resonances in the Magnetosphere", 7th Workshop on the Interrelationship between Plasma Experiment in Laboratory and Space (IPELS) in Whitefish, Montana.
- [A42] 2003 F. Skiff, **C. S. Ng**, and A. Bhattacharjee, "Landau Damping in Weakly Collisional Plasmas", 7th Workshop on the Interrelationship between Plasma Experiment in Laboratory and Space (IPELS) in Whitefish, Montana.
- [A41] 2002 **C. S. Ng**, "Anisotropic MHD Turbulence in the Interstellar Medium and the Solar Wind", 44th Annual Meeting, APS Division of Plasma Physics, Orlando, Florida

- [A40] 2002 **C. S. Ng** and A. Bhattacharjee, "Non-equilibrium and current sheet formation in line-tied magnetic fields", Mini-Conference on Singularities in Fluids and Plasmas, 44th Annual Meeting, APS Division of Plasma Physics, Orlando, Florida
- [A39] 2002 A. Bhattacharjee and **C. S. Ng**, "Anisotropic MHD Turbulence in the Interstellar Medium and Solar Wind", Tenth International Solar Wind Conference held 17-21 June, 2002 in Pisa, Italy
- [A38] 2001 **C. S. Ng**, A. Bhattacharjee, C. A. Kletzing, Z. W. Ma, "Four-Field Model for Dispersive Field-Line Resonances: Numerical Simulations", 43rd Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A37] 2000 A. Bhattacharjee, **C. S. Ng**, Z. W. Ma, C. A. Kletzing, N. F. Otani, and X. Wang, "Four-Field Model for Dispersive Field-Line Resonances in the Collisionless Magnetosphere", 2000 Fall Meeting of the American Geophysical Union.
- [A36] 2000 **C. S. Ng** and A. Bhattacharjee, "Random Scattering and Anisotropic Turbulence of Shear-Alfven Wave Packets in the Solar Wind and the Interstellar Medium", 2000 Fall Meeting of the American Geophysical Union.
- [A35] 2000 Z. W. Ma, A. Bhattacharjee, and **C. S. Ng**, "On Four-Field Model for Dispersive Field-Line Resonances", 42nd Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A34] 2000 A. Bhattacharjee and **C. S. Ng**, "Random Scattering and Anisotropic Turbulence of Shear-Alfven Wave Packets in the Interstellar Medium and the Solar Wind", 42nd Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A33] 2000 **C. S. Ng** and A. Bhattacharjee, "Landau Damping in Weakly Collisional Plasmas and Galaxies", 42nd Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A32] 1999 **C. S. Ng**, A. Bhattacharjee, C. A. Kletzing, Z. W. Ma, N. F. Otani, and X. Wang, "Four-Field Model for Dispersive Field-Line Resonances in Collisionless Magnetospheric Plasmas", 1999 Fall Meeting of the American Geophysical Union.
- [A31] 1999 A. Bhattacharjee and **C. S. Ng**, "Reduced Models of MHD Turbulence: Implications for Density Fluctuations and Anisotropic Spectra", Mini-Conference on Turbulence in the Interstellar Medium and Solar Wind, 41st Annual Meeting, APS Division of Plasma Physics, Seattle, Washington.
- [A30] 1999 **C. S. Ng**, A. Bhattacharjee, and F. Skiff, "Kinetic Eigenmodes and Discrete Spectrum of Langmuir Oscillations in a Weakly Collisional Plasma", 41st Annual Meeting, APS Division of Plasma Physics, Seattle, Washington.
- [A29] 1999 **C. S. Ng** and A. Bhattacharjee, "Anisotropic MHD Turbulence Spectra Due to the Weak Interaction of Shear-Alfven Wave Packets", Mini-Conference on Turbulence in the Interstellar Medium and Solar Wind, 41st Annual Meeting, APS Division of Plasma Physics, Seattle, Washington.
- [A28] 1999 A. Bhattacharjee, and **C. S. Ng**, "Reduced Models of Magnetohydrodynamic Turbulence in the Interstellar Medium and the Solar Wind", Meeting on "Nonlinear MHD waves and turbulence", Nice, France
- [A27] 1998 **C. S. Ng**, A. Bhattacharjee, and D. A. Gurnett, "Ginzburg-Landau Model for Whistler Wave Amplification, Saturation, and Monochromaticity in Magnetospheric Plasmas", 1998 Fall Meeting of the American Geophysical Union.

- [A26] 1998 **C. S. Ng** and A. Bhattacharjee, "Ginzburg-Landau Model for a Long-Pulse Low-Gain Free-Electron Laser Oscillator", 40th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A25] 1998 S. Spangler, A. Bhattacharjee, and **C. S. Ng**, "Four-Field Equations: a New Model for Weakly Compressible MHD Turbulence in the Solar Wind and the Interstellar Medium", 40th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A24] 1998 A. Bhattacharjee and **C. S. Ng**, "Tangential Discontinuities in Parker's Model of the Solar Corona: Resolution of a Controversy", 40th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A23] 1998 **C. S. Ng** and A. Bhattacharjee, "Ginzburg-Landau Model for a Long-Pulse Low-Gain Free-Electron Laser Oscillator", 20th International FEL 98 Conference
- [A22] 1998 A. Bhattacharjee and **C. S. Ng**, "Ginzburg-Landau Equation: A Unified Nonlinear Model for High-Gain Amplifiers and Low-Gain Oscillators", 20th International FEL 98 Conference
- [A21] 1998 **C. S. Ng** and A. Bhattacharjee, "Interaction of Shear-Alfven Wave Packets: Implication for Anisotropic MHD Turbulence in the Interstellar Medium", Interstellar Turbulence --- Guillermo Haro International Program on Advanced Astrophysical Research
- [A20] 1998 A. Bhattacharjee, **C. S. Ng**, S. Spangler, S. Ghosh, and M. L. Goldstein, "Four-Field Equations: a New Model for Weakly Compressible MHD Turbulence in the Solar Wind and the Interstellar Medium", Interstellar Turbulence --- Guillermo Haro International Program on Advanced Astrophysical Research
- [A19] 1997 **C. S. Ng** and A. Bhattacharjee, "Local Self-Similarity and Finite-Time Singularity in a High-Symmetry Euler Flow", 50th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society.
- [A18] 1997 A. Bhattacharjee and **C. S. Ng**, "Sufficient Condition for Finite-Time Singularity in a High-Symmetry Euler Flow", 50th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society.
- [A17] 1997 **C. S. Ng** and A. Bhattacharjee, "Ginzburg-Landau Model for Single-Model Operation of a Free-Electron Laser", 39th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A16] 1997 S. Hu, **C. S. Ng**, A. Bhattacharjee, and C. Kletzing, "Scaling of Anisotropic Spectra in Shear-Alfven Magnetohydrodynamic Turbulence", 39th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A15] 1997 **C. S. Ng** and A. Bhattacharjee, "Ginzburg-Landau Model for a Free-Electron Laser: from Single Mode to Spikes ", 19th International FEL 97 Conference
- [A14] 1997 **C. S. Ng**, A. Bhattacharjee, and C. Kletzing, "Anisotropic Spectra of Weak Alfven Wave Turbulence in High Latitude Ionosphere and Magnetosphere", 1997 Spring Meeting of the American Geophysical Union.
- [A13] 1996 **C. S. Ng** and A. Bhattacharjee, "On Non-Equilibrium and Current Sheet Formation in Line-Tied Magnetic Fields", 38th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A12] 1996 A. Bhattacharjee and **C. S. Ng**, "Weakly Compressible and Anisotropic MHD Turbulence in the Solar Wind and the Interstellar Medium", 38th Annual Meeting of the Division of Plasma Physics of the American Physical Society.

- [A11] 1996 A. Bhattacharjee, **C. S. Ng**, and S. Spangler, "Reduced Four-Field System for Compressible Magnetohydrodynamic Turbulence in the Solar Wind and the Interstellar Medium", 188th Meeting of the American Astronomical Society.
- [A10] 1996 **C. S. Ng** and A. Bhattacharjee, "Non-Equilibrium in Line-Tied Coronal Magnetic Fields", 188th Meeting of the American Astronomical Society.
- [A9] 1995 **C. S. Ng** and A. Bhattacharjee, "Statistical Tests of a Sufficient Condition for a Finite-Time Singularity", 48th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society.
- [A8] 1995 A. Bhattacharjee and **C. S. Ng**, "Sufficient Condition for a Finite-Time Singularity in a High-Symmetry Euler Flow", 48th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society.
- [A7] 1995 A. Bhattacharjee and **C. S. Ng**, "Interaction of Shear Alfvén Wave Packets: Implication for Weak MHD Turbulence", 37th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A6] 1995 **C. S. Ng** and A. Bhattacharjee, "Finite-Time Singularity of Kida Flows and Their Incompressible MHD Generalizations", 37th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A5] 1994 **C. S. Ng**, X. Wang, and A. Bhattacharjee, "Finite-Time Singularity and the Kolmogorov Spectrum in a 3D Spiral Model", 36th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A4] 1994 **C. S. Ng**, V. F. Shvets, and D. G. Swanson, "Inhomogeneous Emitter from the Five Branch Cyclotron Layer", 36th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A3] 1994 D. G. Swanson and **C. S. Ng**, "The Effects of Reflection on ECE Emission at Electron Cyclotron Harmonics", 36th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A2] 1993 **C. S. Ng** and D. G. Swanson, "Analytic Calculation of the Scattering Parameters from the Tunneling Equation with Absorption", 35th Annual Meeting of the Division of Plasma Physics of the American Physical Society.
- [A1] 1989 **C. S. Ng** and H. M. Lai, "Radiation from a Moving Source in a Plasma: All-Forward Energy Flow and Enhanced Field-Aligned Radiation", Third Asian-Pacific International Physics Conference.

Partial List of Internal Talks

- 2017 UAF-Journal Club: Does a uniformly accelerated point charge radiate?
- 2016 UAF-Journal Club: MHD Turbulence and the Heating of the Solar Wind
- 2015 UAF-Journal Club: Painlevé paradox
- 2014 UAF-Journal Club: Another Fusion Talk: My Experience at PPPL
- 2012 UAF-Journal Club: Energy Distribution of Nanoflares in Three-Dimensional Simulations of Coronal Heating
- 2011 UAF-Journal Club: Electrostatic Structures in Space Plasmas
- 2010 UAF-Journal Club: Random Walk on the Surface of the Sun

2010 UAF-Journal Club: What do I get from giving a Journal Club talk? How about publishing a paper on it!

2008 UAF-Journal Club: Bernstein-Greene-Kruskal Mode in Two or Three Dimensions

Services

2016 – present: Alaska Space Grant Program affiliate member for CNSM of UAF.

2016 – present: member of the Undergraduate SLOA Committee for the Physics Department.

2015 – present: member of the Program Review Committee for the Physics Department.

2011 – 2013: Senator of the Faculty Senate representing CNSM of UAF.

2011: Organized and chaired a session “SM05. Electrostatic Structures in Space and Laboratory Plasmas” at the 2011 AGU Fall Meeting.

2010: Organized and chaired a session “IN41A: Large-Scale Geosciences Applications Using GPU and Multicore Architectures” at the 2010 AGU Fall Meeting.

2009 – present: member of the Publication Committee of the American Physical Society/Division of Plasma Physics.

2009 – present: serving as one of two coordinators of the Physics Journal Club.

2009 – present: member of graduate committees for graduate students at UAF.

2009 – 2011: Senate Alternate representing CNSM of UAF.

2009: member of the search committee for a new faculty position at Physics/GI.

2008 – 2011: external member of a graduate committee for a graduate student at UNH.

2008 – 2012: chair of search committees for Postdoctoral Research Fellows at UAF.

2007 – 2008: direct an undergraduate research project for a summer exchange student from India at UNH for two summers.

2004 – 2006: coordinator of the Graduate Student Journal Club at UNH.

2004: participate in project SMART (Science and Mathematics Achievement through Research Training) at UNH.

2004: scientific proofreader of the textbook: Introduction to Plasma Physics: With Space and Laboratory Applications, by D. A. Gurnett and A. Bhattacharjee, Cambridge University Press, 2005.

Regularly served as Referee/Reviewer/Panelist: National Aeronautics and Space Administration, National Science Foundation, Physics of Plasmas, Physical Review, Journal of Geophysical Research, Geophysical Research Letters, Plasma Physics and Controlled Fusion, Astrophysics and Space Science, New Journal of Physics, etc; as well as judges for local science fairs/competitions.

Dissertations

1994 Ph.D. dissertation (advisor: D. G. Swanson), Auburn University: *Analytic Calculations of Certain Scattering Parameters from Mode Conversion Equations*

1988 M. Phil. thesis (advisor: H. M. Lai), The Chinese University of Hong Kong:
Characteristics of Far Field and Energy Flow Due to a Moving Radiation Source in Various Media

Computing Skills

Machines: Supercomputers, Workstations, PC, Macintosh
Languages: MPI, Fortran, Pascal, Mathematica, Macsyma, Unix Shell
Libraries: NAG, TV80, NCAR Graphics, IDL, SAS
Experience: MHD/Fluid simulations, Integral Equation, ODE Solvers, 3D Ray Tracing,
Symbolic Calculations.
Typesetting: TeX, LaTeX, REVTeX

Honors

1994 The Outstanding Research Award, Physics Department, Auburn University
(for the best research by a student in that year).
1990 The First Year Graduate Physics Award, Physics Department, Auburn University
(for the best academic performance).

Membership

Phi Kappa Phi, The American Physical Society, American Geophysical Union

Last update: September 7, 2018