

VITA
Wendell Horton

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Table of Contents

Education and Professional Experience.....	1
Professional Societies.....	2
Professional and Public Service.....	3
Awards and Honor Societies.....	4
Invited Lectures.....	5
University and Departmental Committees.....	17
Significant Activities in Student Affairs and Courses Taught.....	17
Graduate Student Supervision.....	18
Research in Progress and Research Grants.....	21
Publications and Contributions (Refereed).....	22
Books and Chapters.....	48
Published Abstracts.....	50

Education

- B.S., Physics, The University of Texas at Austin, 1963
- M.S., Physics, University of California, San Diego, 1965
- Ph.D., Physics, University of California, San Diego, 1967

Professional Experience

- University of São Paulo, Particle Transport and Turbulence in Confined Plasmas, Applied Physics Department of the Institute of Physics Brazil, April 1-May 30, 2014.
- Mediterranean Institute for Advanced Research, CNRS-PIIM, Aix-Marseille University, Marseille, France, October 2012-August 2013.
- Research Scientist, Space and Geophysics Laboratory, Applied Research Laboratory at The University of Texas at Austin, 2007-present (research on ionospheric turbulence).
- Adjunct Professor, Rice University, Department of Space Physics and Astronomy, 1992-2002.
- Visiting Scientist, Dept. of Controlled Fusion Research, CEA, Cadarache, France, July 5-15, 1998 and June 15-July 9, 1999 and October 2012-August 2013.
- Visiting Scientist, Institute for Theoretical Physics, University of California, Santa Barbara, January-May 1995.
- Visiting Scientist, Institute for Theoretical Physics, University of California, Santa Barbara, January-May 1985.
- Research Scientist, Institute for Fusion Studies, 1980 to present.
- Professor of Physics, The University of Texas at Austin, 1977 to present.
- Guest of Max-Planck Institut für Plasmaphysik, August 1977.
- Guest of Georgian Academy of Sciences, Tbilisi, USSR, October 1976.

- Visited Kurchatov Institute of Atomic Energy, Moscow, USSR, June 1976. Toured Soviet Laboratories, I.V. Kurchatov Institute of Atomic Energy, Moscow, Efremov; Electro-Physical Devices Institute, Leningrad; Ioffe Physical-Technical Institute, Leningrad; Physical-Technical Institute, Karkov, August 1973.
- Visiting Scientist, Max-Planck Institut für Plasmaphysik, Garching, 1973.
- Research Scientist, Fusion Research Center, 1969-1980
- Research Scientist, Fusion Research Center, 1969-1980.
- Associate Professor of Physics, The University of Texas at Austin, 1969-1977.
- Member, Institute for Advanced Study, Princeton, New Jersey, 1967-1969.
- Visiting Research Associate, Princeton Plasma Physics Laboratory, Princeton, New Jersey, 1967-1969.
- Visiting Scientist, International Centre for Theoretical Physics, Trieste, Italy, 1965-1966.

Professional Societies

- **American Physical Society, 1964 to present**
- **American Geophysical Union, 1966 to present**

Professional and Public Service

- Certificate of Appreciation called *Props for Profs* from CNS Student Organization to recognize Dedication to Teaching and Outstanding Service to Students, May 2009.
- Organized the 4th ITER International Summer School at The University of Texas from May 31-June 4, 2010. The Director-General of ITER, October 2009, wrote the letter authorizing this activity on behalf of the ITER Organization. The meeting drew 137 participants to the AT&T Center representing 48 universities and 17 countries.
- Natural Sciences Council 2007 Faculty Service Award, Recognition of Outstanding Service to the Students in the College of Natural Sciences, signed by Dean David Laude, May 2007.
- Member, Excellence in Geophysical Education Award Committee, American Geophysical Union, July 2004-June 30, 2006.
- Chair, Selection Committee for the Excellence in Plasma Physics Research Award, American Physical Society, 2005.
- Vice-Chairman, Selection Committee for the Excellence in Plasma Physics Research Award, American Physical Society, 2004.
- Co-Chair, Local Organizing Committee for 2003 International Sherwood Fusion Theory Conference, Corpus Christi, Texas, May 28-30, 2003.
- Thermonuclear Panel Member of CEA Committee that compared the Ignitor and

Reduced Cost ITER Tokamak Options for the Next Step in Fusion Power.

- Chairman of AGU Fall San Francisco Session SM52 on Substorms and Storms I, December 6, 2002.
- Member of IFS Advisory Committee from January 2001.
- Thermonuclear Tokamak Panel, Commissariat a L'Energie Atomique, for evaluation of Ignitor and ITER-FEAT, Paris, France, November 1999-2000.
- Program Committee for IAEA Technical Meeting on First Principles Methods in Plasma Transport, Kloster Seeon, Germany, June 1999.
- External Review on the PhD dissertation at Australia National University of J. L. V. Lewandowski on *Drift Wave Models for 3-Dimensional Plasmas*, 1998.
- Organizer of DPP-APS Mini Conference on Space and Astrophysics, New Orleans, November 1998.
- Correspondent for *Comments on Plasma Physics and Controlled Fusion*, Ed. G. J. Morales, UCLA, beginning 1992-1999.
- Member of DoE Panel for review of Computational Scientific Initiative (CSI) on Nonlinear Complex Phenomena, Washington, February 23-24, 1998.
- Member of NSF/DOE Panel for review of Basic Plasma Physics Proposals, Washington, June 2-5, 1997.
- Member of PBX-M Advisory Committee, Princeton Plasma Physics Laboratory, March 1995.
- Judge of 5th Texas State Science and Engineering Fair, The University of Texas at Austin, April 1991.
- Panel member of Review Committee for NRA-91-OSSA-11 Magnetospheric Physics, NASA, September 1991.
- Advisory Committee on Director Search, Institute for Fusion Studies, The University of Texas at Austin, 1991.
- Member of Program Committee, The American Physical Society, Division of Plasma Physics, 1991.
- Member of Executive Committee for Sherwood International Theory Conference, 1989-1991.
- Advisory Committee, Physics of Fluids B Editor Search, American Institute of

Physics, April 1990.

- Member of Fellowship Committee, The American Physical Society, Division of Plasma Physics, 1990.
- Organizing Committee, *IV International Workshop on Nonlinear and Turbulent Processes in Physics*, Kiev, USSR, October 9-22, 1989.
- Associate Editor, *Physics of Fluids* 1987-1989.
- Organizing Committee, *International Conference on Stochasticity and Turbulence in Plasmas*, University of California, Santa Barbara, March 1985.
- Chairman, US-Japan Management Committee of the Joint Institute for Fusion Theory [JIFT] January 1983.
- Organizing Committee, *Workshop on Drift Wave Turbulence and Anomalous Transport*, Austin, Texas, January 1982.
- Organizing Committee, *Workshop on Statistical Physics and Chaos in Fusion Plasmas*, Austin, Texas, December 1982.
- Organizing Committee, *Workshop on Long-Time Prediction in Nonlinear Conservative Systems*, Austin, Texas, March 1981.
- Co-chairman of Organizing Committee for Sherwood Theory Conference, Austin, Texas, April 1981.
- Organizing Committee for US-Japan Workshop on *Theory of Non-Axisymmetric Confinement Systems*, Austin, Texas, December 1980.
- Member of Start-up Review Committee for US-Japan Agreement for Cooperation in Fusion Research, 1980-1981.
- Member of Tokamak Fusion Test Reactor Physics Advisory Committee, U.S. Energy Research and Development Administration, 1975-1980.
- Advisor on Mirror Containment Research in U.S. Energy Research and Development Administration, 1963-1977.
- Member of Paper Selection Committee for Sherwood Theory Conference, 1976.
- Member of Plasma Properties Advisory Committee responsible for Five-Year Plan in Research Programs of the Division of Controlled Thermonuclear Research in the U.S. Atomic Energy Commission, 1973-1974.
- Chairman of Organizational Committee for Sherwood Theory Conference at The University of Texas at Austin, March 1973.

- Orientation Lecture to Selected High School Graduates in Northeast Texas, sponsored by Texas Atomic Energy Research Foundation, 1970.
- Referee for *Physical Review*, *Physics of Fluids*, *Nuclear Fusion*, *Plasma Physics*, *Journal of Plasma Physics*, *Geophysical Research Letters*, *Physics Letters*, and *Journal of Geophysical Research*.

Awards and Honor Societies

- Named one of top ten journal referees by Nuclear Fusion, 2005.
- Journal of Geophysical Research Editor's Citation for Excellence in Refereeing in Space Physics signed by Prof. Tamas Gambosi in 1994.
- Certificate of Appreciation signed by 1992 by William Haper as Director of the Office of Energy Research in the Department of Energy for service to Fusion Programs for in collaborations with Japan.
- Fellow, American Physical Society, 1983.
- Alfred P. Sloan Foundation Fellowship, 1975-1977.
- Phi Beta Kappa, 1963 Phi Kappa Phi, 1963.

Invited Lectures

W. Horton, *Comparison of the electron thermal transport between tokamaks and the FRC C-2U TAE*, US-Japan Workshop on Compact Tori, August 22–24, 2016 University of California at Irvine, Irvine, California.

Temperature-Gradient Drift Mode in the Columbia Linear Machine, with O. Yamagishi and A. K. Sen, Sherwood Theory Conference, April 23, 2010, Seattle, Washington.

W. Horton, *Electron Temperature-Gradient Drift Mode in the Columbia Linear Machine*, with O. Yamagishi and A. K. Sen, Sherwood Theory Conference, April 23, 2010, Seattle, Washington.

W. Horton, *Nonlinear Dynamics of the Electromagnetic Ion Cyclotron Structures, Firehose and Whistlers*, Nonlinear Waves Workshop 8, La Jolla, CA, March 1-5, 2010 (organized by Dr. Bruce Tsurutani, Jet Propulsion Laboratory, Pasadena, CA).

W. Horton, M. L. Mays, E. Spencer, and J. Kozyra, *Real-Time Prediction of Geomagnetic Storms and Substorms*, CCMC Community Workshop, Key Largo, Florida, January 26, 2010 (organized by Dr. Michael Hesse, Goddard Space Flight Center, MD).

W. Horton, *Drift-Wave Turbulence*, invited seminar, Institute for Plasma Physics and Fusion, Peking University, October 15, 2009. (Invitation from Prof. X. G. Wang, Physics Department of Peking University).

W. Horton, *Storms and Substorms Driven by the Solar Wind*, International Workshop on Substorms, Peking University, October, 2009 (invitation from Prof. Joe Kan, University of Alaska, conference organizer).

Nonlinear Dynamics of the Electromagnetic Ion Cyclotron Structures, Firehose and Whistlers, Nonlinear Waves Workshop 8, La Jolla, CA, March 1-5, 2010.

Parameter Optimization Studies for a Tandem Mirror Neutron Source, W. Horton, S. Fu, A. Beklemishev, and A. Ivanov, Innovative Concept Conference, Princeton, New Jersey, February 16-19, 2010.

Drift-Wave Turbulence, W. Horton, Institute for Plasma Physics and Fusion, Peking University, October 15, 2009.

Validation of Electron Transport Models in ECH Driven TCV Plasmas, W. Horton, J. Kim, E. Asp, and TCV Team, Joint EU-US Transport Task Force Workshop, San Diego, CA, April 28-May 1, 2009.

Turbulent Impurity Transport Modeling on Alcator C-Mod Tokamak, W. Horton, X. Fu, I. Bespamyatnov, S. Benkadda, S. Futatani, and X. Garbet, Association Euratom-CEA, Cadarache, France, June 8, 2009.

Nonlinear Ionosphere Turbulence Driven by Solar Wind, Modern Challenges in Nonlinear Plasma Physics, W. Horton, Macedonia, Greece, June 15-19, 2009.

Laboratory Dipole-Target Experiments to Simulate the Solar Wind-Magnetosphere, W. Horton, P. Brady, T. Ditmire, and M. Mays, Science with High-Power Lasers and Pulsed Power Workshop, July 28, 2009.

Electron Thermal Transport and Impurity Transport, Department of Energy UT Site Visit, August 27, 2009.

Storms and Substorms From Real-Time Solar Wind Data Through Basic Physics Model, W. Horton, L. Mays, and E. Spencer (Utah State University) Symposium on Earth Sun Exploration, Kona, Hawaii, January 14-18, 2008.

Electromagnetic Eigenmodes and Spectral Gaps, J. Pratt and W. Horton at 21st US Transport Taskforce Workshop, March 25-28, 2008.

Modeling of Reversal Er Transport in Gamma 10 Experiment, W. Horton, P. Morrison, J. Pratt, and X. Fu, the 7th International Conference on Open Magnetic Systems, Daejeon, Korea, July 16-19, 2008.

Electron Thermal Transport, Center for Astrophysics and Space Science, University of California at San Diego, La Jolla, California, January 2008.

Energy Confinement Scaling Predictions for the Gamma-10 Tandem Mirror, University of Tsukuba, Tsukuba, Japan, May 14-21, 2007.

Magnetic Reconnection in the Geomagnetic Tail, Space Physics Colloquium, Rice University, March 12, 2007.

Real-Time Physics Modeling of Storms and Substorms from Solar Wind Data, Colloquium at the Naval Research Laboratory, Washington, DC, April 2007.

Drift Wave Transport, First ITER School, Aix-en Provence July 16, 2007.

Electron Transport in Tokamaks, First ITER School, Aix-en Provence, July 20, 2007.

Energy Confinement Predictions for the Stabilized Tandem Mirror and GAMMA-10, W. Horton, J. Pratt, and H. L. Berk, Innovative Confinement Concepts Workshop, University of Maryland, February 12-14, 2007.

Electron Thermal Transport, Center for Astrophysics and Space Science, University of California at San Diego, La Jolla, California, January 2007.

Energy Confinement Scaling Predictions for the Gamma-10 Tandem Mirror, University of Tsukuba, Tsukuba, Japan, May 17, 2007.

Magnetic Reconnection in the Geomagnetic Tail, Space Physics Colloquium, Rice University, March 12, 2007.

Real-Time Physics Modeling of Storms and Substorms from Solar Wind Data, Colloquium at the Naval Research Laboratory, Washington, DC, April 2007.

Drift Wave Transport, First ITER School, Aix-en Provence, July 16, 2007.

Electron Transport in Tokamaks, First ITER School, Aix-en Provence, July 20, 2007.

Laboratory Dipole-Target Experiments to Simulate Solar Wind-Magnetosphere Interactions, IPELS Conference, Australia, August 5-10, 2007.

Analysis of the October 4-6, 2000 GEM Storm with the WINDMI Model, Invited Plenary Talk, NSF GEM 2005 Conference, Santa Fe, New Mexico, June 30, 2005.

Firehose Turbulence as the Source of Pi2 Precursors to Dipolarization Events, Individual Workshop Talk, NSF GEM 2005 Conference, Santa Fe, New Mexico, June 30, 2005.

The Vorticity Probe for the KH and Drift Wave Turbulence, Invited Talk, University of

California, Los Angeles Seminar, June 23, 2005.

Physical Processes Leading to Hard Electron Fluxes from Magnetic Storms, National Radio Science Meeting, Boulder, Colorado, January 5-8, 2005.

Nonlinear Evolution of the Firehose Instability in a Magnetic Dipole Geotail Geometry, 46th Annual Meeting of the Division of Plasma Physics, American Physical Society, Savannah, Georgia, November 15-19, 2004, Bulletin of Am. Phys. Soc. 49 (8).

Electron thermal transport in NSTX and Tore Supra, lead-author invited poster paper, IAEA Fusion Conference, Vilamoura Portugal, paper TH/P3-5 November 1-6, 2004.

Solar Wind Driven Storms and Substorms with High Energy Electron Injections into the Inner Magnetosphere, 16th National Congress 2005, Australian Institute of Physics, Keynote Talk, Congress Handbook and Abstracts, p. 240, January 30-February 4, 2005.

The Theory of Magnetized Rossby Waves, Center for Ionospheric Research/Space and Geophysics Laboratory, Applied Research Laboratories, The University of Texas at Austin, July 8, 2004.

Theory of Magnetized Rossby Waves in Weakly Ionized Plasmas, Institute for Fusion Studies VIP Seminar, May 18, 2004.

Electron Transport in NSTX and TS, U.S. Transport Task Force Meeting, Salt Lake City, Utah April 29-May 2, 2004.

Hall MHD Solitons, Shocks and the Acceleration of Reflected Electrons, 5th International Conference on High Energy Density Laboratory Astrophysics, Tucson, Arizona, 2004.

Windmi-RC: A Family of Physics Network Models for Storms, Presented at the Conference on Sun-Earth Connection: Multiscale Coupling in Sun-Earth Processes, Kona, Hawaii, February 9-13, 2004.

Solar Wind Driven Magnetosphere and Space Weather, Space Physics and Astrophysics Program at 126th AAPT (American Association of Physics Teachers), National meeting, Austin, Texas, January 14, 2003.

Electron transport and the critical gradient, 45th Annual Meeting of the Division of Plasma Physics, American Physical Society, Albuquerque, New Mexico, October 27-31, 2003.

Astrophysics Simulation Experiments, FOCUS Retreat, The University of Texas at Austin, March 7-8, 2003.

Substorm Dynamics from a Low-Order Physics Model, Colloquium, Department of Space Physics and Astronomy, Rice University, February 2, 1999.

Fundamental Transport Suppression Mechanisms Arising from Reversed Magnetic Shear and Radial Electric Field Shear, Workshop on Nonequilibrium and Nonlinear Plasma Phenomena, The University of Texas at Austin, January 12, 1999.

Predictive Tests of ITG-Based Models of Tokamak Heat Transport on ITER-Database Discharge, W. Horton, M. Erba, and M. Ottaviani, Eleventh Transport Task Force Workshop, Atlanta, Georgia, March 18-21, 1998.

Formation Mechanism and the Dynamics of Internal Transport Barriers, Ninth Transport Task Force Workshop, Philadelphia, PA, March 12-16, 1996.

Space Plasma Physics Seminar, Southwest Research Institute, San Antonio, March 1996.

Space Plasma Physics Seminar, Rice University, April 1996.

The H-Mode Workshop at PPPL and Remarks on Power Thresholds for Transitions, Institute for Fusion Studies seminar, The University of Texas at Austin, Texas, October 1996.

Presentation of the Horton-Tajima group's work on transport barriers at the IAEA H-mode Workshop, Princeton Plasma Physics Lab, October 1995.

Coherent Structures in Plasma Turbulence, Transport Chaos and Plasma Physics 2, Marseilles, France, July 10-22, 1995.

Energy-Momentum Transport in Tokamaks, Canadian Association of Physicists' 1995 (50th Anniversary) Congress, Laval University, Quebec City, Quebec, June 1995.

Extended Radial Structures and the Effect of Shear-Flow, H. Horton, T. Tajima, M. Ottaviani, and G. Hu, Conference on Numerical Simulations of Plasma Turbulence, Institute for Theoretical Physics, University of California, Santa Barbara, California, April 10-15, 1995.

Analysis of the Transport Barriers in JT60-V and PBX-M, Transport Task Force Workshop, Marina del Rey, California, March 1995.

Pressure Gradient Driven Shear-Flow, with contributions from G. Hu and J. Krommes, Institute for Theoretical Physics, University of California, Santa Barbara, California, March 31, 1995.

Energy and Momentum Transport in a Global Night-Side Low-Dimensional Magnetospheric Model, W. Horton, T. Tajima, and I. Doxas, the MIT Cambridge Space Plasma Physics Symposium, February 20-25, 1995.

Ion Temperature Gradient Driven Turbulent Transport, with contributions from J-Q. Dong, B. Dorland, M. Kotschenreuther, M. LeBrun, T. Tajima, and F.L. Waelbroeck, International Symposium in Honor of Bruno Coppi, Massachusetts Institute of Technology, January 1995.

Report on the Transport Barrier in PBX-M, The Department of Physics Seminar, The University of Texas, Austin, Texas, October 1995.

Effect of Sheared Flows on Confinement, Plasma Physics Seminar, The University of Texas, Austin, Texas, September 1994.

Influence of Sheared Flows on Turbulence and Confinement, Theory Seminar, Princeton Plasma Physics Laboratory, Princeton, October 1994.

Effect of Plasma Flows on Transport, Energy Quality and Control Workshop, Japan Atomic Energy Research Institute, Japan, July 1994.

Transport in Fusion Plasmas, Chalmers University of Technology, Sweden, June 1994.

Anomalous Dissipation Due to Chaotic Orbits, International Workshop on Nonlinear Waves and Chaos in Space Plasmas, Japan, June 1994.

L-H Transition from the Interaction of Neoclassical and Turbulent Transport Effects, Energy Quality and Control Workshop, Japan Atomic Energy Research Institute, Japan, December 1993.

Shear Flow Generation From the Interaction of Neoclassical and Turbulence Transport Effects, Plasma Physics Seminar, The University of Texas, Austin, Texas, October 1993.

Update on η_i Mode Calculations, Core Fluctuation Working Group, DPP-APS St. Louis, November 1993.

Self-Consistent Plasma Pressure Tensors from the Tsytganenko Magnetic Field Models, Department of Space Physics and Astronomy, Rice University, January 1992.

Characteristics of the Dielectric Tensor in the Geomagnetic Tail, AGU Chapman Conference, Kauai, Hawaii, February 1992.

Landau Resonances in 2D-Hamiltonian Systems with Chaotic Orbits, Department of Physics, University of California, Berkeley, August 1991.

Drift Wave Vortices in Inhomogeneous Plasmas, III Potsdam-V Kiev International Workshop on Nonlinear Processes in Physics, Potsdam, New York, August 1991.

Impurity Transport Studies in TEXT and T-10, US-Japan Workshop, Madison, Wisconsin, August 1991.

Ion Temperature Gradient Driven Transport in the TFTR Transport Discharge, TTF Transport Workshop, The University of Texas, Austin, Texas, March 1991.

Collisionless Transport in Magnetic Field Loops and FRCs, Department of Physics, The University of Texas, Austin, January 1991.

Collisionless Plasma Transport Across Loop Magnetic Fields, W. Horton, American Physical Society-Division of Plasma Physics, Cincinnati, Ohio, November 1990; Bull. Am. Phys. Soc. 35, 1940 (1990).

Collisionless Conductivity in the Geomagnetic Tail From Chaotic Orbits, American Geophysical Union 1990, Baltimore, Maryland, May 1990.

Anomalous Electron Transport from Skin Depth Scale Turbulence Driven by $GRAD-T_e$, US-Japan Workshop, Madison, Wisconsin, March 1990.

Transport from Short Wavelength Fluctuations and Large Scale Vortices, TTF Transport Workshop, Hilton Head, South Carolina, February 1990.

Transition from Resistive- G to η_i Turbulence in Torsatrons, Oak Ridge National Laboratory, February 1990.

Vortex Structures in Magnetized Plasmas, National Radio Science Meeting, University of Colorado, Boulder, January 1990.

Drift Wave Vortices and Anomalous Transport, IV International Workshop, Kiev, USSR, October 1989.

Collisionless Resistivity in Reversed Magnetic Field Configurations, Southwest Research Institute, San Antonio, Texas, August 1989.

Orbital Stochasticity and Collisionless Resistivity in Reversed Magnetic Field Configurations, US-Japan Workshop, Boulder, Colorado, July 1989.

Electron Temperature Gradient Driven Turbulence and Skin Depth Transport, Sherwood International Theory Conference, San Antonio, Texas, April 1989.

Drift Wave Vortices and Anomalous Transport, US-Japan Workshop, Nagoya University, Japan, March 1989.

Drift Wave Vortices and Anomalous Transport, Beijing, China, January 1989.

η_i Kinetic Theory Modifications of MHD, US-Japan Workshop, Princeton Plasma Physics Laboratory, January 1989.

Anomalous Transport and Dynamics of Non-Resonant Kinks in Reversed Field Pinches, US-Japan Workshop, SAIC-San Diego, California, January 1989.

Electromagnetic Drift Mode Transport Formulas and Empirical Scaling for Tokamaks, IAEA 12th International Conference on Plasma Physics and Controlled Nuclear Fusion Research, Nice, France, October 1988.

Short Wavelength Electron Temperature Gradient Drive Drift Wave Turbulence in Tokamaks, Joint Varenna-Lausanne International Workshop on Theory of Fusion Plasmas, Lausanne, Switzerland, October 1988.

Ion and Electron Temperature Gradient Modes, The University of Texas at Austin, Institute for Fusion Studies, July 1988.

Alphas and the η_i Mode, Alpha Particle Theory Problems Workshop, Institute for Fusion Studies, The University of Texas at Austin, January 1988.

Quasi-Coherent Transport by Vortices and Vortex-Wave Interactions, US-Japan Workshop, The University of Texas at Austin, December 1987.

Solitary Vortices in Rotating Plasmas, Nonlinear Dynamics Seminar, The University of Texas at Austin, November 1987.

Drift Wave Vortices and Anomalous Transport, Bull. Am. Phys. Soc. 32, 1907, November 1987.

Driven Reconnection, Astrophysical Plasma Seminar, The University of Texas at Austin, October 1987

Fusion, Physics Department Orientation for New Graduate Students, The University of Texas at Austin, August 1987.

Linear Theory of Driven Reconnection, Southwest Research Institute, San Antonio, Texas, August 1987.

Drift Wave Vortices and Anomalous Transport, Science Applications International Corporation, Plasma Physics Division, McLean, VA, July 1987.

Drift Wave Turbulence Driven by Sheared Flows, Korea Advanced Institute of Science and Technology, Seoul, Korea, March 1987.

Driven Reconnection: Linear and Renormalized Quasilinear Theory, US-Japan Workshop, University of Hiroshima, Japan, March 1987.

Stationary Vortices and Transport in Non-Axisymmetric Toroidal Plasmas, Fusion Research Center Workshop on Turbulence in Confined Plasmas, The University of Texas at Austin, February 1987.

Electron Thermal Transport from Electromagnetic Drift Wave Fluctuations, US-Japan Workshop, GA Technologies, San Diego, CA, February 1987.

Wakeless Triple Soliton Accelerator, Plasma Physics Seminar, Institute for Fusion Studies,

The University of Texas at Austin, December 1986.

Kelvin-Helmholtz Instabilities and Vortices in Magnetized Plasmas, Nonlinear Dynamics Workshop sponsored by The University of Texas at Austin and Department of Mathematics of the University of Houston, The University of Texas at Austin, October 1986.

Plasma Kelvin-Helmholtz Instability in the Magnetopause Boundary Layer, Southwest Research Institute, San Antonio, Texas, August 1986.

Vortex States in Inhomogeneous Rotating Plasma, Sherwood Theory Conference, New York, April 1986.

Transport in Drift Waves, Statistical Physics Workshop, Nagoya, Japan, February 1986.

Anomalous Transport from Drift Fluctuations, Fluctuations and Transport Workshop, The University of Texas at Austin, February 1986.

Triple Soliton and Phase Velocity Control by Plasma Fiber in a Beat Wave Accelerator, International Laser Science Conference, The University of Texas at Dallas, November 1985.

Drift Waves, Vortices, and Turbulence, Nonlinear Dynamics Seminar, The University of Texas at Austin, Physics Department, October 7, 1985.

Drift Waves and Vortices, Institute for Theoretical Physics, University of California, Santa Barbara, May 1985.

Drift Modes with Differential Rotation and Passing Electrons, Workshop on Low-Frequency Fluctuation in Tandem Mirrors, The University of Texas at Austin, May 1985.

Drift Wave Turbulence, International Conference on Stochasticity, Turbulence, and Long-Time Prediction in Plasmas, University of California, Santa Barbara, March 1985.

Drift Wave Turbulence and Anomalous Transport, California Institute of Technology, Pasadena, California, February 1985.

Effect of Noise and Pump Depletion on the Plasma Beat Wave Acceleration, 2nd Workshop on Laser Acceleration of Particles, Malibu, California, January 1985.

Ion Acoustic Turbulence and Anomalous Transport, Los Alamos Conference on Transport and Propagation in Nonlinear Systems, Los Alamos, New Mexico, May 21-25, 1984.

Beat Wave Accelerator and the Effect of Plasma Noise, Aspen Center for Physics, June 1984.

Fluctuations and Solitons in Drift Wave Turbulence, Workshop on Chaos and Coherent Structures in Fluids, Plasmas and Solids, Los Alamos, New Mexico, June 1-3, 1983.

Pressure Gradient Driven Modes and Thermodynamics of Anomalous Drift Wave Transport,

U.S.-Japan Workshop on Anomalous Transport and Critical Beta, Nagoya, Japan, February 28-March 4, 1983.

Statistical Properties of Drift Wave Turbulence, Workshop on Statistical Physics and Chaos in Fusion Plasmas, Austin, Texas December 13-17, 1982.

Drift Wave Turbulence and Anomalous Transport, Review Talk at American Physical Society-Division of Plasma Physics, New Orleans, Louisiana, November 1982.

Frequency Spectrum for Drift Wave Turbulence, Anomalous Transport Workshop, Massachusetts Institute of Technology, March 1982.

Anomalous Ion Thermal Conductivity, US-Japan Workshop on Drift Wave Turbulence, Austin, Texas, January 1982.

Drift Wave Turbulence, American Physical Society Meeting, New York, November 1981.

Renormalized Turbulence Theories for the Ion Acoustic Problem, Los Alamos National Laboratory, May 1981.

Anomalous Ion Thermal Conductivity from Toroidal Drift Wave Turbulence, Princeton Plasma Physics Laboratory, March 1981.

Renormalized Turbulence Theory, Prigogine Workshop, Lakeway, Texas, March 1981.

Drift Waves and Transport in the Tandem Mirror, Tsukuba University, Japan, November 1980.

Anomalous Ion Thermal Conduction due to Drift Wave Turbulence, Hiroshima University, November 1980.

Kinetic Plasma Theory in the U.S. Fusion Program, Nagoya University Japan, October 1980.

Anomalous Drift-wave Transport in Tandem Mirrors, Aspen Center for Theoretical Physics, June 1980.

Anomalous Transport due to Drift Wave Turbulence, International Workshop on Nonlinear and Turbulent Processes in Physics, Kiev, USSR, September 1979.

Renormalized Turbulence Theory, Aspen Center for Theoretical Physics, June 1979.

Inhibition of the Trapped-Ion Mode by Drift-Wave Turbulence, Sherwood Theory Meeting, Mount Pocono, Pennsylvania, April 1979.

Anomalous Transport, Drift Waves Workshop in Trieste, Italy, September 1978.

Anomalous Transport due to Drift Waves, Imperial College, London, England, August 1978.

RF Noise Correlated with Neutral Beam Injection in Tokamaks, Joint Varenna-Grenoble

International Symposium on Heating in Toroidal Plasmas, Grenoble, July 1977.

Anomalous Transport from Drift Wave Fluctuations, Max-Planck Institut für Plasmaphysik, Garching, West Germany, August 1977.

Anomalous Transport in Tokamaks, Christophilos Summer School and International Conference, Spétses, Greece, July 1977.

Renormalized Plasma Turbulence Theory, and *Spectral Distribution of Drift Wave Fluctuations in Tokamaks*, Physics Department, University of California, San Diego; June 1977.

Drift Model for Anomalous Transport in Tokamaks, Colloquium, Princeton Plasma Physics Laboratory, Princeton, New Jersey; *Renormalized Plasma Turbulence*, Theoretical Seminar, November 1976.

Correlations between the Drift Wave Model and the Anomalous Transport Observed in Tokamaks, Department of Controlled Fusion, Fontenay-aux-Roses, Paris, France, October 1976.

Scaling Laws for Ion-Acoustic Heating from Renormalized Turbulence Theory, and *Drift Wave Turbulence in Tokamaks*, Georgian Academy of Sciences, Tbilisi, USSR, September 1976.

Microinstability Theory of Two-Energy-Component Toroidal Systems and Ion Acoustic Heating from Renormalized Turbulence Theory, Kurchatov Institute of Atomic Energy, Moscow, USSR, June 1976.

Microinstability Theory of Tokamaks, Plasma Physics Seminar, University Libre Brussels, Belgium, May 1976.

Renormalized Turbulence Theory, Plasma Physics Seminar, Physics Department, University of California, Berkeley, March 1976.

Studies of Turbulent Heating from Renormalized Turbulence Theory, The University of Texas at Austin, Physics Department Colloquium, October 1975.

Turbulent Heating in Tokamaks, Theoretical Seminar at Lawrence Livermore National Laboratory, September 1975.

Studies of Ion Acoustic Turbulence from Renormalized Turbulence Theory, Plasma Physics Divisional Meeting of the American Physical Society, Albuquerque, New Mexico, 1974.

Radial Normal Mode Stability Theory of Trapped Electron Mode, University of California, Lawrence Berkeley Laboratory, Berkeley, April 1974.

Secular Perturbation Theory of the Vlasov Equation, Symposium on Turbulence and Nonlinear Effects in Plasmas, Culham-SRC, England, July 1973.

Spectrum for Ion-acoustic Turbulence from Renormalized Vlasov Turbulence Theory, Theory Seminar at Max-Planck Institut für Plasmaphysik, Garching, West Germany, July 1973.

Drift Wave and Trapped Particle Instabilities in Tokamaks, Theory Seminar at Max Planck Institut für Plasmaphysik, Garching, West Germany, June 1973.

Modified Kadomtsev Spectrum from Renormalized Plasma Turbulence Theory, Theory Seminar at The University of Texas at Austin, March 1973.

Diffusion from Low-Frequency Fluctuations in a Straight Tokamak Model, Theory Seminar at The University of Texas at Austin, March 1973.

Drift Wave Instabilities in Tokamaks, Los Alamos Scientific Laboratory, Los Alamos, New Mexico, March 1972.

Bootstrap Current-driven Drift Instability in Tokamaks, Courant Institute of Mathematical Sciences, New York University, March 1971.

Drift Waves in Tokamak Geometry, Washington Meeting of the American Physical Society, April 1971.

Conditions for Drift Wave Instabilities in Tokamak Systems, Theory Seminar at Princeton University, Princeton, NJ, April 1970.

Modified Negative Mass Instability, Theory Seminar at Oak Ridge National Laboratory, Oak Ridge, TN, April 1969.

Amplitude Limitation and Transport for Collisional Drift Waves, Theory Seminar at Oak Ridge National Laboratory, Oak Ridge, TN, April 1969.

Stability and Nonlinear Evolution of the Ion Flute Mode, Theory Seminar at the University of California Lawrence Radiation Laboratory, Berkeley, CA, May 1968

University and Departmental Committees

- IFS Director's Advisory Committee, 2001 to present
- Physics Department/IFS Faculty Search Committee, 1992-1993
- IFS Seminar Committee, 1987-present
- Junior Advisor in Physics Department, 1987-1989
- Sophomore Advisor in Physics Department, 1986-87
- Freshman Advisor in Physics Department, 1985-86
- IFS Computer Committee, 1984-1989
- Faculty Welfare Committee, 1980-1982
- Space Committee in Physics Department, 1977
- Computer Usage Committee in Physics Department, 1976
- Graduate Studies Sub-committee in Physics Department, 1974-1976

- Minority Recruitment Committee for Physics Department, 1975-1976
- Undergraduate Affairs Committee, 1972-1974
- Chairman, Parking and Traffic Appeals Panel for University, 1973-1975
- Chairman, Dean's Ad Hoc Committee for Priority on Academic Development and Teaching Equipment Funds, 1973-1974.
- Organized Plasma Physics Seminars, 1970-1973

Significant Activities in Student Affairs and Courses Taught

- Advising undergraduate pre-med students taking Phys. 203L on preparing for MCAT and wrote letters of recommendation for medical school Admission, 2003 to present.
- Advising junior physics students, 1988-89
- Advising graduate students, 1969 to present
- Advising freshman and sophomore physics students, 1969-75
- Advising undetermined majors, 1974
- Lectured to freshmen in Summer Orientation Program, 1971 and 1972
- Assisted Prof. R.N. Little with teaching Physical Science before adopted by Physics Department

PHY 609	Physics for Non-Technical Students
PHY 302K,L	General Physics-Tech
PHY 303L	Engineering Physics II
PS 303, 304	Physical Science
PHY 306	Elementary Physics Methods
PHY 385K	Classical Mechanics
PHY 385L	Statistical Physics
PHY 387K,L	Electricity and Magnetism
PHY 380L	Introductory Plasma Physics
PHY 380M	Plasma Stability Theory
PHY 390M	Advanced Plasma Physics
PHY 391M,N	Nonlinear Plasma Theory
PHY 390C	Special Topic in Plasma Physics
PHY 391S	Plasma Physics Seminar
PHY 104	Introductory Physics Seminar

Graduate Student Supervision

- **Ph.D. Degrees Supervised**
- Dr. Lung Cheung: *Stability of Tokamaks from the Drift Kinetic Equation*, 1972.
Position: Teaching in the Department of Electronics, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong.
- Dr. Thomas Gladd: *Shear Stabilization of Drift Wave Normal Modes*, 1973.
Position: Research Scientist in Plasma Physics Center, University of Maryland.

- Dr. Robert Koch: *Renormalized Plasma Turbulence Theory*, 1975.
Position: Research Associate, Princeton Plasma Physics Laboratory, Princeton, New Jersey.
- Dr. L.P. Mai: *Stability of Two-Energy-Component Toroidal Systems*, 1976.
Position: Research Associate in Plasma Physics Center, the University of Wisconsin, Madison, Wisconsin.
- Dr. William H. Miner, Jr.: *Two-Dimensional Structure of the Trapped Electron Mode*, 1978.
Position: Research Associate, Science Applications, Inc., Virginia.
- Dr. Stephen H. Brecht: *Parametric Dependence of Ion Cyclotron Instabilities Driven by Neutral Beam Injection*, 1978.
Position: Research Associate, Science Applications, Inc., Maryland.
- Dr. Paul Willis Terry: *Theoretical Aspects of the Nonlinear Interaction of Drift-Type Instabilities*, 1981.
Position: Post-doctoral appointment, Institute for Fusion Studies, Austin, Texas.
- Dr. Jixing Liu: *The Linear Instability and Nonlinear Motion of Rotating Plasma*, 1985.
Position: Post-doctoral appointment, Institute for Fusion Studies, Austin, Texas.
- Dr. Franco Cozzani: *Local Effect of Equilibrium Current on Tearing Mode Stability*, 1985.
Position: Research Associate, Max-Planck Institut für Plasmaphysik, Garching, West Germany.
- Dr. James Alexander Robertson: *Stochastic Electron Dynamics Due to Drift Waves in a Sheared Magnetic Field and Other Drift Motion Problems*, 1986.
Position: Research Associate, Varian Corporation, Boston,
- Dr. Isidoros Doxas: *$E \times B$ Stochastic Diffusion and the Nonadiabatic behavior of the Magnetic Moment*, 1985.
Position: Research Associate, University of Colorado, Boulder.
- Dr. Xiang Ning Su: *Drift Wave Coherent Vortex Structures in Inhomogeneous Plasmas*, 1992
Position: IBM software products
- Dr. Jose V. Hernandez Ochoa: *Particle Dynamics and Collisionless Conductivity of the Plasma Sheet in the Geomagnetic Tail*, 1994
Position: Los Alamos National Laboratory, Los Alamos, New Mexico.
- Dr. James P. Smith: *Low-Dimensional Modeling of the Earth's Magnetosphere*, 1999
Position: Los Alamos Scientific Laboratory

- Dr. Robert S. Weigel: *Prediction and Modeling of Magnetospheric Substorms*, 2000
Position: Goddard Space Flight Center NRC Fellowship

- Dr. Christopher Crabtree: *Ballooning Stability of the Earth's Magnetosphere*, May 2003.
Position: University of California, Irvine

- Dr. Manish Mithaiwala: *Substorm Induced Electron Energization*, May 2005
Position: Naval Research Laboratory, Washington, DC

- Dr. Jean Carlos Perez: *Theory and simulations of sheared flows and drift wave in the LAPD and the Helimak*, May 2006
Position: Postdoctoral Student, Physics Department, University of Madison, Madison, Wisconsin

Dr. Edmund Spencer: *Analysis of Geomagnetic Storms and Substorms with the WINDMI Model*, Electrical & Computer Engineering, May 2006
Position: Assistant Professor, Utah State University, Logan, Utah

- Dr. Jean Carlos Perez: *Theory and simulations of sheared flows and drift wave in the LAPD and the Helimak*, May 2006
Position: Postdoctoral Student, Physics Department, University of Madison, Madison, Wisconsin

- Dr. Jean Carlos Perez: *Theory and simulations of sheared flows and drift wave in the LAPD and the Helimak*, May 2006
Position: Postdoctoral Student, Physics Department, University of Madison, Madison, Wisconsin

- Dr. Jane Pratt: *Drift wave stability and transport in the Tandem Mirror Confinement Devices*, May 2009.
Position: Max Planck Institut für Plasma Physics, Garching, Germany

Dr. Leila Mays: *The Study of Interplanetary Shocks, Geomagnetic Storms, and Substorms with the WINDMI Model*, July 2009
Postdoctoral Position: NRC Fellowship, Goddard Space Flight Center, Maryland.

Dr. Shaoping Lu, *Abrupt Global Warmings in the last Ice Age with Inverse Bayesian methods applied to Greenland Ice Core Samples*, August 2010.

Xiangrong Fu, *Turbulent Particle and Thermal Transport in Magnetized Plasmas*, May 2012. Post-doctoral Position, Los Alamos Scientific Laboratory

Cynthia Correa: *Studies of Transient Behavior and of the Unbounded Magnetized Plasma Jet Configuration in the Magnetohydrodynamic Regime*, May 2015.

Jingfei Ma: *The macro- and micro-instabilities in the pedestal region of the Tokamak*, May 2015

Master's Degrees Supervised

- Wei-Tai Lin: *Charged Particle Energization from Solar Winds*, November 2003
- Daniel Kiefer: *Nonlinear Interaction of Wave Beams upon Reflection at a Sloping Boundary*, August 2007

Research in Progress and Research Grants

Theoretical studies of plasma dynamics are being carried out under a U.S. Department of Energy contract and NSF Grant. The general purpose of the programs is to provide the scientific understanding the turbulent transport processes in plasmas. This includes the study of equilibrium, stability and transport in both laboratory and space environments. The primary funding is through the Institute for Fusion Studies with the mission to provide the necessary understanding to support the quest for controlled thermonuclear fusion. The primary thrust of the NSF work is to provide theory and modeling to support understanding of the solar wind driven the magnetic storms and substorms in the Earth's space environment. These space storms disrupt communications and power distributions systems. The research involves graduate students and post-doctoral students.

Research Support

- NSF Grant AGS 0964692 received June 15, 2010-2013 for three years of research on *Physics Modeling of Solar Wind Driven Magnetospheric Storms and Substorms*.
- SciDAC Grant from Department of Energy DE-FC02-08ER54961, 2008-2011, Gyrokinetic Simulations with UC Irvine.
- NSF Grant ATM -0638480 Space Plasma Physics.
- Three-year National Science Foundation Grant for *Storms and Substorms from Kinetic Plasma Theory Modeling*. \$320,026 for April 2007-March 2010.
- Two-year National Science Foundation Grant for *Plasma Dynamics in the Solar Wind Driven Magnetosphere-Ionosphere System - Solar Wind Driven Magnetospheric Complex Dynamic*. \$320,025 for April 2006-March 2008.
- Two-year US Civilian Research & Development Foundation Grant for *Laboratory Simulations of Magnetospheric Plasma Shocks and Particle Accelerations*. \$7,700 for March 2006-February 2008.
- Three-year National Science Foundation Grant for *Solar Wind Driven Magnetospheric-Ionospheric Complex Dynamic Model*. \$424,785 for April 2003-March 2007.
- Three-year National Science Foundation Grant for *Solar Wind Driven Magnetospheric-Ionospheric Complex Dynamic Model*. \$424,785 for April 2003-March 2006.
- Two-year Civilian Research and Development Foundation Grant for *Planetary Waves*

and Nonlinear Solitary Vortical Structures in the Earth's Ionosphere. \$6,050 for March 2003-February 2005.

- One-year National Science Foundation (via Univ. of Michigan) Grant for *Laser Target Interactions and Space/Solar Physics Simulation Experiments*. (co-investigators, Boris Breizman, and Charles Chiu) \$54,000 for January 2003-December 2003.
- Three-year National Science Foundation Grant for *A Low Dimensional Dynamical Model for the Solar Wind Driven Geotail-Ionosphere System*. \$350,465 for March 2000-March 2003.
- Four-year National Science Foundation Grant for *Simulation Study of Space Plasma Physics*. \$200,588 for July 1999-June 2003.
- Three-year National Science Foundation Grant for *Low-Dimensional Models for Solar Wind Driven Magnetosphere-Ionosphere System*. (co-investigators, T. Tajima and subcontract to Isidoros Doxas at UC Boulder). \$90,000 for 2000 and \$120,000 for 2001.
- Two-year National Science Foundation Grant for *A low-Dimensional Dynamical Model for the Solar Wind Driven Geotail-Ionosphere System*, (co-investigators T. Tajima, I. Doxas, and J. Cary). \$150,000 for 1997-1999.
- Department of Energy, Office of Fusion Science, Collaboration with CEA, Dept Controlled Fusion, Cadarache, France on *Bifurcations to Improved Confinement in High Electron Pressure Gradient Plasmas*. \$17,000. for 1998-1999. \$9000 for 2000.
- National Science Foundation grant, *Anomalous Transport of Magnetically-Confining Plasma*. \$23,510 for July 1987-June 1990.
- National Science Foundation grant, *Simulation Study of Space Plasma Physics*. \$140,000 for August 1988-January 1991.
- Supplemental grant to the Institute for Fusion Studies for administration of US-Japan, Joint Institute for Fusion Theory. \$149,000 for 1983-1988; \$35,000 for 1983-1984, \$40,000 for 1984-1985, \$27,500 for 1985-1986, \$29,500 for 1986-1987, \$17,000 for 1987-1988, \$17,000 for 1988-1989, \$25,000 for 1989-1990.
- Co-investigator in the 1980-present grant for the Institute for Fusion Studies.
- Co-investigator in Task A (Theory) contract with Department of Energy in the Fusion Research Center.
- Co-investigator in contract with the Energy Research and Development Administration for work in theoretical plasma physics, approximately \$100,000 for 1977-1978.
- Alfred P. Sloan Foundation Fellowship with research grant award of \$20,000 for 1975-77.
- Investigator in contract with Texas Atomic Energy Research Foundation for basic plasma physics research, varying amounts.
- NSF-USDP Grant for theoretical plasma physics. \$25,000 for 1969-1972.
- Investigator in contract with the Atomic Energy Commission for theoretical plasma physics, approximately \$50,000 for 1969-1974.

Publications and Contributions (Refereed)

Hirsch Index for impact of Research: h=38

- **Articles**

- C.W. Horton, Jr., *Coupling of Transverse and Longitudinal Waves at the Upper Hybrid Frequency*, Phys. Fluids 9, 815-816 (1966), <https://doi.org/10.1063/1.1761751>.
- H.L. Berk, C.W. Horton, M.N. Rosenbluth, and R.N. Sudan, *Plasma Wave Reflection in Slowly Varying Media*, Phys. Fluids 10, 2003-2016 (1967), <https://doi.org/10.1063/1.1762400>.
- H.L. Berk, C.W. Horton, M.N. Rosenbluth, R.N. Sudan, and D.E. Baldwin, *Nonlocal Reflection in Inhomogeneous Media*, Phys. Fluids 11, 365-371 (1968), <https://doi.org/10.1063/1.1691912>.
- C.W. Horton, Jr., *Numerical Solution of Plasma Wave Equation for a Linear Confining Potential*, Phys. Fluids 11, 1154-1161 (1968), <https://doi.org/10.1063/1.1692076>.
- P. Rutherford, M.N. Rosenbluth, W. Horton, E. Frieman, and B. Coppi, *Low-frequency Stability of Axisymmetric Toruses*, Plasma Physics and Controlled Nuclear Fusion Research Vol. I (International Atomic Energy Agency, Vienna, 1969), pp. 367-387, ISSN 0074-1884.
- H.L. Berk, T.K. Fowler, L.D. Pearlstein, R.J. Post, J.D. Callen, C.W. Horton, and M.N. Rosenbluth, *Criteria for Stabilization of Electrostatic Modes in Mirror-Confined Plasmas*, Plasma Physics and Controlled Nuclear Fusion Research Vol. II, (International Atomic Energy Agency, Vienna, 1969), pp. 151-164, ISSN 0074-1884.
- H.L. Berk, L.D. Pearlstein, J.D. Callen, C.W. Horton, and M.N. Rosenbluth, *Destabilization of Negative-energy Waves in Inhomogeneous Mirror Geometry*, Phys. Rev. Lett. 22, 876-879 (1969), <https://doi.org/10.1103/PhysRevLett.22.876>.
- C.W. Horton, Jr., *Destabilization and Quasilinear Evolution of the Ion Flute Mode*, Phys. Fluids 12, 2132-2139 (1969), <https://doi.org/10.1063/1.1692322>.
- J.D. Callen and C.W. Horton, *Negative Mass Instabilities*, Phys. Fluids 13, 154-165 (1970), <https://doi.org/10.1063/1.1692784>.
- F.L. Hinton and C.W. Horton, Jr., *Amplitude Limitation of a Collisional Drift Wave Instability*, Phys. Fluids 14, 116-123 (1971), <https://doi.org/10.1063/1.1693260>.
- C.W. Horton, Jr., J.D. Callen, and M.N. Rosenbluth, *Microinstabilities in Axisymmetric Mirror Machines*, Phys. Fluids 14, 2019-2032 (1971), <https://doi.org/10.1063/1.1693260>.

doi.org/10.1063/1.1693712.

- D.W. Ross and C.W. Horton, Jr., *Radial Dependence on the Collisional Trapped-Particle Instability*, Phys. Rev. Lett. 28, 484-488 (1971), <https://doi.org/10.1103/PhysRevLett.28.484>.
- C.W. Horton, Jr. and R.K. Varma, *Electrostatic Stability Theory of Tokamaks from Two-Component Fluid Equations*, Phys. Fluids 15, 620-631 (1972), <https://doi.org/10.1063/1.1693957>.
- Wendell Horton, Jr., *Mechanism for Anomalous Current Penetration*, Phys. Rev. Lett. 28, 1506-1508 (1972), <https://doi.org/10.1103/PhysRevLett.28.1506>.
- R.K. Varma and C.W. Horton, Jr., *Schrodinger-like Equations for the Nonadiabatic Escape of Charged Particles*, Phys. Fluids 15, 1469-1473 (1972), <https://doi.org/10.1063/1.1694109>.
- C.S. Liu, M.N. Rosenbluth, and C.W. Horton, Jr., *Electron Temperature Gradient Instability and Anomalous Skin Effect in Tokamaks*, Phys. Rev. Lett. 29, 1489-1492 (1972), <https://doi.org/10.1103/PhysRevLett.29.1489>.
- J.D. Callen and C.W. Horton, Jr., *Stabilization of the Modified Negative Mass Instability*, Phys. Fluids 15, 2306-2313 (1972), <https://doi.org/10.1063/1.1693874>.
- Nevel T. Gladd and Wendell Horton, Jr., *Critical Shear and Growth Rates for Drift Waves in a Nonuniform Current-Carrying Plasma*, Phys. Fluids 16, 879-887 (1973), <https://doi.org/10.1063/1.1694440>.
- W. Horton, Jr. and T. Kammash, *Anomalously-Confined Tokamak Reactor*, Nucl. Fusion 13, 753-755 (1973), <https://doi.org/10.1088/0029-5515/13/5/015>.
- Lung Cheung and Wendell Horton, Jr., *Equilibrium and Electrostatic Stability Theory of Tokamaks from the Drift-Kinetic Equation*, Ann. Phys. 81, 201-230 (1973), [https://doi.org/10.1016/0003-4916\(73\)90486-7](https://doi.org/10.1016/0003-4916(73)90486-7).
- Wendell Horton and Terry Kammash, *Model Tokamak Reactors Limited by Anomalous Diffusion and Synchrotron Radiation*, in *Technology of Controlled Thermonuclear Fusion Experiments and Engineering Aspects of Fusion Reactors*, (U.S. Atomic Energy Commission, Washington, DC 1974), p. 146.
- Duk-In Choi and Wendell Horton, Jr., *Modified Kadomtsev Spectrum from*

***Renormalized Plasma Turbulence Theory*, Phys. Fluids 17, 2048-2060 (1974), <https://doi.org/10.1063/1.1694664>.**

23. L.P. Mai and Wendell Horton, Jr., *Destabilizing Effects of a Fast-Isotropic Ion Component*, Phys. Fluids 18, 356-360 (1975), <https://doi.org/10.1063/1.861130>.
24. D. Biskamp and W. Horton, Jr., *Current Filamentation in Parallel-Field Turbulent Plasmas*, Phys. Rev. Lett. 35, 39-42 (1975), <https://doi.org/10.1103/PhysRevLett.35.39>.
25. H.L. Berk, W. Horton, Jr., M.N. Rosenbluth, and P.H. Rutherford, *Microinstability Theory for Toroidal Plasmas Heated by Intense Energetic Ion Beams*, Proceedings of the 1974 Varenna Symposium on Plasma Heating, (Editrice Compositori, Bologna, 1975), <http://adsabs.harvard.edu/abs/1974phtd.symp..182B>.
26. Duk-In Choi and Wendell Horton, Jr., *Mechanism for Ion Tail Formation during Ion Acoustic Turbulence*, Phys. Fluids 18, 858-860 (1975), <https://doi.org/10.1063/1.861220>.
27. R.A. Koch and Wendell Horton, Jr., *Effects of Electron Angle Scattering in Plasma Waves*, Phys. Fluids 18, 861-865 (1975), <https://doi.org/10.1063/1.861221>.
28. Wendell Horton and Terry Kammash, *Dynamics and Control of Fusion Reactors*, Chapter 8, in *Fusion Reactor Physics* (Ann Arbor Science Publishers, Ann Arbor, MI 1975), p. 203.
29. W. Horton, Jr., D.W. Ross, W.M. Tang, H.L. Berk, E.A. Frieman, R.E. LaQuey, R.V. Lovelace, S.M. Mahajan, M.N. Rosenbluth, and P.H. Rutherford, *Stability Theory of Dissipative Trapped-electron and Trapped-ion Modes*, Plasma Physics and Controlled Nuclear Fusion Research I (International Atomic Energy Agency, Vienna, 1975), pp. 541-548.
30. H.L. Berk, H.P. Furth, D.L. Jassby, R.M. Kulsrud, C.S. Liu, M.N. Rosenbluth, P.H. Rutherford, F.H. Tenney, T. Johnson, J. Killeen, A.A. Mirin, M.E. Rensink, and C.W. Horton, Jr., *Two-energy-component Toroidal Fusion Devices*, Plasma Physics and Controlled Nuclear Fusion Research Vol. III (International Atomic Energy Agency, Vienna, 1975), pp. 569-582.
31. H.L. Berk, W. Horton, Jr., M.N. Rosenbluth, and P.H. Rutherford, *Microinstability Theory of Two-Energy-Component Toroidal Systems*, Nucl. Fusion 15, 819-844 (1975), <https://doi.org/10.1088/0029-5515/15/5/013>.
32. Wendell Horton, Jr., *Drift Wave Stability of Inverted Gradient Profiles in Tokamaks*, Phys. Fluids 19, 711-718 (1976), <https://dx.doi.org/10.1063/1.861517>.

33. W. Horton, Jr., Duk-In Choi, and R.A. Koch, *Ion-acoustic Heating from Renormalized Turbulence Theory*, Phys. Rev. A 14, 424-433 (1976), <https://doi.org/10.1103/PhysRevA.14.424>.
 34. L.P. Mai and Wendell Horton, Jr., *Stability of the Ion Cyclotron Wave for Pulsed Parallel Injection*, Phys. Fluids 19, 1242-1252 (1976), <https://doi.org/10.1063/1.861608>.
 35. W. Horton, Jr., H. Okuda, C.Z. Cheng, Y.Y. Kuo, W.W. Lee, Y. Matsuda, and M. True, *Correlations Between Drift Wave Theory, Particle Simulations and the Observed Anomalous Transport in Tokamaks*, Plasma Physics and Controlled Nuclear Fusion Research, Vol. II, (International Atomic Energy Agency, Vienna, 1977), pp. 467-479.
 36. Wendell Horton, *Spectral Distribution of Drift-Wave Fluctuations in Tokamaks*, Phys. Rev. Lett. 19, 1269-1272 (1976), <https://doi.org/10.1103/PhysRevLett.37.1269>.
 37. Duk-In Choi and Wendell Horton, Jr., *Induced Wave Scattering at Low-Phase Velocities*, Phys. Fluids 20, 628-633 (1977), <https://doi.org/10.1063/1.861905>.
 38. Wendell Horton, Jr., R. Estes, and Duk-In Choi, *Properties of the Monte Carlo Collision Operator*, Phys. Fluids 20, 1089-1093 (1977), <https://doi.org/10.1063/1.861995>.
 39. Wendell Horton, Jr., H. Kwak, R. Estes, and Duk-In Choi, *Initial Value Problem with Non-Hermitian Radial Mode Equations*, Phys. Fluids 20, 1476-1482 (1977), <https://doi.org/10.1063/1.862045>.
 40. D.A. Hitchcock, S.H. Brecht, and Wendell Horton, Jr., *Neutral Beam Driven Convective Loss Cone Instability in Toroidal Geometry*, Phys. Fluids 20, 1551-1555 (1977), <https://doi.org/10.1063/1.862055>.
 41. S.H. Brecht, D.A. Hitchcock, and W. Horton, Jr., *Parametric Dependence of the Ion Cyclotron Instability in a Two-Energy Component System*, Phys. Fluids 21, 447-460 (1978), <https://doi.org/10.1063/1.862244>.
 42. D.A. Hitchcock, S.H. Brecht, and W. Horton, Jr., *An Improved Polynomial Representation for the Delta Function, $(-\rho)$* , J. Comp. Phys. 26, 443-446 (1978), [https://doi.org/10.1016/0021-9991\(78\)90079-7](https://doi.org/10.1016/0021-9991(78)90079-7).
- Wendell Horton, Jr., *Entropy Production by Anomalous Drift Wave Transport*, Phys. Lett. A 67, 129-131 (1978), [https://doi.org/10.1016/0375-9601\(78\)90024-7](https://doi.org/10.1016/0375-9601(78)90024-7).

- Wendell Horton, Jr., R. Estes, and Duk-In Choi, *Toroidal Mode Coupling Effects on Drift Wave Stability*, Phys. Fluids 21, 1366-1374 (1978), <https://doi.org/10.1063/1.2378>.
 - Duk-In Choi and Wendell Horton, *High Frequency Instability of the Electron Runaway Electron Distribution*, Plasma Phys. 20, 903-920 (1978), <https://doi.org/10.1088/0032-1028/20/9/005>.
46. W. Horton and R.D. Estes, *Anomalous Drift-Wave Transport Analysis of Tokamak Discharges*, Nucl. Fusion 19, 203-222 (1979), <https://doi.org/10.1088/0029-5515/19/2/005>.
 47. W. Horton, Jr., *Drift Mode Stability Analysis for the Tandem Mirror*, Nucl. Fusion 20, 2036 (1979), <https://doi.org/10.1088/0029-5515/20/3/008>.
 48. W. Horton, Jr., Duk-In Choi, and R.D. Estes, *Diamagnetic Frequency Profile Effects on Toroidal Drift Waves*, Phys. Fluids 22, 519-521 (1979), <https://dx.doi.org/10.1063/1.862617>.
 49. W. Horton, *Drift Wave Propagation and Convective Wave Growth in Tokamaks*, Plasma Phys. 21, 455-475 (1979), <https://doi.org/10.1088/0032-1028/21/5/003>.
 50. W. Horton, Jr., D-I. Choi, and R.A. Koch, *Scaling Laws and Asymptotic States for Ion Acoustic Turbulence*, Phys. Fluids 22, 797-798 (1979), <https://doi.org/10.1063/1.862631>.
 51. W. Horton, Jr. and D-I. Choi, *Renormalized Turbulence Theory for the Ion Acoustic Problem*, Phys. Rep. 49, 273-410 (1979), [https://doi.org/10.1016/0370-1573\(79\)90056-5](https://doi.org/10.1016/0370-1573(79)90056-5).
 52. D. Biskamp and W. Horton, *Wave Action for Drift Waves*, Phys. Lett. A 75, 359-360 (1980), [https://doi.org/10.1016/0375-9601\(80\)90840-3](https://doi.org/10.1016/0375-9601(80)90840-3).
 53. Duk-In Choi and Wendell Horton, *Weakly Localized Two-Dimensional Drift Modes*, Phys. Fluids 23, 356-365 (1980), <https://doi.org/10.1063/1.862980>.
 54. Wendell Horton, Duk-In Choi, Paul Terry, and Dieter Biskamp, *Inhibition of the Trapped Ion Mode by Drift Wave Fluctuations*, Phys. Fluids 23, 590-598 (1980), <https://doi.org/10.1063/1.863008>.
 55. Wendell Horton, *Thermodynamic Stability of Anomalous Drift Wave Transport*, Plasma Phys. 22, 345-354 (1980), <https://doi.org/10.1088/0032-1028/22/4/005>.
 56. Wendell Horton, *Drift-Mode Stability Analysis for the Tandem Mirror*, Nucl. Fusion 20, 321-337 (1980), <https://doi.org/10.1088/0029-5515/20/3/008>.

57. W. Horton, R.D. Estes, and D. Biskamp, *Fluid Simulations of Ion Pressure Gradient Driven Drift Modes*, Plasma Phys. 22, 663-678 (1980), <https://dx.doi.org/10.1088/0032-1028/22/7/004>.
58. F.L. Hinton, R.D. Hazeltine, D.A. Hitchcock, W. Horton, S.M. Mahajan, D.W. Ross, H.R. Strauss, A.A. Ware, and J.W. Wiley, *Relation Between Tokamak Temperature Profiles and Localized Instabilities*, Plasma Physics and Controlled Nuclear Fusion Research (International Atomic Energy Agency, Vienna, 1981), CN-381M-2, pp. 365-373.
59. J.C. Wiley, Duk-In Choi, and W. Horton, *Simulations of the Runaway Electron Distributions*, Phys. Fluids 23, 2193-2203 (1980), <https://doi.org/10.1063/1.862916>.
60. Wendell Horton and David Brock, *Structure in the Ion Acoustic Spectrum*, Phys. Fluids 24, 509-512 (1981), <https://doi.org/10.1063/1.863398>.
61. G.C. Stey and W. Horton, *A Nonlinear Model for Toroidal Drift Modes Driven by Ion Pressure Gradients*, Phys. Lett. A 81, 268-270 (1981), [https://doi.org/10.1016/0375-9601\(81\)90712-X](https://doi.org/10.1016/0375-9601(81)90712-X).
62. Wendell Horton, *Anomalous Transport due to Drift-wave Turbulence*, Physica 2D, 107-116 (1981), [https://doi.org/10.1016/0167-2789\(81\)90064-6](https://doi.org/10.1016/0167-2789(81)90064-6).
63. Wendell Horton, Jr., Duk-In Choi, and W.M. Tang, *Toroidal Drift Modes Driven by Ion Pressure Gradients*, Phys. Fluids 24, 1077-1085 (1981), <https://doi.org/10.1063/1.863486>.
64. Wendell Horton, *Anomalous Ion Conduction from Toroidal Drift Modes*, Plasma Phys. 23, 1107-1225 (1981), <https://doi.org/10.1088/0032-1028/23/12/002>.
65. Wendell Horton, Jr., *Drift Modes in Axisymmetric Tandem Mirrors*, Phys. Fluids 24, 1270-1278 (1981), <https://doi.org/10.1063/1.863530>.
66. W. Horton and D. Brock, *Toroidal Drift-wave Fluctuations Driven by Ion Pressure Gradients*, Plasma Phys. 24, 271-287 (1982), <https://doi.org/10.1088/0032-1028/24/3/006>.
67. P. Terry, W. Anderson, and W. Horton, *Kinetic Effects on the Toroidal Ion Pressure Gradient Drift Mode*, Nucl. Fusion 22, 487 (1982), <https://doi.org/10.1088/0029-5515/22/5/004>.
68. P. Terry and W. Horton, *Stochasticity and the Random Phase Approximation for Three Electron Drift Waves*, Phys. Fluids 25, 491-501 (1982),

<http://dx.doi.org/10.1063/1.863761>.

69. J.D. Meiss and W. Horton, *Drift-Wave Turbulence from a Soliton Gas*, Phys. Rev. Lett. 48, 1362 (1982), <https://doi.org/10.1103/PhysRevLett.48.1362>.
70. J.D. Meiss and W. Horton, *Fluctuation Spectra of a Drift Wave Soliton Gas*, Phys. Fluids 25, 1838-1843 (1982), <https://doi.org/10.1063/1.863662>.
71. P.H. Diamond, P.L. Similon, P.W. Terry, C.W. Horton, S.M. Mahajan, J.D. Meiss, M.N. Rosenbluth, K. Swartz, T. Tajima, R.D. Hazeltine, and D.W. Ross, *Theory of Two-Point Correlation for Trapped Electrons and the Spectrum of Drift Wave Turbulence*, Plasma Physics and Controlled Nuclear Fusion Research Vol. I (International Atomic Energy Agency, Vienna, 1983) pp. 251-269.
72. P.W. Terry and W. Horton, *Drift Wave Turbulence in a Low-Order k-Space*, Phys. Fluids 26, 106-112 (1983), <https://doi.org/10.1063/1.863997>.
73. J.D. Meiss and W. Horton, *Solitary Drift Waves in the Presence of Magnetic Shear*, Phys. Fluids 26, 990-997 (1983), <https://doi.org/10.1063/1.864251>.
74. W. Horton, Duk-In Choi, and Bong-Guen Hong, *Electromagnetic Drift Modes Driven by Pressure Gradients in Tokamaks*, Phys. Fluids 26, 1461-1466 (1983), <https://doi.org/10.1063/1.864316>.
75. W. Horton and J. Liu, *Drift Waves in Rotating Plasmas*, Phys. Fluids 27, 2067-207 (1984), <https://doi.org/10.1063/1.864865>.
76. P. Similon, J.E. Sedlak, D. Stotler, H.L. Berk, W. Horton, and D-I. Choi, *Guiding Center Dispersion Function*, J. Comp. Phys. 54, 260-277 (1984), [https://doi.org/10.1016/0021-9991\(84\)90118-9](https://doi.org/10.1016/0021-9991(84)90118-9).
77. W. Horton, T. Tajima, and R. Galvao, *Quasilinear Evolution of Tearing Modes During Magnetic Reconnection*, Magnetic Reconnection (American Geophysical Union, Washington, DC, 1984) pp. 45-50.
78. W. Horton and T. Tajima, *Laser Beat-Wave Accelerator and Plasma Noise*, Phys. Rev. A 31, 3937-3946 (1985), <https://doi.org/10.1103/PhysRevA.31.3937>.
79. G. Schmidt and W. Horton, *Self-Focusing of Laser Beams in the Beat-Wave Accelerator*, Comments Plasma Physics and Controlled Fusion 9, 85-90 (1985), ISSN 0374-2806.
80. W. Horton, J.E. Sedlak, D-I. Choi, and B-G. Hong, *Kinetic Theory of the Electromagnetic Drift Modes Driven by Pressure Gradients*, Phys. Fluids 28, 3050-3060 (1985), <https://doi.org/10.1063/1.865146>.

81. W. Horton, *Onset of Stochasticity and the Diffusion Approximation in Drift Waves*, Plasma Physics and Controlled Fusion 27, 937 (1985), <http://doi.org/10.1088/0741-3335/27/9/001>.
82. H.L. Berk, C.W. Horton, Jr., M.N. Rosenbluth, *et al.*, *Stabilization of An Axisymmetric Mirror Cell and Trapped Particle Modes*, Tenth International Conference on Plasma Physics and Controlled Nuclear Fusion Research Vol. II, (International Atomic Energy Agency, London, September 1984), p. 321.
83. W. Horton, *Ion Acoustic Turbulence and Anomalous Transport*, J. Stat. Phys. 39, 739-754 (1985), <https://doi.org/10.1007/BF01008363>.
84. W. Horton, J. Liu, J.D. Meiss, and J.E. Sedlak, *Solitary Vortices in a Rotating Plasma*, Phys. Fluids 29, 1004 (1986), <https://doi.org/10.1063/1.865898>.
85. Wendell Horton, *Statistical Properties and Correlation Functions for Drift Waves*, Phys. Fluids 29, 1491-1503 (1986), <https://doi.org/10.1063/1.865667>.
86. Jixing Liu and Wendell Horton, *Electromagnetic Solitary Vortices in Rotating Plasma*, Phys. Fluids 29, 1828-1835 (1986), <https://doi.org/10.1063/1.865611>.
87. Bong-Guen Hong, Duk-In Choi, and W. Horton, Jr., *Renormalized Turbulence Theory of Ion Pressure Gradient Driven Drift Modes*, Phys. Fluids 29, 1872-1880 (1986), <https://doi.org/10.1063/1.865616>.
88. K. Mima, T. Ohsuga, H. Takabe, K. Nishihara, T. Tajima, E. Zaidman, and W. Horton, *Wakeless Triple-Soliton Accelerator*, Phys. Rev. Lett. 57, 1421-1424 (1986), <https://doi.org/10.1103/PhysRevLett.57.1421>.
89. J. Liu and W. Horton, *The Intrinsic Electromagnetic Solitary Vortices in Magnetized Plasma*, J. Plasma Phys. 36, 1-24 (1986), <https://doi.org/10.1017/S0022377800011557>.
90. F. Cozzani and W. Horton, *Collisional Transport for a Superthermal Ion Species in Magnetized Plasma*, J. Plasma Phys. 36, 313-328 (1986), <https://doi.org/10.1017/S0022377800011806>.
91. W. Horton and T. Tajima, *Pump Depletion in the Plasma-Beat-Wave Accelerator*, Phys. Rev. A 34, 4110-4119 (1986), <https://doi.org/10.1103/PhysRevA.34.4110>.
92. J. Liu, W. Horton, and J.E. Sedlak, *Drift Modes with Differential Rotation and Passing Electrons*, Phys. Fluids 30, 467-477 (1987), <https://doi.org/10.1063/1.866397>.

93. J. Robertson, W. Horton, and D-I. Choi, *Enhanced Electron Stochasticity from Electrostatic Waves in a Sheared Magnetic Field*, Phys. Fluids 30, 1059-1072 (1987), <https://doi.org/10.1063/1.866520>.
 94. W. Horton, D-I. Choi, P.N. Yushmanov, and V.V. Parail, *Electron Diffusion in Tokamaks Due to Electromagnetic Fluctuations*, Plasma Phys. Control. Fusion 29, 901-918 (1987), <https://doi.org/10.1088/0741-3335/29/7/008>.
- M.N. Rosenbluth, H.L. Berk, I. Doxas, and W. Horton, *Effective Diffusion in Laminar Convective Flows*, Phys. Fluids 30, 2636-2647 (1987), <https://doi.org/10.1063/1.866107>.
 - W. Horton, T. Tajima, and T. Kamimura, *Kelvin-Helmholtz Instability and Vortices in Magnetized Plasma*, Phys. Fluids 30, 3485-3495 (1987), <https://doi.org/10.1063/1.866429>.
 - W. Horton, T. Tajima, and K. Mima, *Laser Acceleration of Particles with the Plasma Vector-Soliton*, Zeitschrift für Naturforschung 42A, 1199-1207 (1987), <https://doi.org/10.1515/zna-1987-1019>.
 - W. Horton and T. Tajima, *Linear Theory of Driven Reconnection*, J. Geophys. Res. 93, 2741-2748 (1988), <https://doi.org/10.1029/JA093iA04p02741>.
 - W. Horton, N. Bekki, H.L. Berk, B.G. Hong, M.J. LeBrun, S. Mahajan, T. Tajima, and Y.Z. Zhang, *Electromagnetic Drift Mode Transport Formulas and Empirical Scaling for Tokamaks*, Twelfth International Conference on Plasma Physics and Controlled Nuclear Fusion Research Vol. I-III, (International Atomic Energy Agency, London, October 1988), CN-50/D-4-3.
 - W. Horton, B.G. Hong, and W.M. Tang, *Toroidal Electron Temperature Gradient Driven Drift Modes*, Phys. Fluids 31, 2971 (1988), <https://doi.org/10.1063/1.866954>.
 - W. Horton, *Drift Wave Vortices and Anomalous Transport*, Phys. Fluids B 1, 524 (1989), <https://doi.org/10.1063/1.859168>.
 - I. Doxas, W. Horton, K. Sandusky, T. Tajima, and R. Steinolfson, *Numerical Study of the Current Sheet and PSBL in a Magnetotail Model*, J. Geophys. Res. 95, 12,033-12,043 (1990), <https://doi.org/10.1029/JA095iA08p12033>.
 - B.G. Hong, W. Horton, and D-I. Choi, *Pressure Gradient-Driven Mode in Finite Beta Toroidal Plasmas*, Plasma Phys. Control. Fusion 31, 1291-1303 (1989), <https://doi.org/10.1088/0741-3335/31/8/006>.
 - B.G. Hong, W. Horton, and D-I. Choi, *Drift-Alfvén Kinetic Stability Theory in the Ballooning Mode Approximation*, Phys. Fluids B 1, 1589-1599 (1989), <https://doi.org/10.1063/1.858937>.

- B.G. Hong and W. Horton, *Anomalous Electron Thermal Conduction From Magnetic Turbulence*, Phys. Fluids B 1, 2527-2530 (1989), <https://doi.org/10.1063/1.859188>.
- T. Tajima, W. Horton, S. Nishikawa, and T. Nishikawa, *Ionospheric Accelerator*, Laser and Particle Beams 7, 637-643 (1989), <https://doi.org/10.1017/S0263034600007606>.
- M. Yagi, M. Wakatani, H. Sugama, B.G. Hong, and W. Horton, *Ion-Temperature-Gradient Driven Drift Mode Coupled to the Resistive Interchange Mode in a Heliotron/Torsatron*, Phys. Soc. Jpn. 58, 4265-4268 (1989), <https://doi.org/10.1143/JPSJ.58.4265>.
- W. Horton and T. Tajima, *Decay of Correlations and the Collisionless Conductivity in the Geomagnetic Tail*, Geophys. Res. Lett. 17, 123-126 (1990), <https://doi.org/10.1029/GL017i002p00123>.
- D.E. Kim, D-I. Choi, W. Horton, P.N. Yushmanov, and V.V. Parail, *Transition from Neoclassical to Turbulent Electron Diffusion*, Phys. Fluids B 2, 547-553 (1990), <https://doi.org/10.1063/1.859291>.
- W. Horton, B-G. Hong, T. Tajima, and N. Bekki, *Short Wavelength Drift-Wave Turbulence Driven by Electron-Temperature Gradient*, Comm. Plasma Phys. Control. Fusion 13, 207-217 (1990), ISSN 0374-2806.
- B-G. Hong and W. Horton, *Effect of Shear on Toroidal Ion-Temperature-Gradient Mode Turbulence*, Phys. Fluids B 2, 978-984 (1990), <https://doi.org/10.1063/1.859244>.
- S. Hamaguchi and W. Horton, *Fluctuation Spectrum and Transport from Ion-Temperature-Gradient-Driven Modes in Sheared Magnetic Fields*, Phys. Fluids B 2, 1833-1851 (1990), <https://dx.doi.org/10.1063/1.859455>.
- W. Horton, *Nonlinear Drift Waves and Transport in Magnetized Plasma*, Phys. Rep. 192, 1-3, 1-177 (1990), [https://doi.org/10.1016/0370-1573\(90\)90148-U](https://doi.org/10.1016/0370-1573(90)90148-U).
- I. Doxas, W. Horton, and H.L. Berk, *Stochastic Diffusion in Two-Dimensional Periodic Flows*, Phys. Fluids A 2, 1906-1909 (1990), <https://doi.org/10.1063/1.857665>.
- Allen H. Boozer *et al.*, *Alternate Transport*, Phys. Fluids B 2, 2870-2878 (1990), <https://doi.org/10.1063/1.859357>.

117. S. Hamaguchi and W. Horton, *Ion Temperature Gradient Driven Turbulence in the Weak Density Gradient Limit*, Phys. Fluids B 2, 3040-3046 (1990), <https://doi.org/10.1063/1.859371>.

118. M.C. Zarnstorff *et al.*, *Advances in Transport Understanding Using Perturbative Techniques*, TFTR, Thirteenth International Conference on Plasma

Physics and Controlled Nuclear Fusion Research Vol. I-III, (International Atomic Energy Agency, Washington DC, October, 1990), CN-53/A-II-2.

- T. Hyayshi *et al.*, *Equilibrium Beta Limit and Anomalous Transport Studies of Helical Systems*, Thirteenth International Conference on Plasma Physics and Controlled Nuclear Fusion Research Vol. I-III, (International Atomic Energy Agency, Washington DC, October, 1990), CN-53/D-III-1.
- D. Jovanovic, P.K. Shukla, U. de Angelis, and W. Horton, *Coherent Structures in Shear Flow-Driven Plasma Microturbulence*, Phys. Fluids B 3, 45-50 (1991), <https://doi.org/10.1063/1.859955>.

121. Jin-Yong Kim, D-I. Choi, J.W. Van Dam, and W. Horton, *Effects of Compressibility, Diamagnetic Drift, and Thermal Conduction on Resistive Ballooning Modes in the Second Stability Regime*, Phys. Fluids B 3, 345-350 (1991), <https://doi.org/10.1063/1.859744>.

122. X.N. Su, W. Horton, and P.J. Morrison, *Drift-Wave Vortices in Inhomogeneous Plasmas*, Phys. Fluids B 3, 921-930 (1991), <https://doi.org/10.1063/1.859848>.

123. T. Tajima, W. Horton, P.J. Morrison, J. Schutkeker, T. Kamimura, K. Mima, and Y. Abe, *Instabilities and Vortex Dynamics in Shear Flow of Magnetized Plasmas*, Phys. Fluids B 3, 938-954 (1991), <https://doi.org/10.1063/1.859850>.

124. Jin-Yong Kim and Wendell Horton, *Transition from Toroidal to Slab Temperature Gradient Driven Modes*, Phys. Fluids B 3, 1167-1170 (1991), <https://doi.org/10.1063/1.859808>.

125. B-G. Hong, W. Horton, S. Hamaguchi, M. Wakatani, M. Yagi, and H. Sugama, *Transition from Resistive-G to η_i -Driven Turbulence in Stellarator Systems*, Phys. Fluids B 3, 1638-1643 (1991), <https://doi.org/10.1063/1.859683>.

126. W. Horton, C. Liu, B. Burns, and T. Tajima, *Collisionless Plasma Transport Across Loop Magnetic Fields*, Phys. Fluids B3, 2192-2199 (1991), <https://doi.org/10.1063/1.859635>.

127. J-Y. Kim and W. Horton, *Electromagnetic Effect on the Toroidal Electron Temperature Gradient Mode*, Phys. Fluids B 3, 3194-3197 (1991), <https://doi.org/10.1063/1.859800>.

128. M. Kono and W. Horton, *Point Vortex Description of Drift Wave Vortices: Dynamics and Transport*, Phys. Fluids B 3, 3255-3262 (1991), <https://doi.org/10.1063/1.859756>.

129. W. Horton and T. Tajima, *Collisionless Conductivity and Stochastic Heating of*

the Plasma Sheet in the Geomagnetic Tail, J. Geophys. Res. 96, 15,811-15,829 (1991), <https://doi.org/10.1029/91JA01014>.

130. W. Horton, C. Liu, J. Hernandez, and T. Tajima, *Stochastic Mixing of Protons from Chaotic Orbits in the Nightside Geomagnetosphere*, Geophys. Res. Lett. 18, 1575-1578 (1991), <https://doi.org/10.1029/91GL01520>.

131. W. Horton and T. Tajima, *Transport from Chaotic Orbits in the Geomagnetic Tail*, Geophys. Res. Lett. 18, 1583-1586 (1991), <https://doi.org/10.1029/91GL01519>.

132. W. Horton, S. Hamaguchi, and B.G. Hong, *Drift Wave Turbulence and Vortices in 3D Sheared Magnetic Fields*, 10th European School on Plasma Physics, (World Scientific, 1991), pp. 110-129.

133. C.B. Kim, W. Horton, and B-G. Hong, *Fluctuation and Thermal Energy Balance for Drift-Wave Turbulence*, Plasma Phys. Control. Fusion 33, 469 (1991), <https://doi.org/10.1088/0741-3335/33/5/006>.

134. M.B. Isichenko and W. Horton, *Scaling Laws of Stochastic $E \times B$ Plasma Transport*, Comm. Plasma Phys. Control. Fusion 14, 249-262 (1991), ISSN 0741-3335.

135. W. Horton and V. Petviashvili, *On the Trapping Condition for Planetary Vortex Structures*, Research Trends in Physics: Chaotic Dynamics and Transport in Fluids and Plasmas, W. Horton, Y. Ichikawa, I. Prigogine, and G. Zaslavsky, (American Institute of Physics, New York, 1993), p. 323.

136. W. Horton, S. Hamaguchi, and B-G. Hong, *Drift Wave Turbulence and Vortices in 3D Sheared Magnetic Fields*, Research Trends in Physics: Chaotic Dynamics and Transport in Fluids and Plasmas, W. Horton, Y. Ichikawa, I. Prigogine, and G. Zaslavsky, American Institute of Physics, New York, 1993, p. 356.

137. J-Y. Kim, W. Horton, D-I. Choi, S. Migliuolo, and B. Coppi, *Temperature Anisotropy Effect on the Toroidal Ion Temperature Gradient Mode*, Phys. Fluids B 4, 152 (1992), <https://doi.org/10.1063/1.860428>.

138. A.D. Beklemishev and W. Horton, *Transport Profiles Induced by Radially Localized Modes in a Tokamak*, Phys. Fluids B 4, 200-206 (1992), <https://doi.org/10.1063/1.860434>.

139. S. Hamaguchi and W. Horton, *Effects of Sheared Flows on Ion-Temperature-Gradient-Driven Turbulent Transport*, Phys. Fluids B 4, 319 (1992), <https://doi.org/10.1063/1.860280>.

140. W. Horton and S. Hamaguchi, *Modeling of Drift Wave Turbulence with a Finite*

Ion Temperature Gradient, Plasma Phys. Control. Fusion 34, 203 (1992), <http://dx.doi.org/10.1088/0741-3335/34/2/006>.

141. J.G. Yang, Y.H. Oh, D-I. Choi, J-Y. Kim, and W. Horton, *Neoclassical Viscosity Effects on Resistive Magnetohydrodynamic Modes in Toroidal Geometry*, Phys. Fluids B 4, 659 (1992), <https://doi.org/10.1063/1.860264>.

142. J-Q. Dong, W. Horton, and J-Y. Kim, *Toroidal Kinetic η_i -Mode Study in High-Temperature Plasmas*, Phys. Fluids B 4, 1867-1876 (1992), <https://doi.org/10.1063/1.860040>.

143. Y. Nomura, Y.H. Ichikawa, and W. Horton, *Nonlinear Dynamics of the Relativistic Standard Map*, Phys. Rev. A 45, 1103 (1992), <https://doi.org/10.1103/PhysRevA.45.1103>.

144. W. Horton, D. Lindberg, J-Y. Kim, J-Q. Dong, G.W. Hammett, S.D. Scott, M.C. Zarnstorff, and S. Hamaguchi, *Ion-Temperature-Gradient-Driven Transport in a Density Modification Experiment on the Tokamak Fusion Test Reactor*, Phys. Fluids B 4, 953 (1992), <https://doi.org/10.1063/1.860112>.

145. X.N. Su, W. Horton, and P.J. Morrison, *Drift Wave Vortices in Nonuniform Plasmas with Sheared Magnetic Fields*, Phys. Fluids B 4, 1238 (1992), <https://doi.org/10.1063/1.860131>.

146. A.D. Beklemishev and W. Horton, *Anomalous Ion Thermal Diffusion from η_i Modes*, Phys. Fluids B 4, 2176 (1992), <https://doi.org/10.1063/1.860022>.

147. H. Shibahara, M. Kono, and W. Horton, *Chaotic Dynamics of Drift-Wave Vortices in a Bounded Region*, Phys. Fluids B 4, 2992 (1992), <https://doi.org/10.1063/1.860138>.

148. W. Horton, D. Jovanovic, and J.J. Rasmussen, *Vortices Associated with Toroidal Ion-Temperature-Gradient-Driven Fluctuations*, Phys. Fluids B 4, 3336 (1992), <https://doi.org/10.1063/1.860388>.

149. M.B. Isichenko, W. Horton, D.E. Kim, E.G. Heo, and D.I. Choi, *Stochastic Diffusion and Kolmogorov Entropy in Regular and Random Hamiltonians*, Phys. Fluids B 4, 3973 (1992), <https://doi.org/10.1063/1.860300>.

150. D. Jovanovic and W. Horton, *Stability of Drift-Wave Modons in the Presence of Temperature Gradients*, Phys. Fluids B 5, 9, (1993), <https://doi.org/10.1063/1.860872>.

151. D. Jovanovic and W. Horton, *Quasi-Three-Dimensional Electron Holes in*

Magnetized Plasmas, Phys. Fluids B 5, 433 (1993), <https://doi.org/10.1063/1.860528>.

- C.B. Kim, W. Horton, and S. Hamaguchi, *New Fluid Model for the Turbulent Transport Due to the Ion Temperature Gradient*, Phys. Fluids B 5, 1516 (1993), <https://doi.org/10.1063/1.860891>.
- J-Q. Dong and W. Horton, *Kinetic Quasi-Toroidal Ion Temperature Gradient Instability in the Presence of Sheared Flows*, Phys. Fluids B 5, 1581 (1993), <https://doi.org/10.1063/1.860898>.
- 154. J-Y. Kim, W. Horton, and J-Q. Dong, *Electromagnetic Effect on the Toroidal Ion Temperature Gradient Mode*, Phys. Fluids B 5, 4030 (1993), <https://doi.org/10.1063/1.860623>.
- 155. W. Horton, J.V. Hernandez, T. Tajima, and A. Dykhne, *Fluctuation-Dissipation Relations for Plasmas in Strongly Inhomogeneous Magnetic Fields*, Physica D 71, 249-259 (1994), [https://doi.org/10.1016/0167-2789\(94\)90193-7](https://doi.org/10.1016/0167-2789(94)90193-7).
- 156. W. Horton, J-Q. Dong, X.N. Su, and T. Tajima, *Ion Mixing in the Plasma Sheet Boundary Layer*, J. Geophys. Res. 98, 13,377-13,393 (1993), <https://doi.org/10.1029/93JA00143>.
- J. Hernandez, W. Horton, and T. Tajima, *Low-Frequency Mobility Response Functions for the Central Plasma Sheet with Application to Tearing Modes*, J. Geophys. Res. 98, 5893-5906 (1993), <https://doi.org/10.1029/92JA02476>.
- W. Horton, L. Cheung, J-Y. Kim, and T. Tajima, *Self-Consistent Plasma Pressure Tensors from the Tsyanenko*, J. Geophys. Res. 98, 17,327-17,343 (1993), <https://doi.org/10.1029/93JA00794>.
- J.V. Hernandez, T. Tajima, and W. Horton, *Neural Net Forecasting for Geomagnetic Activity*, Geophys. Res. Lett. 20, 2707 (1993), <https://doi.org/10.1029/93GL02848>.
- H. Sugama and W. Horton, *Shear Flow Generation by Reynolds Stress and Suppression of Resistive g-modes*, Phys. Plasmas 1, 345 (1994), <https://doi.org/10.1063/1.870837>.
- I. Doxas, T.W. Speiser, and P.B. Dusenbery, *A Proposed Neutral Line Signature*, J. Geophys. 99, 2375 (1994), <https://doi.org/10.1029/93JA01443>.
- W. Horton and W. Rowan, *Impurity Transport Studies in the Texas Experimental Tokamak (TEXT)*, Phys. Plasmas 1, 901 (1994), <http://dx.doi.org/10.1063/1.870749>.

- J-Y. Kim, Y. Kishimoto, W. Horton, and T. Tajima, *Kinetic Resonance Damping rate of the Toroidal Ion-Temperature-Gradient Mode*, Phys. Plasmas 1, 927 (1994), <https://doi.org/10.1063/1.870751>.
- 164. K.R. Chen, W. Horton, and J.W. Van Dam, *An Explanation for Experimental Observations of Harmonic Cyclotron Emission Induced by Fast Ions*, Phys. Plasmas 1, 1195 (1994), <https://doi.org/10.1063/1.870716>.
- 165. P.N. Yushmanov, J-Q. Dong, W. Horton, and X.N. Su, *Shear Flow Generation from the Interaction of Neoclassical and Drift-Wave Transport Processes*, Phys. Plasmas 1, 1583-1591 (1994), <https://doi.org/10.1063/1.870646>.
- 166. A.M. Dykhne, M.B. Isichenko, and W. Horton, *Diffusion in Laminar Rayleigh-Benard Convection: Boundary Layers versus Boundary Tubes*, Phys. Fluids 6, 2345-2351 (1994), <https://doi.org/10.1063/1.868184>.
- 167. H. Sugama and W. Horton, *Transport Suppression by Shear Flow Generation in Multihelicity Resistive- η Turbulence*, Phys. Plasmas 1, 2220-2228 (1994), <https://doi.org/10.1063/1.870622>.
- 168. J-Q. Dong, W. Horton, R.D. Bengtson, and G.S. Li, *Momentum-Energy Transport from Turbulence Driven by Parallel Flow Shear*, Phys. Plasmas 1, 3250 (1994), <https://doi.org/10.1063/1.870477>.
- 169. J-Q. Dong, W. Horton, and W. Dorland, *Isotope Scaling and η - i mode with Impurities in Tokamak Plasmas*, Phys. Plasmas 1, 3635 (1994), <https://doi.org/10.1063/1.870942>.
- 170. W. Horton and A. Hasegawa, *Quasi-Two-Dimensional Dynamics of Plasmas and Fluids*, Chaos 4, 227-251 (1994), <https://doi.org/10.1063/1.166049>.
- M. Yagi and W. Horton, *Reduced Braginskii Equations*, Phys. Plasmas 1, 2135-2139 (1994), <https://doi.org/10.1063/1.870611>.
- F.L. Waelbroeck, J-Q. Dong, W. Horton, and P.N. Yushmanov, *Convective Amplification of Drift Acoustic Waves in Sheared Flows*, Phys. Plasmas 1, 3742 (1994), <https://doi.org/10.1063/1.870848>.
- H. Sugama and W. Horton, *L-H Confinement Mode Dynamics in Three-Dimensional State Space*, Plasma Phys. Control. Fusion 37, 345-362 (1995), <https://doi.org/10.1088/0741-3335/37/3/012>.
- D. Jovanovic and W. Horton, *Impurity Effects on Linear and Nonlinear Ion-Temperature-Gradient Driven Modes*, Phys. Plasmas 2, 1561 (1995), <https://doi.org/10.1063/1.871306>.

- H. Sugama and W. Horton, *Neoclassical and Anomalous Transport in Axisymmetric Toroidal Plasma with Electrostatic Turbulence*, Phys. Plasmas 2, 2989 (1995), <https://doi.org/10.1063/1.871197>.
- S.-C. Baek, D.-I. Choi and W. Horton, *Dawn-Dusk Magnetic Field Effects on Ions Accelerated in the Current Sheet*, J. Geophys. Res. 100, 14935 (1995), <https://doi.org/10.1029/95JA01610>.
- Y. Kishimoto, T. Tajima, M.J. LeBrun, W. Horton, and J-Y. Kim, J-Q. Dong, F.L. Waelbroeck, S. Tokuda, M. Kawanobe, and T. Fukuda, *Self-Organized Critical Gradient Transport and Shear Flow Effects for the Ion Temperature Gradient Mode in Toroidal Plasmas*, Plasma Physics and Controlled Nuclear Fusion Research 1994 (International Atomic Energy Agency, Vienna, 1996) vol. 3, pp. 299-307 (1996), ISSN 0074-1884, Other: ISBN 92-0-103795-3.
- H. Sugama and W. Horton, *Entropy Production and Onsager Symmetry in Neoclassical Transport Processes of Toroidal Plasmas*, Phys. Plasmas 3, 304-322 (1996), <https://doi.org/10.1063/1.871856>.
- Y. Kishimoto, T. Tajima, W. Horton, M.J. LeBrun and J-Y. Kim, *Theory of Self-Organized Critical Transport in Tokamak Plasmas*, Phys. Plasmas 3, 1289 (1996), <https://doi.org/10.1063/1.871754>.
- J.-L. Thiffeault and W. Horton, *Energy-Conserving Truncations for Convection with Shear Flow*, Phys. Fluids 8, 1715 (1996), <https://doi.org/10.1063/1.868956>.
- W. Horton, T. Tajima, J-Q. Dong, Y. Kishimoto, and J-Y. Kim, *Thermal Transport Barriers in Tokamaks from Bifurcations in the Sheared Mass Flows*, Comments Plasma Physics Control. Fusion 1(4), 205-219 (1996), ISSN 0374 2806.
- H. Tasso and W. Horton, *Statistical Properties of the Drift-Wave Fluctuations*, Plasma Phys, Rep. 22, 701-713 (1996), <http://dx.doi.org/10.1134/1.952342>.
- W. Horton, G. Hu and G. Laval, *Turbulent Transport in Mixed States of Convective Cells and Sheared Flow*, Phys. Plasmas 3, 2912-2923 (1996), <https://doi.org/10.1063/1.871651>.
- W. Horton, T. Tajima, J-Q. Dong, Y. Kishimoto and J-Y. Kim, *Ion Transport Analysis of a High Beta-Poloidal JT-60U Discharge*, Plasma Phys. Control. Fusion 38, 1323 (1996), <https://doi.org/10.1088/0741-3335/38/8/030>.
- J-Y. Kim, Y. Kishimoto, W. Horton, and T. Tajima, *Kinetic Resonance Damping Rate of the Toroidal Ion-Temperature-Gradient Mode*, Phys. Plasmas 1, 927 (1994), <https://doi.org/10.1063/1.870751>.

- W. Horton, T. Tajima and I. Doxas, *Energy and Momentum Transport in a Global Nightside Low-Dimensional Magnetospheric Model*, Proceedings of the Cambridge Space Physics Workshop, (1996).
- D. Jovanovic and W. Horton, *On the Stability of Shear-Alfven Vortices*, Phys. Plasmas 1, 2614-2622 (1994), <https://doi.org/10.1063/1.870588>.
- J.V. Hernandez, A. Vannucci, T. Tajima, Z. Lin, W. Horton and S.C. McCool, *Neural Net Prediction of Tokamak Plasma Disruptions*, Nucl. Fusion 36, 1009 (1996), <https://doi.org/10.1088/0029-5515/36/8/105>.
- W. Horton and I. Doxas, *A Low-dimensional Energy Conserving State Space Model for Substorm Dynamics*, J. Geophys. Res. 101A, 27223-27237 (1996), <https://doi.org/10.1029/96JA01638>.
- H. Sugama and W. Horton, *On the Saturation of Multihelicity Modes*, Comm. Plasma Phys. Control. Fusion 17, 277-285 (1996), ISSN 0374-2806.
- Y. Kishimoto, J.-Y. Kim, T. Fukuda, S. Ishida, T. Fujita, T. Tajima, W. Horton, G. Furnish, and M.J. LeBrun, *Effects of Weak/Negative Magnetic Shear and Plasma Shear Rotation on Self-organized Critical Gradient Transport in Toroidal Plasmas*, IAEA 16th Fusion Energy Conference, Montreal, Canada, October 7-11, 1996.
- H. Sugama and W. Horton, *Transport Processes and Entropy Production in Toroidal Rotation Plasmas with Electrostatic Turbulence*, Phys. Plasmas 4, 405-418 (1997), <https://doi.org/10.1063/1.871922>.
- W. Horton, T. Tajima, J.-Q. Dong, J.-Y. Kim and Y. Kishimoto, *Ion Transport Analysis in a High Beta-Poloidal JT-60U Discharge*, Plasma Phys. Control. Fusion 39, 83-104 (1997), <https://doi.org/10.1088/0741-3335/39/1/006>.
- R.N. Sudan, A.V. Gruzinov, W. Horton, and N. Kukharkin, *Convective Turbulence in Weakly Ionized Plasma*, Phys. Rep. 283, 95-119 (1997), [https://doi.org/10.1016/S0370-1573\(96\)00055-5](https://doi.org/10.1016/S0370-1573(96)00055-5).
- W. Horton, *Chaos and Structures in the Magnetosphere*, Phys. Rep. 283, 265-302 (1997), [https://doi.org/10.1016/S0370-1573\(96\)00063-4](https://doi.org/10.1016/S0370-1573(96)00063-4).
- M. Ottaviani, M.A. Beer, S.C. Cowley, W. Horton, and J.A. Krommes, *Unanswered Questions in the Ion-Temperature-Gradient Driven Turbulence*, Phys. Rep. 283, 121-146 (1997), [https://doi.org/10.1016/S0370-1573\(96\)00056-7](https://doi.org/10.1016/S0370-1573(96)00056-7).
- X.Y. Fu, J.-Q. Dong, W. Horton, C.T. Ying and C.J. Liu, *Turbulent Particle Transport*

in Tokamak Plasmas with Impurities, Phys. Plasmas 4, 588-597 (1997), <https://doi.org/10.1063/1.872180>.

- J-Q. Dong, S.M. Mahajan, and W. Horton, *Coupling of η_i and Trapped Electron Modes in Plasmas with Negative Magnetic Shear Transport in Toroidal Rotating Plasmas*, Phys. Plasmas 4, 755-761 (1997), <https://doi.org/10.1063/1.872169>.
- H. Sugama and W. Horton, *Neoclassical Electron and Ion Transport in Toroidal Rotating Plasmas*, Phys. Plasmas 4, 2215-2228 (1997), <https://doi.org/10.1063/1.872385>.
- G. Hu and W. Horton, *Minimal Model for Transport Barrier Dynamics Based on Ion-Temperature-Gradient Turbulence*, Phys. Plasmas 4, 3262-3272 (1997), <https://doi.org/10.1063/1.872467>.
- H.-B. Park, E.-G. Heo, W. Horton, and D.-I. Choi, *Test Particle Simulations for Transport in Toroidal Plasmas*, Phys. Plasmas 4, 3273-3281 (1997), <https://doi.org/10.1063/1.872468>.
- M. Ottaviani, W. Horton, and M. Erba, *The Long Wavelength Behavior of Ion-Temperature-Gradient-Driven Turbulence and the Radial Dependence of the Turbulent Ion Conductivity*, Plasma Phys. Control. Fusion 39, 1461-1477 (1997), <https://doi.org/10.1088/0741-3335/39/9/012>.
- W. Horton and I. Dexas, *A Low-Dimensional Dynamical Model for the Solar Wind Driven Geotail Ionosphere System*, J. Geophys. Res. A 103, 4561-4572 (1998), <https://doi.org/10.1029/97JA02417>.
- J.P. Smith and W. Horton, *Analysis of the Bi-Modal Nature of the Solar Wind-Magnetosphere Coupling*, J. Geophys. Res. A 103, 14,917-14,923 (1998), <https://doi.org/10.1029/97JA02861>.
- A. Redd, A.H. Kritz, G. Bateman, and W. Horton, *Predictive Simulations of Tokamak Plasmas with a Model for Ion-Temperature-Gradient-Driven Turbulence*, Phys. Plasmas 5, 1369-1379 (1998), <https://doi.org/10.1063/1.872797>.
- J-Y. Kim, Y. Kishimoto, W. Horton, T. Tajima, and M. Wakatani, *On the Radial Profile and Scaling of Ion Thermal Conductivity from Toroidal ITG Mode*, Comm. Plasma Phys. Control. Fusion, Part E 18, 293-308 (1998).
- T. Kuroda, H. Sugama, R. Kanno, M. Okamoto, and W. Horton, *Initial Value Problem of the Toroidal Ion-Temperature-Gradient Mode*, J. Phys. Soc. Jpn. 67, 3787-3793 (1998), <https://doi.org/10.1143/JPSJ.67.3787>.
- W. Horton, H-B. Park, J-M. Kwon, D. Strozzi, P.J. Morrison, and D-I. Choi, *Drift*

Wave Test Particle Transport in Reversed Shear Profile, Phys. Plasmas 5, 3910-3917 (1998), <https://doi.org/10.1063/1.873110>.

- H. Sugama and W. Horton, *Nonlinear Electromagnetic Gyrokinetic Equation for Plasmas with Large Mean Flows*, Phys. Plasmas 5, 2560-2573 (1998), <https://doi.org/10.1063/1.872941>.
- Y. Kishimoto, J-Y. Kim, W. Horton, T. Tajima, M.J. LeBrun, D. Dettrick, J.Q. Li, Y. Koide, and S. Shirai, *Discontinuity Model for Internal Transport Barrier Formation in Reversed Magnetic Shear Plasmas*, IAEA 17th Fusion Energy Conference, Yokohama, Japan, October 19-24, 1998.
- H. Sugama and W. Horton, *Symmetries of and Entropy Production by Transport in Toroidal Confinement Systems*, J. Plasma Phys. 59, 695-706 (1998), <https://doi.org/10.1017/S0022377898006576>.
- J-Q. Dong, W.B. Xu, Y.Z. Zhang, and W. Horton, *Structure of Parallel-Velocity-Shear-Driven Mode in Toroidal Plasmas*, Phys. Plasmas 5, 4328 (1998), <https://doi.org/10.1063/1.873143>.
- W. Horton and Y-H. Ichikawa, *Chaos and Structures in Nonlinear Plasmas*, Am. Geophys. Union 79, 304 (1998).
- Yasser El-Zein, T. E. Sheridan, Karl E. Lonngren and Wendell Horton, *Excitation of Ion Acoustic Solitons from Grids*, J. Plasma Phys. 61, 161-168 (1999), <https://doi.org/10.1017/S002237789800734X>.
- N.P. Padhye and W. Horton, *Alfven-Wave Particle Interaction in Finite Dimensional Self-Consistent Field Model*, Phys. Plasmas 6, 970-975 (1999), <https://doi.org/10.1063/1.873337>.
- G. Furnish, W. Horton, Y. Kishimoto, M. LeBrun, and T. Tajima, *Global Gyrokinetic Simulations of Tokamak Transport*, Phys. Plasmas 6, 1227 (1999), <https://doi.org/10.1063/1.873366>.
- P. Zhu, W. Horton, H. Sugama, *The Radial Electric Field in a Tokamak with Reversed Magnetic Shear*, Phys. Plasmas 6, 2503-2512 (1999), <https://doi.org/10.1063/1.873522>.
- Y. Kishimoto, J-Y. Kim, W. Horton, and T. Tajima, *Toroidal Mode Structure in Weak and Reversed Magnetic Shear Plasmas and its Role in the Internal Transport Barrier*, Plasma Phys. Control. Fusion 41, A663-A677 (1998), <https://doi.org/10.1088/0741-3335/41/3A/060>.
- I. Doxas and W. Horton, *Magnetospheric Dynamics from a Low-Dimensional*

Nonlinear Dynamics Model, Phys. Plasmas 6, 2198 (1999), <https://doi.org/10.1063/1.873472>.

- R.S. Weigel, W. Horton, T. Tajima, and T. Detman, *Forecasting Auroral Electrojet Activity from Solar Wind Input with Neural Networks*, Geophys. Res. Lett. 26, 1353-1356 (1999), <https://doi.org/10.1029/1999GL900280>.
- W. Horton, *Drift Waves and Transport*, Rev. Mod. Phys. 71, 735-778 (1999), <https://doi.org/10.1103/RevModPhys.71.735>.
- I. Doxas, W. Horton, and J. P. Smith, *A Physics-Based Nonlinear Dynamical Model for the Solar Wind Driven Magnetosphere-Ionosphere Response*, Phys. Chem. Earth 24, 67-71 (1999), [https://doi.org/10.1016/S1464-1917\(98\)00009-9](https://doi.org/10.1016/S1464-1917(98)00009-9).
- P. Zhu, W. Horton, and H. Sugama, *The Radial Electric Field in a Tokamak with Reversed Magnetic Shear*, Phys. Plasmas 6, 2503-2512 (1999), <https://doi.org/10.1063/1.873522>.
- W. Horton, H.V. Wong, and J.W. Van Dam, *Substorm Trigger Conditions*, J. Geophys. Res. A 104, 22,745-22,757 (1999), <https://doi.org/10.1029/1999JA900227>.
- W. Horton, J.P. Smith, R. Weigel, C. Crabtree, I. Doxas, B. Goode, and J. Cary, *The Solar-Wind Driven Magnetosphere-Ionosphere as a Complex Dynamical System*, Phys. Plasmas, 6, 4178-4184 (1999), <https://doi.org/10.1063/1.873683>.
- M. Erba, W. Horton, and M. Ottaviani, *Predictive Tests of ITG-Based Models of Tokamak Heat Transport on ITER-Database Discharges*, Nucl. Fusion 39, 495 (1999), <https://doi.org/10.1088/0029-5515/39/4/307>.
- J.-M. Kwon, W. Horton, P. Zhu, P.J. Morrison, H.-B. Park, and D.-I. Choi, *Global Drift Wave Map Test Particle Simulations*, Phys. Plasmas 7, 1169-1180 (2000), <https://doi.org/10.1063/1.873926>.
- W. Horton, P. Zhu, G.T. Hoang, T. Aniel, M. Ottaviani, and X. Garbet, *Electron Transport in Tore Supra with Fast Wave Electron Heating*, Phys. Plasmas 7, 1489-1510 (2000), <https://doi.org/10.1063/1.873969>.
- J.P. Smith, J.-L. Thiffeault, and W. Horton, *Dynamical range of the WINDMI model: An Exploration of Possible Magnetospheric Plasma States*, J. Geophys. Res. A 105(6), 12,983-12,996 (2000), <https://doi.org/10.1029/1999JA000218>.
- P. Zhu, G. Bateman, A.H. Kritz, and W. Horton, *Predictive Transport Simulations of Internal Transport Barriers Using the Multi-Mode Model*, Phys. Plasmas 7, 2898-2908 (2000), <https://doi.org/10.1063/1.874140>.

- S. Cheshkov, T. Tajima, and W. Horton, *Particle Dynamics in Multistage Wakefield Collider*, Phys. Rev. ST Accel. Beams 3, 071301 (2000), <https://doi.org/10.1103/PhysRevSTAB.3.071301>.
- Y. Kishimoto, J-Y. Kim, W. Horton, T. Tajima, M.J. LeBrun, S.A. Dettrick, J.Q. Li, and S. Shirai, *Discontinuity Model for Internal Transport Barrier Formation in Reversed Magnetic Shear Plasmas*, Nucl. Fusion 40, 667 (2000), <https://doi.org/10.1088/0029-5515/40/3Y/330>.
- W. Horton and P. Zhu, *Transport Barrier Dynamics*, Phys. Plasmas 7, 4534-4546 (2000), <https://doi.org/10.1063/1.1308566>.
- J-Q. Dong, W. Horton, and Y. Kishimoto, *Gyrokinetic Study of Ion-Temperature-Gradient Instability in Vicinity of Flux Surfaces with Reversed Magnetic Shear*, Phys. Plasmas 8 (1), 167-173 (2001), <https://doi.org/10.1063/1.1326060>.
- H.V. Wong, W. Horton, J.W. Van Dam, and C. Crabtree, *Low-Frequency Stability of Geotail Plasma*, Phys. Plasmas 8(5), 2415-2424, Part 2 (2001), <https://doi.org/10.1063/1.1357828>.
- H. Sugama, T.H. Watanabe, and W. Horton, *Collisionless Kinetic-Fluid Closure and its Application to the Three-Mode Ion-Temperature Gradient Driven System*, Phys. Plasmas 8(6), 2617-2618 (2001), <https://doi.org/10.1063/1.1367319>.
- W. Horton, R.S. Weigel, and J.C. Sprott, *Chaos and the Limits of Predictability for the Solar-Wind-Driven Magnetosphere-Ionosphere System*, Phys. Plasmas 8(6), 2946-2952 (2001), <https://doi.org/10.1063/1.1371522>.
- W. Horton, H.V. Wong, J.W. Van Dam, and C. Crabtree, *Stability Properties of High-Pressure Geotail Flux Tubes*, J. Geophys. Res.-Space Phys. 106 (A9), 18803-18822 (2001), <https://doi.org/10.1029/2000JA000415>.
- W. Horton and B. Yu, *Reply to Comment on the article: Ignitor Physics Assessment and Confinement Projections*, Nucl. Fusion 42 (7), 934 (2002), <https://doi.org/10.1088/0029-5515/42/7/402>.
- W. Horton, C. Crabtree, I. Doxas, and R.S. Weigel, *Geomagnetic Transport in the Solar Wind Driven Nightside Magnetosphere-Ionosphere System*, Phys. Plasmas 9 (9), 3712-3720 (2002), <https://doi.org/10.1063/1.1499119>.
- B. Hu, W. Horton, and T. Petrosky, *Chaotic Scattering and the Magneto-Coulomb Map*, Phys. Rev. E 65 (5), 056212, Part 2 (2002), <https://doi.org/10.1103/PhysRevE.65.056212>.
- I. Doxas, W. Horton, and R. Weigel, *Using Particle Simulations for Parameter Tuning*

of Dynamical Models of the Magnetotail, J. Atmos. Solar-Terres. Phys. 64 (5-6), 633-638 (2002), [https://doi.org/10.1016/S1364-6826\(02\)00022-6](https://doi.org/10.1016/S1364-6826(02)00022-6).

- W. Horton, F. Porcelli, P. Zhu, A. Aydemir, Y. Kishimoto, and T. Tajima, *Ignitor Physics Assessment and Confinement Projections*, Nucl. Fusion 42 (2), 169-179 (2002), <https://doi.org/10.1088/0029-5515/42/2/308>.
- B. Hu, W. Horton, C. Chiu, and T. Petrosky, *Coulomb Scattering in a Strong Magnetic Field*, Phys. Plasmas 9 (4), 1116-1124 (2002), <https://doi.org/10.1063/1.1459709>.
- E.G. Evstatiev, W. Horton, and P.J. Morrison, *Multi-Wave Model for Plasma-Wave Interaction*, Phys. Plasmas 10 (10) 4090 (2003), <https://doi.org/10.1063/1.1609989>.
- J-Q. Dong, S.M. Mahajan, and W. Horton, *Double Tearing Mode in Plasmas with Anomalous Electron Viscosity*, Phys. Plasmas 10, 3151-3159 (2003), <https://doi.org/10.1063/1.1581286>.
- B. Hu, W. Horton, P. Zhu, and F. Porcelli, *Density Profile Control with Current Ramping in a Transport Simulation of IGNITOR*, Phys. Plasmas 10, 1015 (2003), <https://doi.org/10.1063/1.1555623>.
- Horton, B. Hu, J-Q. Dong, and P. Zhu, *Turbulent Electron Thermal Transport in Tokamaks*, New J. Physics, 5, 14.1-14.34 (2003), <https://doi.org/10.1088/1367-2630/5/1/314>.
- W. Horton, R.S. Weigel, D. Vassiliadis, and I. Doxas, *Substorm Classification with the WINDI Model*, Nonl. Proc. Geophys. European Geosciences Union (EGU) 19 (4/5), 363-371 (2003), <https://doi.org/10.5194/npg-10-363-2003>.
- H. Sugama, T.-H Watanabe, and W. Horton, *Comparison Between Kinetic and Fluid Simulations of Slab Ion-Temperature-Gradient-Driven Turbulence*, Phys. Plasmas, 10, 726-736 (2003), <https://doi.org/10.1063/1.1544664>.
- G.T. Hoang, W. Horton, C. Bourdelle, B. Hu, X. Garbet, and M. Ottaviani, *Analysis of the Critical Electron-Temperature Gradient in Tore Supra*, Phys. Plasmas 10, 405-412 (2003), <https://doi.org/10.1063/1.1534113>.
- C. Crabtree, W. Horton, H.V. Wong, and J.W. Van Dam, *Bounce-Averaged Stability of Compressional Modes in Geotail Flux Tubes*, J. Geophys. Res. 108, 1084 (2003), <https://doi.org/10.1029/2002JA009555>.
- W. Horton, B-Y. Xu, and H. Vernon Wong, *Firehose Driven Magnetic Fluctuations in the Magnetosphere*, Geophys. Res. Lett. 31, L06807 (2004), <https://doi.org/10.1029/2003GLO18309>.

- W. Horton, G.T. Hoang, C. Bourdelle, X. Garbet, M. Ottaviani, and L. Colas, *Electron Transport and the Critical-Temperature Gradient*, Phys. Plasmas 11, 5 (2004), <https://doi.org/10.1063/1.1690761>.
- W. Horton and C. Chiu, *Laser Z-Pinch Dipole-Target Experiments to Simulate Space Physics Acceleration Processes*, Phys. Plasmas 11, 1645 (2004), <https://doi.org/10.1063/1.1666509>.
- T.D Kaladze, G.D. Aburjania, O.A. Kharshiladze, W. Horton, and Y-H. Kim, *Theory of Magnetized Rossby Waves in the Ionospheric E-Layer*, J. Geophys. Res. 109 (A5) (2004), <https://doi.org/10.1029/2003JA010049>.
- W. Horton, B.-Y. Xu, H.V. Wong, and J.W. Van Dam, *Nonlinear Dynamics of the Firehose Instability in a Magnetic Dipole Geotail*, J. of Geophys. Res. 109, A09216 (2004), <https://doi.org/10.1029/2003JA010288>.
- F.L. Waelbroeck, P.J. Morrison, and W. Horton, *Hamiltonian Formulation and Coherent Structures in Electrostatic Turbulence*, Plasma Phys. Control. Fusion 46, 1331-1350 (2004), <https://doi.org/10.1088/0741-3335/46/9/001>.
- I. Doxas, W. Horton, W.T. Lin, S. Seibert, and M. Mithaiwala, *A Dynamical Model for the Coupled Inner Magnetosphere and Tail*, IEEE Trans. Plasma Sci. 32 (4), Part 1, 1443-1448 (2004), <https://doi.org/10.1109/TPS.2004.833388>.
- W. Horton, J.C. Perez, T. Carter, and R. Bengtson, *Vorticity Probes and the Characterization of Vortices in the Kelvin-Helmholtz Instability in the Large Plasma Device Experiment*, Phys. Plasmas 12, 022303 (2005), <https://doi.org/10.1063/1.1830489>.
- W. Horton, C. Chiu, T. Ditmire, P. Valanju, R. Presura, V.V. Ivanov, Y. Sentoku, V.I. Sotnikov, A. Esaulov, N. Le Galloudec, T.E. Cowan, and I. Doxas, *Laboratory Simulation of Magnetospheric Plasma Shocks*, Adv. Space Res. <https://doi.org/10.1016/j.asr.2005.01.087>.
- M.J. Mithaiwala and W. Horton, *Substorm Injections Produce Sufficient Electron Energization to Account for MeV Flux Enhancements Following Some Storms*, J. Geophys. Res. 110, A07224 (2005), <https://doi.org/10.1029/2004JA010511>.
- E.G. Evstatiev, P.J. Morrison, and W. Horton, *A Relativistic Beam-Plasma System with Electromagnetic Waves*, Phys. Plasmas 12, 072108 (2005), <https://doi.org/10.1063/1.1950127>.
- R. Presura, V.V. Ivanov, Y. Sentoku, V.I. Sotnikov, P.J. Laca, N. Le Galloudec, A. Kemp, R. Mancini, H. Ruhl, A.L. Astanovitskiy, T.E. Cowan, T. Ditmire, C. Chiu, W.

Horton, P. Valanju, and S. Keely, *Laboratory Simulation of Magnetospheric Plasma Shocks*, *Astrophys. Space Sci.* 298, 299-303 (2005), <https://doi.org/10.1007/s10509-005-3950-0>.

- W. Horton, C. Chiu, and T. Ditmire, *Laboratory Simulations of Bow Shocks and Magnetospheres*, *Astrophys. Space Sci.* 298, 395-401 (2005), <https://doi.org/10.1007/s10509-005-3981-6>.
- W. Horton, H.V. Wong, P.J. Morrison, A. Wurm, J-H. Kim, J.C. Perez, J. Pratt, G.T. Hoang, B.P. LeBlanc, and R. Ball, *Temperature Gradient Driven Electron Transport in NSTX and Tore Supra*, *Nucl. Fusion* 45, 976-985 (2005), <https://doi.org/10.1088/0029-5515/45/8/025>.
- H. Vernon Wong, B.-Y. Xu, W. Horton, J. Pratt, and J.W. Van Dam, *Nonlinear Evolution of the Firehose Instability in a Magnetic Dipole Geotail Geometry*, *Phys. Plasmas* 12, 056502 (2005), <https://doi.org/10.1063/1.1888786>.
- G. Gogoberidze, L. Samushia, G.D. Chagelishvili, J.G. Lominadze, and W. Horton, *Surface Gravity Waves in Deep Fluid at Vertical Shear Flows*, *J. Exper. Theor. Phys.* 101(1), 169-176 (2005), <http://dx.doi.org/10.1134/1.2010673>.
- W.S. Lewis, J.L. Burch, J. Goldstein, W. Horton, J.C. Perez, H.U. Frey, and P.C. Anderson, *Dusk-side Auroral Undulations Observed by IMAGE and their Possible Association with Large-Scale Structures on the Inner Edge of the Electron Plasma Sheet*, *Geophys. Res. Lett.* 32 (24): L24103 (2005), <https://doi.org/10.1029/2005GL024390>.
- W. Horton, E. Spencer, I. Doxas, and J. Kozyra, *Analysis of the October 3-7 2000 GEM Storm with the WINDMI Model*, *Geophysical Research Letters* 32 (22), L22102 (2005), <https://doi.org/10.1029/2005GL023515>.
- J.C. Perez, W. Horton, K. Gentle, W.L. Rowan, K. Lee, and R.B. Dahlburg, *Drift Wave Instability in the Helimak Experiment*, *Phys. Plasmas* 13 (3): 032101 (2006), <https://doi.org/10.1063/1.2168401>.
- J. Pratt and W. Horton, *Global Energy Confinement Scaling Predictions for the Kinetically Stabilized Tandem Mirror*, *Phys. Plasmas* 13(4), 042513 (2006), <https://doi.org/10.1063/1.2188913>.
- A.M. Batista, I.L. Calderas, S.R. Lopes, R.L. Viana, W. Horton, and P.J. Morrison, *Nonlinear Three-Mode Interaction and Drift-Wave Turbulence in a Tokamak Edge Plasma*, *Phys. Plasmas* 13(4), 042510 (2006), <https://doi.org/10.1063/1.2184291>.
- J-H. Kim, J.C. Perez, W. Horton, G.D. Chagelishvili, R.G. Changishvili, J.G. Lominadze, and J.C. Bowman, *Self-Sustaining Vortex Perturbations in Smooth*

Shear Flows, Phys. Plasmas 13(6), 062304 (2006),
<https://doi.org/10.1063/1.2209229>.

- J.C. Perez, W. Horton, R.D. Bengtson, and T. Carter, *Study of Strong Cross-Field Sheared Flow with Vorticity Probe in the Large Plasma Device*, Phys. Plasmas 13, 057701 (2006), <https://doi.org/10.1063/1.2179423>.
- W. Horton, J.-H. Kim, F. Militello, and M. Ottaviani, *Turbulent Impulsive Magnetic Energy Releases from Electron Scale Reconnection*, Phys. Plasmas 14, 012902, (2007), <https://doi.org/10.1063/1.2424555>.
- M.L. Mays, W. Horton, J. Kozyra, T.H. Zurbuchen, C. Huang, and E. Spencer, *Effect of Interplanetary Shocks on the AL and Dst Indices*, Geophys. Res. Lett. 34, L11104, <https://doi.org/10.1029/2007GL029844>.
- E. Spencer, W. Horton, M.L. Mays, I. Dexas, and J. Kozyra, *Analysis of the 3-7 October 2000 and 15-24 April 2002, Geomagnetic Storms with an Optimized Nonlinear Dynamical Model*, J. Geophys. Res. 112, A04S90 (2007), <https://doi.org/10.1029/2006JA012019>.
- S.M. Kaye, F.M. Levinton, D. Stutman, K. Tritz, H. Yuh, M.G. Bell, R.E. Bell, W. Horton, J. Kim, B.P. LeBlanc, R. Maingi, E. Mazzucato, J.E. Menard, D. Mikkelsen, H. Park, G. Rewoldt, S.A. Sabbagh, D.R. Smith, W. Wang, and the NSTX Group, *Confinement and Transport in the National Spherical Torus Experiment*, Nucl. Fusion 47, 499-509 (2007), <https://doi.org/10.1088/0029-5515/47/7/001>.
- T. D. Kaladze and W. Horton, *Synoptic-Scale Nonlinear Stationary Magnetized Rossby Waves in the Ionospheric E-Layer*, Plasma Phys. Rep. 32, 12, 996-1006 (2007), <https://doi.org/10.1134/S1063780X06120038>.
- W. Horton, J. Pratt, H.L. Berk, and E. Spencer, *Global Energy Confinement Scaling Predictions for Tandem Mirrors*, J. Fusion Energy 26, 77-80 (2007), <https://doi.org/10.1007/s10894-006-9059-9>.
- H. Sugama, T.-H. Watanabe, and W. Horton, *Collisionless Kinetic-Fluid Model of Zonal Flows in Toroidal Plasmas*, Phys. Plasmas 14, 022502 (2007), <https://doi.org/10.1063/1.2435329>.
- Y. Kishimoto, J.-Y. Kim, W. Horton, T. Tajima, M.J. LeBrun, S.A. Dettrick, J.Q. Li, and S. Shirai, *Discontinuity Model for Internal Transport Barrier Formation in Reversed Magnetic Shear Plasmas*, Nucl. Fusion 40, 667 (2000), <https://doi.org/10.1088/0029-5515/40/3Y/330>.
- H.V. Wong, W. Horton, J.W. Van Dam, and C. Crabtree, *Low-Frequency Stability of*

Geotail Plasma, Phys. Plasmas 8(5), 2415-2424, Part 2 (2001), <https://doi.org/10.1063/1.1357828>.

- H. Sugama, T.H. Watanabe, and W. Horton, *Collisionless Kinetic-Fluid Closure and its Application to the Three-Mode Ion Temperature Gradient Driven System*, Phys. Plasmas 8(6), 2617-2618 (2001), <https://doi.org/10.1063/1.1367319>.
- W. Horton, R.S. Weigel, and J.C. Sprott, *Chaos and the Limits of Predictability for the Solar-Wind-Driven Magnetosphere-Ionosphere System*, Phys. Plasmas 8(6), 2946-2952 (2001), <https://doi.org/10.1063/1.1371522>.
- B. Hu, W. Horton, C. Chiu, and T. Petrosky, *Coulomb Scattering in a Strong Magnetic Field*, Phys. Plasmas 9(4), 1116-1124 (2002), <https://doi.org/10.1063/1.1459709>.
- J-Q. Dong, S.M. Mahajan, and W. Horton, *Double Tearing Mode in Plasmas with Anomalous Electron Viscosity*, Phys. Plasmas 10, 3151-3159 (2003), <https://doi.org/10.1063/1.1581286>.
- H. Sugama, T.-H. Watanabe, and W. Horton, *Comparison Between Kinetic and Fluid Simulations of Slab Ion Temperature Gradient Driven Turbulence*, Phys. Plasmas 10, 726-736 (2003), <https://doi.org/10.1063/1.1544664>.
- G.T. Hoang, W. Horton, C. Bourdelle, B. Hu, X. Garbet, and M. Ottaviani, *Analysis of the Critical Electron Temperature Gradient in Tore Supra*, Phys. Plasmas 10, 405-412 (2003), <https://doi.org/10.1063/1.1534113>.
- W. Horton, G.T. Hoang, C. Bourdelle, X. Garbet, M. Ottaviani, and L. Colas, *Electron Transport and the critical Temperature Gradient*, Phys. Plasmas 11, 5 (2004). <https://doi.org/10.1063/1.1690761>.
- W. Horton, J.C. Perez, T. Carter, and R. Bengtson, *Vorticity Probes and the Characterization of Vortices in the Kelvin-Helmholtz Instability in the Large Plasma Device Experiment*, Phys. Plasmas 12, 022303 (2005), <https://doi.org/10.1063/1.1830489>.
- J.C. Perez, W. Horton, K. Gentle, W.L. Rowan, K. Lee, and R.B. Dahlburg, *Drift Wave Instability in the Helimak Experiment*, Phys. Plasmas 13(3), 032101 (2006), <https://doi.org/10.1063/1.2168401>.
- H. Sugama, T.-H. Watanabe, and W. Horton, *Collisionless Kinetic-Fluid Model of Zonal Flows in Toroidal Plasmas*, Phys. Plasmas 14, 022502 (2007), <https://doi.org/10.1063/1.2435329>.
- E. Asp, J.-H. Kim, W. Horton, L. Porte, S. Alberti, A. Karpushov, Y. Martin, O. Sauter,

- G. Turri, and the TCV TEAM, *Electron Thermal Transport in Tokamak Configuration Variable*, Phys. Plasmas 15, 082317 (2008), <https://doi.org/10.1063/1.2965828>.
- F.L. Waelbroeck, F. Militello, R. Fitzpatrick, and W. Horton, *Effect of Electrostatic Turbulence on Magnetic Islands*, Plasma Phys. Control. Fusion 51, 015015 (2009). <https://doi.org/10.1088/0741-3335/51/1/015015>.
300. F. Militello, F.L. Waelbroeck, R. Fitzpatrick, and W. Horton, *Interaction Between Turbulence and a Nonlinear Tearing Mode in Low-Beta Regime*, Phys. Plasmas 15, 050701 (2008), <https://doi.org/10.1063/1.2917915>.
301. Tomo-Hiko Watanabe, Yashushi Todo, and Wendell Horton, *Benchmark Tests of Fusion Plasma Simulation Codes for Studying Microturbulence and Energetic Particle Dynamics*, Plasma Fusion Res. 3, 061 (2008), <https://doi.org/10.1585/pfr.3.061>.
302. Isao Katanuma, V. Pastukhov, T. Imai, T. Kariya, Y. Nakashima, H. Hojo, R. Minami, Y. Yamaguchi, M. Yoshikawa, H. Akao, T. Watanabe, and W. Horton, *Flute Modes and Transport in a Magnetic Divertor of an Open System*, J. Plasma Fusion Res. 84, 279-292 (2008), ISSN 0918-7928.
- P. Brady, T. Ditmire, W. Horton, M.L. Mays, and Y. Zakharov, *Laboratory Experiments Simulating Solar Wind Driven Magnetospheres*, Phys. Plasmas 16, 4, 043112-043112-10 (2009), <https://doi.org/10.1063/1.3085786>.
 - W. Horton, J.-H. Kim, F. Militello, and M. Ottaviani, *Turbulent impulsive magnetic Energy Release from Electron Scale Reconnection*, Phys. Plasmas 14, 012902 (2007), <https://doi.org/10.1063/1.2424555>.
 - T. Cho, V.P. Pastukhov, W. Horton, T. Namakura, M. Hirata, J. Kohagura, N.V. Chudin, and J. Pratt, *Active Control of Internal Transport Barrier Formation Due to Off-Axis Electron-Cyclotron Heating in GAMMA 10 Experiments*, Phys. Plasmas 15, 056120 (2008), <https://doi.org/10.1063/1.2906262>.
 - R.B. Dahlburg, W. Horton, W.L. Rowan, C. Correa, and J.C. Perez, *Evolution of the Bounded Magnetized Jet and Comparison with Helimak Experiments*, Phys. Plasmas 16, 072109 (2009), <https://doi.org/10.1063/1.3166598>.
 - W. Horton, C. Correa, G.D. Chagelishvili, V.S. Avsarkisov, J.G. Lominadze, J.C. Perez, J.-H. Perez, and T.A. Carter, *On Generation of Alfvénic-like Fluctuations by Drift Wave-Zonal Flow System in Large Plasma Device Experiments*, Phys. Plasmas 16, 092102 (2009), <https://doi.org/10.1063/1.3211197>.
308. S. Takahashi, H. Kawai, Y. Ohsawa, S. Usami, C. Chiu, and W. Horton, *The Effect of Parallel Electric Field in Shock Waves on the Acceleration of Relativistic Ions, Electrons, and Positrons*, Phys. Plasmas 16, 112308 (2009), <https://doi.org/10.1063/1.3211197>.

doi.org/10.1063/1.3264739.

309. M. Nakata, T.-H. Watanabe, H. Sugama, and W. Horton, *Formation of Coherent Vortex Streets and Transport Reduction in Electron-Temperature-Gradient-Driven Turbulence*, Phys. Plasmas 17, 042306 (2010), <https://doi.org/10.1063/1.3356048>.
310. S. Futatani, W. Horton, S. Benkadda, I.O. Bespamyantov, and W.L. Rowan, *Fluid Models of Impurity Transport via Drift Wave Turbulence*, Phys. Plasmas 17, 072512 (2010), <https://doi.org/10.1063/1.3459062>.
311. N.L. Tsintsadze, T. D. Kaladze, J.W. Van Dam, W. Horton, X.R. Fu, and T.W. Garner, *Nonlinear Dynamics of the Electromagnetic Ion Cyclotron Structures in the Inner Magnetosphere*, J. Geophys. Res.-Space Phys. 115, A07204 (2010), <https://doi.org/10.1029/2009JA014555>.
312. W. Horton, J.-H. Kim, G. D. Chagelishvili, J. C. Bowman, and J. G. Lominadze, *Angular Redistribution of Nonlinear Perturbations: A Universal Feature of Nonuniform Flows*, Phys. Rev. E 81, 066304, part 2 (2010), <https://doi.org/10.1103/PhysRevE.81.066304>.
313. X.R. Fu, W. Horton, Y. Xiao, Z. Lin, A.K. Sen, and V. Sokolov, *Validation of Electron Temperature Gradient Turbulence in the Columbia Linear Machine*, Phys. Plasmas 19, 032303 (2012), <https://doi.org/10.1063/1.3686148>.
314. A. Ishizawa, F.L. Waelbroeck, R. Fitzpatrick, W. Horton, and N. Nakajima, *Magnetic Island Evolution in Hot Ion Plasmas*, Phys. Plasmas 19, 072312 (2012), <https://doi.org/10.1063/1.4739291>.
315. X.R. Fu, W. Horton, I.O. Bespamyatnov, W.L. Rowan, S. Benkadda, C.L. Fiore, S. Futatani, and K.T. Liao, *Turbulent Impurity Transport Modeling for Alcator C-Mod*, J. Plasma Phys. 79, part 5, 837-846 (2013), <https://doi.org/10.1017/S0022377813000548>.
316. S. Futatani, W. Horton, and T.D. Kaladze, *Nonlinear Propagation of Rossby-Khantadze Electromagnetic Planetary Waves in Ionospheric E-layer*, Phys. Plasmas 20, 102903 (2013), <http://dx.doi.org/10.1063/1.4826592>.
317. T.D. Kaladze, W. Horton, L.Z. Kahlon, O. Pokhotelov, and O. Onishchenko, *Zonal Flows and Magnetic Fields Driven by Large Amplitude by Rossby-Alfvén-Khantadze Waves in the E-layer Ionosphere*, J. Geophys. Res.-Space Phys. 118, 7822-7833 (2013), <https://doi.org/10.1002/2013JA019415>.

318. W. Horton, M. Goniche, Y. Peysson, J. Decker, A. Ekedahl, and X. Litaudon, *Penetration of Lower Hybrid Current Drive Waves in Tokamaks*, Phys. Plasmas 20, 112508 (2013),
<https://doi.org/10.1063/1.4831981>.
319. Wendell Horton, Igor Alvarado, Xiangrong Fu, and Alexei Bekemishhev, *Tandem Mirror Experiment for Basic Fusion Science*, J. Nucl. Sci. Tech. 4, 53-58 (2014),
<http://dx.doi.org/10.4236/wjnst.2014.42009>.
320. O. Onishchenko, O. Polkhotelov, W. Horton, A. Smolyakov, T. Kaladze, and V. Fedun, *Rolls of the Internal Gravity Waves in the Earth's Atmosphere*, Annales Geophysicae 32, 181-186 (2014), <https://doi.org/10.5194/angeo-32-181-2014>.
321. T.D. Kaladze, L.Z. Kahlon, W. Horton, O. Pokhotelov, and O. Onishchenko, *Shear Flow Driven Rossby-Khantadze Electromagnetic Planetary Vortices in the Ionosphere E-layer*, Europhys. Lett. 106, 29001 (2014), <http://doi.org/10.1209/0295-5075/106/29001>.
322. D. Meyerson, C. Michoski, F. Waelbroeck, and W. Horton, *Effect of Field-Line Chaos on Plasma Filament Dynamics and Turbulence in the Scrape-Off Layer*, Phys. Plasmas 21, 072310 (2014), <https://doi.org/10.1063/1.4890349>.
323. E. Hassan, W. Horton, A.I. Smolyakov, D.R. Hatch, and S.K. Litt, *Multiscale Equatorial Electrojet Turbulence: Baseline 2-D Model*, J. Geophys. Res.-Space Phys. 120, 1460-1477 (2015), <https://doi.org/10.1002/2014JA020387>.
324. O.G. Onishchenko, O.A. Pokhotelov, and W. Horton, *Dust Devil Dynamics in the Internal Vortex Region*, Phys. Scr. 90 (2015) 068004 (3pp),
<https://doi.org/10.1088/0031-8949/90/6/068004>.
325. S.K. Litt, A.I. Smolyakov, E. Hassan, and W. Horton, *Ion Thermal and Dispersion Effects in Farley-Buneman Instabilities*, Phys. Plasmas 22, 082112 (2015), <http://dx.doi.org/10.1063/1.4928387>.
326. S.K. Litt, A.I. Smolyakov, A.S. Bains, O.A. Pokhotelov, O.G. Onishchenko and W. Horton, *Nonlinear Equation of Farley-Buneman Waves in Multi-species Plasma*, Plasma Phys. Rep./Plasmy Fizika 42, 400 (2016),
<https://doi.org/10.1134/S1063780X16050081>.
327. H. Miura, L. Zheng and W. Horton, *Numerical simulations of interchange/tearing instabilities in 2D slab with numerical model for edge plasma*, Phys. Plasmas 24, 092111 (2017), <http://dx.doi.org/10.1063/1.4993962>.
328. D. Gogichaishvili, G. Mamatsashvili, W. Horton, and G. Bodo, *Nonlinear Transverse Cascade and Sustenance of MRI-Turbulence in Keplerian Disks with an Azimuthal*

Magnetic Field, Astrophys. J. 845, 70 (2017), <https://doi.org/10.3847/1538-4357/aa7ed1>.

329. D. Gogichaishvili, G. Mamatsashvili, W. Horton, and G. Chagelishvili, *Nonlinear Transverse Cascade and Balances in MRI-turbulence of Keplerian Disks with a Net Vertical Magnetic Field*, Astrophys. J. 866, 134 (2018), <https://doi.org/10.3847/1538-4357/aadbad>.

Books and Chapters

Wendell Horton, *Turbulent Transport in Magnetized Plasmas*, 2nd Edition (World Scientific Publishing Co., 2018), ISBN 978-981-3225-86-6, <https://books.google.com>.

Wendell Horton and Sadruddin Benkadda, *ITER Physics* (World Scientific Publishing Co., 2015), <https://books.google.com>.

Wendell Horton, *Turbulent Transport in Magnetized Plasmas* (World Scientific Publishing Co., 2012), ISBN 978-981-4383-53-0, <https://books.google.com>.

W. Horton and Y-H Ichikawa, *Chaos and Structures in Nonlinear Plasmas* (World Scientific Publishing Co., 1996), ISBN 9810226365.

W. Horton, Jr., *Drift Wave Turbulence and Anomalous Transport*, *Basic Plasma Physics Handbook* (North Holland Publishing Company, New York, 1984), Vol. II, pp. 383-449, ISBN 0-444-86645-0.

C.W. Horton, Jr., L.E. Reichl, and V.G. Szebehely, *Long-Time Prediction in Dynamics* (John Wiley Interscience, New York, 1983), 496 pages, ISBN 0-471-86447-1.

C.W. Horton, Jr. and L.E. Reichl, *Statistical Physics and Chaos in Fusion Plasmas* (John Wiley Interscience, New York, 1984), 361 pages, ISBN 0-471-88310-7.

W. Horton and T. Tajima, *Laser Acceleration of Particles*, AIP Conference Proceedings No. 130, eds. C. Joshi and T. Katsouleas, (American Institute of Physics, New York, 1985), p. 179.

W. Horton and T. Tajima, *Laser Beat-Wave Accelerator In a Turbulent Plasma*, Proceedings of the International Conference on Lasers '84, eds. K.M. Corcoran, D.M. Sullivan, and W.C. Stwalley (STS Press, McLean, VA, 1985), p. 454.

W. Horton, B-G. Hong, T. Tajima, and N. Bekki, *Short Wavelength Electron Temperature Gradient Drive Drift Wave Turbulence in Tokamaks*, Theory of Fusion Plasmas, ed. J. Vaclavik, F. Troyon, and E. Sindoni, Joint Varenna-Lausanne International Workshop on Theory of Fusion Plasmas, Lausanne, Switzerland, October 1988.

R.C. Davidson, M.A. Abdou, L.A. Berry, C.W. Horton, J.F. Lyon, and P.H. Rutherford, *Japanese Magnetic Confinement Fusion Research*, Foreign Applied Sciences Assessment

Center Technical Assessment Report, Science Applications International Corporation, 1990.

W. Horton, D. Lindberg, X. Su, J. Liu, and P.J. Morrison, *Theory of Fusion Plasmas*, Proceedings of the International School of Plasma Physics Piero Caldirola, eds. E. Sindoni and J. Vaclavik (Societa Italiana di Fisica, 1992), pp. 107-118.

W. Horton, J. Hernandez, J-Y. Kim, and T. Tajima, *Physics of Space Plasmas*, SPI Conference Proceedings and Reprint Series, eds. T. Chang, G.B. Crew, and J.R. Jasperse (Scientific Publishers, Cambridge, MA., 1992), pp. 225-262.

W. Horton, X. Su, and P.J. Morrison, *Nonlinear Processes in Physics*, Proceedings of the III Potsdam-V Kiev Workshop at Clarkson University, Potsdam, NY, eds. A.S. Fokas, D.J. Kaup, A.C. Newell, V.E. Zakharov (Springer-Verlag, New York, 1993), pp. 281-290.

W. Horton, Y. Ichikawa, I. Prigogine, and G. Zaslavsky, Editorial Board, *Research Trends in Physics: Chaotic Dynamics and Transport in Fluids and Plasmas*, (American Institute of Physics, New York, 1993).

W. Horton, Chair of Panel Discussion, *Coherent Structures and Transport*, Transport, Chaos and Plasma Physics (World Scientific 1993), pp. 329-341.

W. Horton, *Vortex-Wave Dynamics in the Drift Wave-Rossby Wave Problem with Temperature Gradients*, AIP Conference Proceedings No. 414, First Chapter in Conference Proceedings on Two-Dimensional Turbulence in Plasmas and Fluids, Canberra, Australia, pp. 3-36 June 1997.

H. Sugama and W. Horton, *Effects of Sheared Rotation on Ion-Temperature-Gradient-Driven Instabilities*, AIP Conference Proceedings No. 414, pp. 275-286 (American Institute of Physics, New York, 1997), Proceedings on Two-Dimensional Turbulence in Plasmas and Fluids, Canberra, Australia, June 1997.

T. Tajima, S. Cheshkov, W. Horton, and K. Yokoya, *A Nonlinear Particle Dynamics Map of Wakefield Acceleration in a Linear Collider*, Advanced Accelerator Concepts (AIP, New York 1999), Vol. 8, p. 153.

S. Cheshkov, T. Tajima, W. Horton, and K. Yokoya, *Particle Dynamics and its Consequences in Wakefield Acceleration in a High Energy Collider*, Advanced Accelerator Concepts (AIP, New York 1999), Vol. 8, p. 343.

W. Horton and G. Hu, *Plasma Turbulence*, Wiley Encyclopedia of Electrical and Electronics Engineering, 1999, vol. 16, pp. 527-539.

W. Horton, H. Vernon Wong, R. Weigel, and I. Doxas, *Interchange Trigger for Substorms in a Nonlinear Dynamics Model*, Physics of Space Plasmas, eds. T. Chang and J. R. Jasperse, MIT (Proceedings of the 1998 Cambridge Symposium on Multiscale Phenomena in Space Plasmas).

I. Doxas, W. Horton, and J.P. Smith, Phys. Chem. Earth 24, 67 (1999), ed. J. W. Dungey, Proceedings of an International Workshop in Space Vol. II, p. 15.

W. Horton, P. Zhu, T. Tajima, Y. Kishimoto, J.-M. Kwon, and D.-I. Choi, *Transport Barriers in Optimized Shear Toroidal Confinement*, 26th EPS Conference on Controlled Fusion and Plasma Physics, Maastricht, 14-18 June 1999, ECA Vol. 23J (1999) 285-288.

P. Zhu, G. Bateman, A.H. Kritz, and W. Horton, *Predictive Transport Simulations of Internal Transport Barriers in JET and DIII-D*, 2000 International Sherwood Fusion Theory Meeting, Los Angeles, CA, 27-29 March 2000, Session 1C48.

P. Zhu, W. Horton, and H. Sugama, *Global Models of Transport Barrier Dynamics*, Transport Task Force Meeting (Burlington, VT, 26-29 April, 2000).

G.M. Staebler, J.E. Kinsey, P. Zhu, G. Bateman, W. Horton, A.H. Kritz, T. Onjun, A. Pankin, and R.E. Waltz, *Drift Wave-Based Modeling of Poloidal Spin-up Precursor and Step-Wise Expansion of Transport Barriers*, International Atomic Energy Agency Fusion Energy Conference (Sorrento, Italy, 4-10 October 2000).

W. Horton, F. Porcelli, P. Zhu, A. Aydemir, Y. Kishimoto, and T. Tajima, *Ignitor Physics Assessment and Confinement Projections*, 18th International Atomic Energy Agency Fusion Energy Conference, Sorrento, Italy, October 2000, IAEA-CN-77/THP1/18.

M. Ottaviani, W. Horton, and M. Erba, *Thermal Transport from a Phenomenological Description of Ion-Temperature-Gradient-Driven Turbulence*, JET-P (96)16 Joint Euratom (1996).

M. Ottaviani, W. Horton, and M. Erba, *The Long Wavelength Behavior of Ion-Temperature-Gradient-Driven Turbulence and the Radial Dependence of the Turbulent Ion Conductivity*, Plasma Physics Control. Fusion 39, 1461-1477 (1997),
<https://doi.org/10.1088/0741-3335/39/9/012>.

W. Horton, M.J. Mithaiwala, E.A. Spencer, and I. Doxas, WINDMI, a Family of Physics Network Models for Storms and Substorms, a chapter in the book *Multiscale Coupling of Sun-Earth Processes*, eds. A.T.Y. Lui, Y. Kamide and G. Consolini, Elsevier Publ. Co., Amsterdam, The Netherlands, pp. 431-445, 2005,
<https://doi.org/10.1016/B978-044451881-1/50032-0>.

W. Horton, J.-H. Kim, G.T. Hoang, H. Park, S.M. Kaye, and B.P. LeBlanc, *Drift Wave Turbulence*, in Turbulent Transport in Fusion Plasmas: First ITER International Summer School, Editor: Sadrudin Benkadda, Vol. 1013, pp. 1-19, AIP Conference Proceedings 2008,
<https://doi.org/10.1063/1.2939032>.

W. Horton, J.-H. Kim, E. Asp, T. Hoang, T.-H. Watanabe, and H. Sugama, *Electron Temperature Gradient Mode Transport*, in *Turbulent Transport in Fusion Plasmas: First ITER International Summer School*, Ed. Sadruddin Benkadda, vol. 1013, pp. 299-315, AIP Conference Proceedings 2008, <https://doi.org/10.1063/1.2939039>.

Selected Published Abstracts

M. Muraglia, O. Agullo, A. Poye, S. Benkadda, W. Horton, N. Dubuit, X. Garbet, and A. Sen, *Seed Islands Driven by Turbulence and NYM Dynamics*, American Physical Society–Division of Plasma Physics Annual Meeting, New Orleans, October 27, 59, 15, p. 196, 2014, NO2 3.

J.T. Mendoca, W. Horton, R.M.O. Galvao, and Y. Elskens, *Transport Equations for Lower Hybrid Waves in a Turbulent Plasma*, American Physical Society–Division of Plasma Physics Annual Meeting, New Orleans, October 27, 59, 15, p. 197, 2014, NO3 10.

E. Hassan, W. Horton, A. Smolyakov, and D. Hatch, *Equatorial Electrojet Instabilities – New Fluid Model Approach*, American Physical Society–Division of Plasma Physics Annual Meeting, New Orleans, October 27, 59, 15, p. 203, 2014, NO5 12.

S. Futatani, W. Horton, L.Z. Kahlon, and T.D. Kaladze, *Rossby-Khantadze Electromagnetic Planetary Waves Driven by Sheared Zonal Winds in the E-Layer Ionosphere*, American Physical Society–Division of Plasma Physics Annual Meeting, New Orleans, October 27, vol. 59, 15, p. 203, 2014, NO5 13.

W. Horton, W.L. Rowan, I. Alvarado, X.R. Fu, and A.D. Beklemishev, *Plasma Control in Symmetric Mirror Machines*, American Physical Society–Division of Plasma Physics Annual Meeting, New Orleans, October 27, 59, 15, p. 203, 2014. UP8 67.

W.L. Rowan, I.O. Bespamyatnov, D.R. Hatch, W. Horton, and K.T. Liao, *Light Impurity Transport in I-Mode in Alcator C-Mod*, American Physical Society–Division of Plasma Physics Annual Meeting, New Orleans, October 27, 59, 15, p. 203, 2014, TP8 10.

W. Horton, X.R. Fu, W. Rowan, I. Bespamyatnov, S. Futatani, and S. Benkadda, *Turbulent Impurity Transport in ITER Based on Theory and C-Mod Data*, Session NO4: International Tokamak Research and ITER, American Physical Society–Division of Plasma Physics Annual Meeting, Atlanta, November 4, 2009.

W.L. Rowan, I. Bespamyatnov, K. Gentle, K. Liao, W. Horton, X. Fu, C. Fiore, S. Benkadda, S. Futatani, and X. Garbet, *Simulation of Turbulent Impurity Transport in Alcator C-Mod*, Session PP8: C-Mod; NSTX and General Spherical Tori; Simulation and Modeling of Basic Plasma Phenomena, American Physical Society–Division of Plasma Physics Annual Meeting, Atlanta, November 4, 2009.

C. Correa, W. Horton, G. Chagelishvili, V. Avsarkisov, J. Lominadze, J. Kim, J.C. Perez and T. Carter, *On Generation of Alfvénic-like Fluctuations by Drift Wave-Zonal Flow System in*

Large Plasma Device Experiments, Session GP8: ITER, General Tokamak, Simulation and Modeling; MHD, Linear and Nonlinear Phenomena; Waves and Instabilities in Basic Plasmas, American Physical Society–Division of Plasma Physics Annual Meeting, Atlanta, November 4, 2009.

X. Fu, P.J. Morrison, W. Horton, and I. Caldar, *Transport with Reversed E_r in Gamma-10, LAPD, and the Sao Paulo Tokamak*, Session UP8: Alternates; Turbulence, Transport, and Stability; Space and Astrophysical Plasmas, American Physical Society–Division of Plasma Physics Annual Meeting, Atlanta, November 5, 2009.

C. Correa, W. Horton, S. Mahajan, and H. Miura, *Coronal Heating and Turbulence from Drift-Alfvén Structures by Current Loops and Instabilities*, Session UP8: Alternates; Turbulence, Transport, and Stability; Space and Astrophysical Plasmas, American Physical Society–Division of Plasma Physics Annual Meeting, Atlanta, November 5, 2009.

G. Bateman, A. Pankin, A. Kritiz, T. Rafiq, G. Park, S. Ku, C.S. Chang, W. Horton, and J. Pratt, *Extension of XGC Kinetic Simulation Codes to Magnetic Mirror Configurations*, Session CM9: Mini-Conference on Innovative Magnetic Mirror Concepts and Applications II, American Physical Society–Division of Plasma Physics Annual Meeting, Atlanta, November 2, 2009.

W. Horton, Jean C. Perez, and K. Gentle, *MHD Simulations and Theory for Sheared Flows and Turbulence in the Helimak*, Bull. Am. Phys. Soc. 50 (8), CP1.00124, October 2005.

S.M. Kaye, R. Bell, R. Budny, W. Horton, F. Levinton, J-H. Kim, J. Menard, D. Mueller, B. Leblanc, E. Mazzucato, D. Mikkelsen, H. Park, G. Rewoldt, D. Smith, W. Wang, and H. Yuh, *Confinement Scaling and Transport Physics in NSTX*, American Physical Society, 48th Annual Meeting of the Division of Plasma Physics, October 30-November 3, 2006, abstract #QP1.008.

R. Dahlburg, J.C. Perez, and W. Horton, *Nonlinear MHD Simulations of Sheared Flows and Turbulence in the Helimak*, American Physical Society, 48th Annual Meeting of the Division of Plasma Physics, October 30-November 3, 2006, abstract #NP1.058.

J.C. Perez, W. Horton, S. Boldyrev, J-H. Kim, R.D. Bengtson, and T. Carter, *Kelvin-Helmholtz/Drift Wave Coupling to Kinetic Shear Alfvén Waves*, American Physical Society, 48th Annual Meeting of the Division of Plasma Physics, October 30-November 3, 2006, abstract #CP1.106.

I.L. Caldas, F.A. Marcus, A.M. Batista, R.L. Viana, S.R. Lopes, M.F.A.P. Heller, Z.O. Guimaraes-Filho, P.J. Morrison, and W. Horton, *Turbulence Induced Transport in Tokamaks*, AIP Conference Proceedings – December 4, 2006 – Volume 875, pp. 341-346 PLASMA AND FUSION SCIENCE: 16th IAEA Technical Meeting on Research using Small Fusion Devices; XI Latin American Workshop on Plasma Physics.

J. Pratt, W. Horton, J-H. Kim, and H. L. Berk, *Control of Fluctuations in the GAMMA-10 by Sheared Flow*, 12th US-EU Transport Task Force Workshop. April 17-20, 2007, San Diego.

J. Pratt, W. Horton, J-H. Kim, and H. L. Berk, *Drift Wave Fluctuations in Tandem Mirrors with Anchor Cells and Sheared Flows*, International Sherwood Fusion Theory Conference, April 23-25, 2007, Annapolis, MD.

S.M. Kaye, F.M. Levinton, D. Stutman, K. Tritz, H. Yuh, M.G. Bell, R.E. Bell, W. Horton, J. Kim, B.P. LeBlanc, R. Maingi, E. Mazzucato, J.E. Menard, D. Mikkelsen, H. Park, G. Rewoldt, S.A. Sabbagh, D.R. Smith, W. Wang and the NSTX Group, *Confinement and Transport in the National Spherical Torus Experiment*, IAEA Conference, July 2007, Chengdu, China.

Seminar Talks

MISTRAL & HELIMAK Plasmas and SOLs, PIIM-CNRS, Univrsite de Provence, Marseille, France, June 15, 2017.

Planetary Waves and Turbulence in the Ionosphere-Disruptions in GNSS, ISSI Bern, Switzerland, June 2

Dust Devils and their role in Weather Dynamics, ISSI, Bern, Switzerland, June 2, 2014.

Fusion Power and Plasma Control in Symmetric Mirror Machines, Institute for Advanced Study of Aix-Marseille University, Workshop on Nonlinear Aspects of Linear Instabilities, [IMeRA], Marseille, France 18 June 2014.