

1991 INTERNATIONAL SHERWOOD FUSION THEORY CONFERENCE

Stouffer Madison Hotel, Seattle, WA  
April 22 - 24, 1991

REGISTRATION - Ballroom Foyer (lower level)  
Sunday, April 21 - 6:00pm - 10:00pm  
Monday, April 22 - 7:45am - 5:00pm  
Tuesday, April 23 - 7:45am - 5:00pm  
Wednesday, April 24 - 8:00am - 10:00am

MONDAY MORNING

WELCOME - 8:20am - L. Steinhauer, Local Chairman

1A Invited Paper  
8:30am - 9:20am  
Presiding: F.W. Perkins

1A1. Spectra of Drift-Wave Turbulence. V. E. Zakharov.

1B ORAL SESSION  
9:30am - 12:30pm  
Presiding: Y.H. Ichikawa

- 1B1. Relating Turbulent Fluctuations and Radial Electric Fields: A Drift Wave Turbulence Model. K. L. Sidikman, B. A. Carreras, N. A. Dominguez, L. Garcia, and P. H. Diamond.  
1B2. The Mechanism of Self-Sustainment in Collisional Drift-Wave Turbulence. B. D. Scott.  
1B3. 3D nonlinear Drift Resistive Ballooning Mode-Induced Transport and Poloidal Rotation. P. N. Guzdar, J. F. Drake, A. B. Hassam, D. McCarthy, and C. S. Liu.  
1B4. Neoclassical Poloidal and Toroidal Rotations in Tokamak Plasmas. Y. B. Kim.  
1B5. Anomalous Transport by Percolation. M. B. Isichenko.  
1B6. Atomic Mass Scaling in the Drift Wave Model. R. R. Dominguez.

MONDAY AFTERNOON

1C POSTER SESSION  
2:00 - 4:00pm

- 1C1. Evidence of Stochastic Diffusion Across a Cross-Field Sheath due to Kelvin-Helmholtz Vortices. C. K. Birdsall, X. Q. Xu, S. E. Parker, and A. J. Lichtenberg.  
1C2. Three-Dimensional Particle Simulation of Ion Temperature Gradient Mode on Massively Parallel Computers. Y. Matsuda, T. J. Williams, and J. Byers.

- 1C3. Pressure Driven Collapse of Magnetic Islands and H-Mode in Tokamaks. L. E. Zakharov, A. I. Smolyakov, and A. A. Subbotin.
- 1C4. ICRF Coupling at Low Edge Densities. S. C. Chu.
- 1C5. Ideal MHD Stability of High Poloidal Beta Equilibria in TFTR. S. A. Sabbagh, M. E. Mael, G. A. Navratil, M. G. Bell, R. V. Budny, M. S. Chance, E. D. Fredrickson, S. C. Jardin, J. Manickam, D. C. McCune, K. M. McGuire, R. M. Wieland, M. C. Zarnstorff, M. W. Phillips, M. H. Hughes, and J. Kesner.
- 1C6. Reduction of Tokamak Ion Transport in the Banana Regime by Orbit Squeezing. K. C. Shaing and R. D. Hazeltine.
- 1C7. Studies of the Finite Amplitude  $\eta$ -Mode. A. D. Beklemishev, W. Horton, and Y. H. Ichikawa.
- 1C8. Fluid/Kinetic Models for Alpha Particle Induced Instabilities. Y. L. Ho, D. C. Barnes, Z. Mikic, R. A. Nebel, D. D. Schnack, and K. T. Tsang.
- 1C9. Nonlinear Dynamics of the Relativistic Standard Map. Y. Nomura, Y. H. Ichikawa, and W. Horton.
- 1C10. Collisionless Reconnection and the Sawtooth Crash. J. F. Drake and R. G. Kleva.
- 1C11. A Universal Instability in Fluid Dynamics. A. Lifschitz and E. Hameiri.
- 1C12. Stabilization of TAE Instabilities via Ion Landau Damping. R. Betti and J. P. Freidberg.
- 1C13. Mode Conversion in Global Wave Calculations. P. E. Moroz and N. Hershkowitz.
- 1C14. Quasilinear Driven Transport in a Sheared Flow Field. K. S. Riedel.
- 1C15. Sheared Electric Field-Induced Suppression of Edge Turbulence Using Externally Driven R.F. Waves. G. G. Craddock and P. H. Diamond.
- 1C16. Finite Shift Effect on Ballooning Modes Stability in a Toroidally Rotating Plasma. S. Sen.
- 1C17. Comparison of the Performance of a Fluid Code on Different Machines. V. E. Lynch, B. A. Carreras, J. B. Drake, and J. N. Leboeuf.
- 1C18. Efficient Simulation of High- $n$  Turbulence in Ballooning Coordinates. A. M. Dimits.
- 1C19. Stabilization of Drift Modes by Sheared Plasma Rotation. F. L. Waelbroeck, T. M. Antonsen, Jr., and A. B. Hassam.
- 1C20. Tokamak Transport Based on the Thirteen Moments Model. M. K. Tippet.
- 1C21. The Effect of Orbit Averaging on Plasma Turbulence and Turbulent Transport. H. E. Mynick and S. J. Zweben.
- 1C22. Weak Turbulence Theory of Langmuir Waves: A Reconsideration of Validity of Quasilinear Theory. Y.-M. Liang and P. H. Diamond.
- 1C23. Numerical Study of  $n=1$  Stability of PBX-M at High  $q(\theta)$ . J. J. Ramos.
- 1C24. Gyrokinetic Particle Simulation of ITG Modes in General Toroidal Geometry. D. Hua, T. K. Fowler, and X. Q. Xu.
- 1C25. Toroidal Microinstability Studies of Confinement Trends in TFTR. W. M. Tang and G. Rewoldt.
- 1C26. Alfvén Continuum Gap and the High  $n$  Gap Mode in a Noncircular Tokamak. M. S. Chu, J. M. Greene, L. L. Lao, A. D. Turnbull, and M. S. Chance.
- 1C27. Ion Transport from Kinetic  $\eta$ (i) Modes: Comparisons with Experiment and Fluid Results. M. Kotschenreuther.
- 1C28. Comparison of Local and Non-local Kinetic Theory of Ion Temperature Gradient Modes. J. Y. Kim and W. Horton.
- 1C29. Gyrokinetic Simulation of Energetic Particle Effects on Tokamak Stability. K. T. Tsang.
- 1C30. Renormalization Group Analysis of Two Dimensional MHD Turbulence. W.-L. Zhang and P. H. Diamond.
- 1C31. Perturbative Transport due to Drift Wave Fluctuations. A. A. Thoul, P. L. Sinton, and R. N. Sudan.
- 1C32. Net Transport Equations for a Tokamak Plasma. J. B. Hollenberg and J. D. Callen.
- 1C33. Effect of Drifts on the Diffusion of Runaway Electrons in Tokamak Stochastic Magnetic Fields. J. R. Myra and P. J. Catto.
- 1C34. Coupled Energy and Current Transport. F. Pegoraro and B. Coppi.
- 1C35. Stabilization of Sawteeth in Tokamaks by Sheared Poloidal Flows. R. G. Kleva.
- 1C36. Examination of Sawtooth Stabilization by Localized Electron Cyclotron Heating Near the  $q=1$  Surface. A. H. Kritz, J. Manickam, M. Yamada, and S. Tanaka.

1D POSTER SESSION  
4:00 - 6:00pm

- 1D1. Inertia Effects on the Rigid Displacement Approximation of Tokamak Plasma Vertical Motion. R. Carrera, R. R. Khayrutdinov, E. A. Azizov, J. Q. Dong, and E. Montalvo.
- 1D2. Gyrokinetic Modeling Including Collisions: Neoclassical Diffusion Studies. S. Ma, R. D. Sydora, and J. M. Dawson.
- 1D3. Nonlinear Evolution of Ion-Streaming Instabilities along Auroral Fields. J. H. Han, W. Horton, and J. N. Leboeuf.
- 1D4. The Structure of Ideal MHD Alfvén Modes. A. D. Turnbull, M. S. Chance, M. S. Chu, L. L. Lao, J. M. Greene, and E. J. Strait.
- 1D5. Ellipticity Induced Alfvén Eigenmodes. J. P. Freidberg and R. Betti.
- 1D6. ICRF Action Transfer from Magnetosonic to Ion Bernstein Wave. D. R. Cook, A. N. Kaufman, and E. R. Tracy.
- 1D7. Efficiency of RF-Driven Current in a Noncircular Tokamak. C. F. F. Karney.
- 1D8. Nonlinear Evolution of Resistive Tearing Mode Instability with Shear Flow and Viscosity. L. Ofman, P. J. Morrison, and R. S. Steinolfson.
- 1D9. Numerical Modeling of ICRF Heating and Current Drive. N. Hershkowitz, P. E. Moroz, R. Majeski, and J. A. Tataronis.
- 1D10. Energy-Confinement-Timescale Numerical Tokamaks. B. I. Cohen, R. H. Cohen, and W. M. Nevins.
- 1D11. ICRF-Driven Convective Cells in the Tokamak Edge Plasma. D. A. D'Ippolito, J. R. Myra, J. Jacquinet, and M. Bures.
- 1D12. Physics Basis for Compact Ignition Experiments. L. E. Sugiyama, B. Coppi, and M. Nassi.
- 1D13. Nonlinear Gyrofluid Equations for 3D Simulations of ITG Turbulence in a Sheared Slab. G. W. Hammett and W. Dorland.
- 1D14. Field Reversed Configuration (FRC) Equilibrium and Tilt Stability Modification by Energetic Beams. J. W. Cobb, Y. Tomita, T. Tajima, and D. C. Barnes.
- 1D15. Nonlinear Gyroviscous Force and its Effect on Momentum Balance Equations. J. D. Callen and Z. Chang.
- 1D16. Comparison Between Numerical Computations of Island Size with the BETAS Code and Other Solutions. O. Betancourt.
- 1D17. Computational Study of Inertial Range Spectral Transfer by ExB and Polarization Drift Nonlinearities. D. E. Newman, P. W. Terry, and P. H. Diamond.
- 1D18. Nonlinear Interaction of Radial Eigenmodes in ITG Turbulence. X.-H. Wang and P. H. Diamond.
- 1D19. Dynamics of Toroidal Electron Drift Wave Turbulence. P. H. Diamond, X.-H. Wang, and H. Biglari.
- 1D20. Trapped Ion Turbulence in Tokamaks. X. Garbet, L. Laurent, F. Mourgues, J. P. Roubin, A. Samain, X. L. Zou, and J. Chinardet.
- 1D21. The Second Criterion for a Thermonuclear Reactor and some Possible Ways to Lower It. H. Wang.
- 1D22. Effects of Interacting Magnetic Islands on Magnetic Topology and Plasma Transport. C. C. Hegna and J. D. Callen.
- 1D23. Effects of the Electron Temperature Gradient on the Instability due to the Ion Temperature Gradient. C.-B. Kim and W. Horton.
- 1D24. 3-D MHD Simulations of RFPs Including Self-Consistent Transport. R. A. Nebel and D. D. Schnack.
- 1D25. Empirical Orthogonal Functions for ITG Turbulence Simulation. R. H. Cohen, G. R. Smith, and A. M. Dimits.
- 1D26. On Resonant Excitation of High-n Magnetohydrodynamic Modes by Energetic Ions/Alpha Particles in Tokamaks. L. Chen and H. Biglari.
- 1D27. Guiding Center Diffusion Induced by Stochastic GradB- and Curvature Drifts. J. Vitela, M. Coronado, and A. Z. Akcasu.
- 1D28. Edge Turbulent Transport Critical Comparisons. D. R. Thayer, P. H. Diamond, G. R. Tynan, and Ch. P. Ritz.
- 1D29. Electric Field Inhomogeneities and Ion Temperature Gradient Modes in a Sheared Slab. G. M. Staebler and R. R. Dominguez.
- 1D30. Gyrokinetic Particle Simulation of Impurity Transport. R. A. Santoro, W. W. Lee, and J. V. W. Reynders.

- 1D31. Gyrokinetic Particle Simulation of Finite-beta Modified Ion Temperature Gradient Drift Instabilities. J. V. W. Reynders and W. W. Lee.  
1D32. A New Look at Time Dependent Transport of Magnetic Helicity. R. W. Moses.  
1D33. Control Theoretic Techniques Applied to Tokamak Controls. F. J. Helton, J. M. Greene, and J. W. Helton.  
1D34. Study of Alfvén Wave Instabilities Using a Hybrid Particle-Fluid Code. F. Y. Gang, D. J. Sigmar, and J. N. Leboeuf.  
1D35. Stabilizing Tokamak Microturbulence by Driven Poloidal Rotation. A. B. Hassam.  
1D36. Simulation and Modeling of Dissipative Drift Wave Turbulence. A. E. Koniges, J. A. Crotinger, W. P. Dannevik, and P. H. Diamond.  
1D37. Super Classical Heat and Particle Transport in Fusion Plasmas. R. J. Taylor.

1E SPECIAL SESSION ON NEW DIRECTIONS

8:00 - 10:00pm

Presiding: A. Hasegawa

- 1E1. Non-Energy Applications of Fusion Research. J. M. Dawson.  
1E2. The Plasma Physics of Plasma Processing. L. Shoet.

TUESDAY MORNING

2A Invited Paper

8:30am - 9:20am

Presiding: B. Cohen

- 2A1. Experiments on Collisionless Reconnection and the Interaction of Current Channels. W. Gekelman.

2B ORAL SESSION

9:30am - 12:30pm

Presiding: W. Tang

- 2B1. Landau Fluid Equations for Finite Beta Three Species Alfvén Waves. C. L. Hedrick.  
2B2. Unified Plasma Fluid/Kinetic Equations for Tokamak Microinstability and Turbulence Studies. Z. Chang, J. D. Callen, and J. P. Wang.  
2B3. Studies of  $m=1$  Modes in High-Temperature Plasmas with a Four-Field Model. A. Y. Aydemir.  
2B4. Rotation Velocity Profile Control by Slow Electromagnetic Waves. T. H. Jensen and A. W. Leonard.  
2B5. Fast Electron Transport in Current Drive. K. Kupfer, A. Bers, and A. K. Ram.  
2B6. Drift and Diffusive Losses of Alpha Particles Caused by Toroidal Alfvén Eigenmodes. D. J. Sigmar and C. T. Hsu.

TUESDAY AFTERNOON

2C POSTER SESSION

2:00pm - 4:00pm

- 2C1. Quasilinear Evolution of the Beam-Plasma Instability in the Turbulent Trapping Regime. D. Escande, I. Doxas, J. R. Cary, and A. Verga.  
2C2. Connection between Recurrence Time Statistics and Anomalous Transport. G. M. Zaslavsky and M. K. Tippet.

- 2C3. The Unstable  $l=1$  Diocotron Mode in a Hollow Electron Column. S. N. Rasband and R. L. Spencer.
- 2C4. Linear and Nonlinear Evolution of Resistive Ballooning Modes with Kinetic Corrections. E. Uchimoto and H. R. Strauss.
- 2C5. Semi-Implicit Gyrokinetic Particle Simulation. T. J. Williams, B. I. Cohen, A. M. Dimits, and L. L. LoDestro.
- 2C6. Electromagnetic Wave Scattering from Magnetic Fluctuations in Tokamaks. G. Vahala, L. Vahala, and N. Bretz.
- 2C7. Toroidal Alfvén Eigenmodes in a Finite Pressure Equilibrium. F. Zonca and L. Chen.
- 2C8. Simulation of the Thin Shell and Secondary Shell HBTXIC Experiments. D. D. Schnack and C. G. Gimblett.
- 2C9. Theory-based Transport Simulations of Tokamak Temperature Profiles. G. Bateman, M. H. Redi, J. C. Cummings, C. E. Singer, and J. Kinsey.
- 2C10. A quasilinear Description for Fast Wave Minority Heating Permitting Off Magnetic Axis Heating in a Tokamak. P. J. Catto and J. R. Myra.
- 2C11. A Generalized Deltaf Method. D. C. Barnes.
- 2C12. Bootstrap Current and Viscous Forces in D-T Plasmas. J. P. Wang and J. D. Callen.
- 2C13. Spectrum of Turbulent Fluctuations in the Presence of Self-Induced Poloidal Shear Flow. P. W. Terry and P. H. Diamond.
- 2C14. Feedback Control of the Thermonuclear Thermal Instability with a Poloidal Divertor Suppressor. A. K. Sen, M. Lisak, and D. Anderson.
- 2C15. Stochastic Broadening in the divertor Region Using the Standard Map. A. Punjabi, A. Verma, and A. H. Boozer.
- 2C16. Equilibrium Current Profiles in Tokamaks. D. Ernst and B. Coppi.
- 2C17. Extensions of Neoclassical Transport Theory for Collisional Ions in Strongly-Rotating Tokamak Plasmas. W. M. Stacey, Jr..
- 2C18. Physics of a Highly Nonequilibrium Ion Distribution: The Polywell/SCIF. N. A. Krall, V. Stefan, and M. Rosenberg.
- 2C19. Gyrokinetic Particle Simulation of Ion Temperature Gradient Instabilities in 3D Toroidal Geometry. S. E. Parker and W. W. Lee.
- 2C20. Form Invariance in Convective-Diffusion Systems with Applications. S. M. Mahajan, P. M. Valanju, and W. L. Rowan.
- 2C21. Ion and Electron Heating in Resistive MHD Turbulence. N. Mattor and P. W. Terry.
- 2C22. Further Considerations of Large Aspect Ratio High Beta Equilibrium and Stability. S. C. Cowley and R. M. Kulsrud.
- 2C23. Nonlinear Gyrokinetic Theory of Ion Temperature Gradient Driven Modes with Velocity Shear. T. S. Hahn, W. M. Tang, and M. Artun.
- 2C24. Analysis of the Particle Diffusion Induced by Stochastic Field Fluctuations Using the Fluid Approach. M. Coronado.
- 2C25. Comparison of ATF and TJ-II Stellarator Equilibria as Computed by the 3-D VMEC and PIES Codes. J. L. Johnson, D. A. Monticello, A. H. Reiman, A. Salas, and S. P. Hirshman.
- 2C26. Theoretical Studies of Electron Absorption by Ion Cyclotron RF Fast Waves. P. T. Bonoli and M. Porkolab.
- 2C27. Alpha Particle Detection by Fully Electromagnetic Thomson Scattering. R. E. Aamodt and D. A. Russell.
- 2C28. Steady State D-T Burning Tokamak. R. J. Bickerton.
- 2C29. Calculation of Ideal MHD Growth Rate with Compressibility for Three-Dimensional Stellarator Plasmas. G. Y. Fu, W. A. Cooper, R. Gruber, D. V. Anderson, and U. Schwenn.
- 2C30. Particle and Energy Confinement Bifurcation in Tokamaks. F. L. Hinton.
- 2C31. Microscopic Theory and Simulation of Low-Frequency Plasma Motion. P. P. Sosenko, V. K. Decyk, R. D. Sydora, and J. M. Dawson.
- 2C32. Simulation Study of MHD Relaxation and Reconnection Processes in RFP Plasma. K. Kusano, K. Kunitomo, Y. Suzuki, T. Tamano, and T. Sato.
- 2C33. Waves in Electron Magnetohydrodynamics (EMH). E. Hameiri.
- 2C34. Fast Axisymmetric Stability Calculations Using Variational Techniques. S. W. Haney, L. D. Pearlstein, and R. H. Bulmer.

- 2C35. Nonlinear Magnetohydrodynamics by Galerkin-Method Computation. X. Shan, D. Montgomery, and H. Chen.  
2C36. The Force on a Plasma due to an Electromagnetic Wave. A. H. Boozer.

2D POSTER SESSION

4:00pm - 6:00pm

- 2D1. 2D-Hybrid Particle Model with Non-Linear Electron Distribution. A. Tarditi.  
2D2. 3-D Hybrid Kinetic/MHD Simulation for the Energetic Particle Effects. W. Park, S. E. Parker, W. W. Lee, D. A. Monticello, T. S. Hahn, S. C. Jardin, L. Chen, C. Z. Cheng, and R. B. White.  
2D3. Radiative Instability in a Diverted Plasma. H. Capes, Ph. Ghendrih, and A. Samain.  
2D4. Bootstrap Equilibria in Tokamaks. R. Iacono and A. Bhattacharjee.  
2D5. Fluid Model for Bounce-Averaged Trapped Electrons. F. W. Perkins and G. W. Hammett.  
2D6. Resistive MHD Studies of TFTR Discharges. M. H. Hughes, M. W. Phillips, S. A. Sabbagh, and R. V. Budny.  
2D7. Tokamak Magnetic Islands in the Presence of Nonaxisymmetric Perturbations. A. H. Reiman and D. A. Monticello.  
2D8. Spatio-Temporal Chaos in the Saturation of an Unstable Wavepacket. C. C. Chow, A. Bers, and A. K. Ram.  
2D9. Particle Transport and Rotation Damping due to Stochastic Field Lines. J. M. Finn, A. A. Chernikov, and P. N. Guzdar.  
2D10. Resistive MHD in Tokamak Edge Regions. H. R. Strauss.  
2D11. Fueling Effects on Drift Wave Turbulence. A. S. Ware, P. H. Diamond, B. A. Carreras, and H. Biglari.  
2D12. Stochastic Diffusion in Two-Dimensional Periodic Flows. I. Doxas, W. Horton, and H. L. Berk.  
2D13. Two Dimensional Modeling of Loop and Folded Waveguide ICRF Antennas. D. B. Batchelor, M. D. Carter, E. F. Jaeger, J. S. Tolliver, and R. C. Goldfinger.  
2D14. Simulation of Divertor Biasing and Cross-Field Drifts Using the B2 Edge-Plasma Code. T. D. Rognlien, J. L. Milovich, and M. E. Rensink.  
2D15. Fluid Model Description of Tokamak Edge Turbulence. L. A. Charlton, J. N. Leboeuf, B. A. Carreras, P. H. Diamond, A. S. Ware, Ch. P. Ritz, and A. J. Wootton.  
2D16. Non-Local Effects of Alpha Particles on Second-Harmonic ICRF Heating. O. Sauter and J. Vaclavik.  
2D17. Drift Resistive Ballooning Modes and Edge Fluctuations. D. McCarthy, P. N. Guzdar, J. F. Drake, T. M. Antonsen, Jr., and A. B. Hassam.  
2D18. Scattering and Localizability of ECH Power in PBX. G. R. Smith, A. N. Kaufman, and D. R. Cook.  
2D19. Analytic and Computational Studies of Inertial-Electrostatic Confinement. L. Turner and R. A. Nebel.  
2D20. Stochastic Losses of Alpha Particles in Tokamak. J. R. Cary and S. G. Shasharina.  
2D21. Numerical Simulation of Drift Wave Turbulence in Fluid Models with Landau Damping. R. E. Waltz and G. D. Kerbel.  
2D22. A Self-Consistent Model for Carbon Pellet-Plasma Interaction. L. Vahala, G. A. Gerdin, A. G. ElCashian, and P. B. Parks.  
2D23. MFE2 A General-Purpose 2D Moving Finite Element Code for Nonlinear, Time-Dependent Fluid Problems. A. H. Glasser, K. Miller, and N. Carlson.  
2D24. Moment Expansions and the Neoclassical Approximation for a Model Kinetic Equation. D. C. Stevens and H. Weitzner.  
2D25. Weakly Nonlinear Theory of Multiple-Helicity Resistive Interchange Modes. H. Sugama.  
2D26. Properties of  $c/\omega_{pe}$  Filaments. H. Ramachandran, K. Reitzel, G. J. Morales, and B. D. Fried.  
2D27. Nonlinear Dynamics of the Toroidal Alfvén Gap Mode Driven by the Diffusing Alpha Particles. C. T. Hsu, D. J. Sigmar, B. N. Breizman, and H. L. Berk.  
2D28. Nonlinear Dynamic Models Displaying Temporal Features of Sawtooth Oscillations. A. Thyagaraja and F. A. Haas.  
2D29. Two-Dimensional Gyrokinetic Simulation Studies. L. L. LoDestro, B. I. Cohen, A. M. Dimits, and T. J. Williams.  
2D30. Linear Stability Study of High-n Trapped Electron Modes for the ATF Torsatron. N. A. Dominguez, B. A. Carreras, V. E. Lynch, and P. H. Diamond.  
2D31. Steady-state Dynamo and Current Drive in a Nonuniform Bounded Plasma. R. R. Mett and J. B. Taylor.

- 2D32. Tokamak Transport Driven by Quasineutrality and Helical Asymmetry. P. Garabedian and M. Taylor.  
2D33. Relativistic Relationship Between Toroidal Rotation and Charge Density in Tokamaks. E. R. Solano.  
2D34. Destabilization of the Toroidicity-Induced Shear Alfvén Eigenmode by Alpha Populations Using Fluid Moment Descriptions. D. A. Spong, B. A. Carreras, C. L. Hedrick, N. A. Dominguez, L. A. Charlton, and J. N. Leboeuf.  
2D35. Plasma Equilibria as Extremal States. D. Montgomery.  
2D36. A Simplified Approach to Pinch Equilibrium. N. A. Salingaros.

BANQUET 6:15 - 10:00pm

WEDNESDAY MORNING

3B ORAL SESSION

8:30am - 10:30am

Presiding: D. Barnes

- 3B1. Alpha Particle Destabilization of the TAE Modes. C. Z. Cheng.  
3B2. Theoretical Structure of Toroidal Alfvén Eigenmodes. H. L. Berk, J. Van Dam, and D. Lindberg.  
3B3. A Tearing Mode Energy Principle for an Axisymmetric, Finite Beta Configuration. J. M. Greene, M. S. Chu, R. L. Dewar, and A. Pletzer.  
3B4. Collisionless Magnetic Reconnection. B. Coppi and P. Detragiache.

3C POSTER SESSION

10:30am - 12:30pm

- 3C1. Derivation of a Reduced Kinetic Equation Using Lie-Transform Techniques. A. Brizard.  
3C2. The LOCUS Interface to the MFE Database. W. H. Miner, Jr..  
3C3. Stabilization of Resistive Internal Kinks by Energetic Particles. S. Migliuolo, B. Coppi, and M. Nassi.  
3C4. Cyclotron Harmonic Emission from the Generalized Kirchhoff's Law. V. F. Shvets and D. G. Swanson.  
3C5. Effect of Drift-Alfvén Wave Fluctuations on Internal Resistive Kink. C. Litwin and S. C. Prager.  
3C6. Eliminating Vacuum Magnetic Field Asymmetries in Tokamaks. J. D. Hanson.  
3C7. General Analysis of Magnetic Loop Positioning for Plasma Control in Ignition Tokamaks. R. R. Khayrutdinov, E. A. Azizov, R. Carrera, J. Q. Dong, and E. Montalvo.  
3C8. An Unstructured Second-Order Godunov Method for Transverse MHD. Z. Mikic, D. D. Schnack, I. Lottati, S. Eidelman, and A. T. Drobot.  
3C9. Theory and Simulation Study of Surface Waves in Bounded Plasma. X. Q. Xu, G. DiPeso, V. Vahedi, and C. K. Birdsall.  
3C10. Presheath and Current-Free Double Layer in a Two-Electron-Population Plasma or a Plasma with Negative Ions. K. Sato.  
3C11. Drift Wave Vortices in Inhomogeneous Plasmas and Sheared Magnetic Fields. X. N. Su, W. Horton, and P. J. Morrison.  
3C12. Implementing a Fully Implicit Numerical Scheme in a 2-D Fluid Code with the Krylov Method. J. L. Milovich, M. E. Rensink, and T. D. Rognlien.  
3C13. MHD Stability Theory Formulated in Terms of a Scalar Representation. E. K. Maschke.  
3C14. Map Model for Alpha Particle Containment with Toroidal Alfvén Eigenmode. B. N. Breizman, H. L. Berk, and H. Ye.  
3C15. Effect of Nonstandard Trapped Particle Orbits on  $m=1$  Perturbations. F. Porcelli, H. L. Berk, and Y. Z. Zhang.  
3C16. Gyrokinetic Numerical Simulation Studies of unstable  $\eta(i)$  Modes. H. V. Wong, K. Jungwirth, and H. L. Berk.

- 3C17. Alpha Particle Motion in Toroidal Alfvén Eigenmodes. H. Ye, H. L. Berk, and V. Yavorskii.
- 3C18. Computer Simulation of Transport Driven Current in Tokamaks. W. J. Nunan, R. D. Sydora, and J. M. Dawson.
- 3C19. Tokamak Formation and Sustainment by Tokamak Injection. R. Farengo and T. R. Jarboe.
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