

## List of Publications and Presentations

### Ph.D. Dissertation

D. Craig, *Controlling Fluctuations and Transport in the Reversed Field Pinch with Edge Current Drive and Plasma Biasing*, Ph.D. thesis, University of Wisconsin - Madison (1998).

### Refereed Journal Articles

#### From Work at University of Wisconsin - Madison:

**D. Craig**, D.J. Den Hartog, D.A. Ennis, S. Gangadhara, and D. Holly, "High throughput spectrometer for fast localized Doppler measurements," *Review of Scientific Instruments* **78**, 013103 (2007).

S. Gangadhara, **D. Craig**, D.A. Ennis, D.J. Den Hartog, G. Fiksel, and S.C. Prager, "Spatially resolved measurements of ion heating during impulsive reconnection in the Madison Symmetric Torus," *Physical Review Letters* **98**, 075001 (2007).

D. Craig, R. Goldston, T.R. Jarboe, B.A. Nelson, C.R. Sovinec, S. Woodruff, and G. Wurden, "Chair summaries from the 2006 Innovative Confinement Concepts (ICC) Workshop," *Journal of Fusion Energy* **26**, 3 (2007).

W. X. Ding, D.L. Brower, B.H. Deng, A.F. Almagri, **D. Craig**, G. Fiksel, V. Mirnov, S.C. Prager, J.S. Sarff, and V. Svidzinski, "The Hall dynamo effect and nonlinear mode coupling during sawtooth magnetic reconnection," *Physics of Plasmas* **13**, 112306 (2006).

D.J. Den Hartog, **D. Craig**, D.A. Ennis, G. Fiksel, S. Gangadhara, D.J. Holly, J.C. Reardon, V.I. Davydenko, A.A. Ivanov, A.A. Lizunov, M.G. O'Mullane, and H.P. Summers, "Advances in neutral-beam-based diagnostics on the Madison Symmetric Torus reversed-field pinch," *Review of Scientific Instruments* **77**, 10F122 (2006).

S. Gangadhara, **D. Craig**, D.A. Ennis, and D.J. Den Hartog, "Modeling fast charge exchange recombination spectroscopy measurements from the Madison Symmetric Torus," *Review of Scientific Instruments* **77**, 10F109 (2006).

A. Kuritsyn, **D. Craig**, G. Fiksel, M. Miller, D. Cylinder, and M. Yamada, "Local measurements of plasma ion dynamics with optical probes," *Review of Scientific Instruments* **77**, 10F112 (2006).

P. Franz, F. Bonomo, L. Marrelli, P. Martin, P. Pioveson, G. Spizzo, B.E. Chapman, **D. Craig**, D.J. Den Hartog, J.A. Goetz, R.O'Connell, S.C. Prager, M. Reyfman, and J.S. Sarff, "Two-dimensional time resolved measurements of the electron temperature in MST," *Review of Scientific Instruments* **77**, 10F318 (2006).

J.-W. Ahn, D. Craig, G. Fiksel, D.J. Den Hartog, J.K. Anderson, and M.G. O'Mullane, "Development of fast helium emission spectroscopy on MST," *Review of Scientific Instruments* **77**, 10F114 (2006).

S.H. Choi, **D. Craig**, S.C. Prager, "Cause of Sudden Magnetic Reconnection in a Laboratory Plasma," *Physical Review Letters* **96**, 145004 (2006).

P. Franz, L. Marrelli, P. Piovesan, I. Predebon, F. Bonomo, L. Frassinetti, P. Martin, G. Spizzo, B.E. Chapman, **D. Craig**, and J.S. Sarff, "Tomographic imaging of resistive mode dynamics in the Madison Symmetric Torus reversed-field pinch," *Physics of Plasmas* **13**, 012510 (2006).

S.C. Prager, J. Adney, A. Almagri, J. Anderson, A. Blair, D.L. Brower, M. Cengher, B.E. Chapman, S. Choi, **D. Craig**, S. Combs, D.R. Demers, D.J. Den Hartog, B. Deng, W.X. Ding, F. Ebrahimi, D. Ennis, G. Fiksel, R. Fitzpatrick, C. Foust, C.B. Forest, P. Franz, L. Frassinetti, J. Goetz, D. Holly, B. Hudson, M. Kaufman, T. Lovell, L. Marrelli, P. Martin, K. McCollam, V.V. Mirnov, P. Nonn, R. O'Connell, S. Oliva, P. Piovesan, I. Predebon, J.S. Sarff, G. Spizzo, V. Svidzinski, M. Thomas, E. Uchimoto, R. White and M. Wyman, *Nuclear Fusion*, **45**, S276 (2005).

L. Marrelli, L. Frassinetti, P. Martin, **D. Craig**, and J.S. Sarff, "Reduced intermittency in the magnetic turbulence of reversed field pinch plasmas," *Physics of Plasmas*, **12**, 030701 (2005).

P. Piovesan, **D. Craig**, L. Marrelli, S. Cappello, and P. Martin, "Measurements of the MHD Dynamo in the Quasi-Single Helicity Reversed-Field Pinch," *Physical Review Letters*, **93**, 235001 (2004).

D.R. Demers, K.A. Conner, P.M. Schoch, R.J. Radke, J.K. Anderson, **D. Craig**, and D.J. Den Hartog, "Development of magnetic field line mapping via heavy ion beam spectral imaging," *Review of Scientific Instruments*, **75**, 4187 (2004).

W.X. Ding, D.L. Brower, B.H. Deng, **D. Craig**, S.C. Prager, and V. Svidzinski, "Laser Faraday Rotation Measurement of current density fluctuations and electromagnetic torque," *Review of Scientific Instruments*, **75**, 3387 (2004).

W. X. Ding, D. L. Brower, **D. Craig**, B. H. Deng, G. Fiksel, V. Mirnov, S. C. Prager, J. S. Sarff, and V. Svidzinski, "Measurement of the Hall Dynamo Effect during Magnetic Reconnection in a High-Temperature Plasma," *Physical Review Letters*, **93**, 045002-1 (2004).

B.E. Chapman, R. Fitzpatrick, **D. Craig**, P. Martin, G. Spizzo, "Observation of tearing mode deceleration and locking due to eddy currents induced in a conducting shell," *Physics of Plasmas*, **11**, 2156 (2004).

S. D. Terry, D. L. Brower, W. X. Ding, J. K. Anderson, T. M. Biewer, B. E. Chapman, **D. Craig**, C. B. Forest, R. O'Connell, S. C. Prager, and J. S. Sarff, "Measurement of current profile dynamics in the Madison Symmetric Torus," *Physics of Plasmas*, **11**, 1079 (2004).

R. O'Connell, D. J. Den Hartog, C. B. Forest, J. K. Anderson, T.M. Biewer, B. E. Chapman, **D. Craig**, G. Fiksel, S. C. Prager, J. S. Sarff, S. D. Terry, and R.W. Harvey, "Confinement of Energetic Electrons in the Reversed Field Pinch," *Physical Review Letters*, 91, 045002-1 (2003).

J.S. Sarff, J.K. Anderson, T.M. Biewer, D.L. Brower, B.E. Chapman, P.K. Chattopadhyay, **D. Craig**, B. Deng, W.X. Ding, G. Fiksel, C.B. Forest, J.A. Goetz, R. O'Connell, S.C. Prager, and M.A. Thomas, "Tokamak-like confinement at a high beta and low field in the reversed field pinch," *Plasma Physics and Controlled Fusion*, **45**, A457 (2003).

H. Sakakita, **D. Craig**, J.K. Anderson, T.M. Biewer, S.D. Terry, B.E. Chapman, D.J. Den Hartog, S.C. Prager, "Behavior of Impurity Ion Velocities during the Pulsed Poloidal Current Drive in the Madison Symmetric Torus Reversed-Field Pinch," *Japanese Journal of Applied Physics*, **42**, L505 (2003).

P. Martin, L. Marrelli, G. Spizzo, P. Franz, P. Piovesan, I. Predebon, T. Bolzonella, S. Cappello, A. Cravotta, D.F. Escande, L. Frassinetti, S. Ortolani, R. Paccagnella, D. Terranova, the RFX team, B.E. Chapman, **D. Craig**, S.C. Prager, J.S. Sarff, the MST team, P. Brunzell, J.-A. Malmberg, J. Drake, the EXTRAP T2R team, Y. Yagi, H. Koguchi, Y. Hirano, the TPE-RX team, R.B. White, C. Sovinec, C. Xiao, R.A. Nebel and D.D. Schnack, "Overview of quasi-single helicity experiments in reversed field pinches," *Nuclear Fusion*, **43**, 1855 (2003).

J.S. Sarff, A.F. Almagri, J.K. Anderson, T.M. Biewer, A.P. Blair, M. Cengher, B.E. Chapman, P.K. Chattopadhyay, **D. Craig**, D.J. Den Hartog, F. Ebrahimi, G. Fiksel, C.B. Forest, J.A. Goetz, D. Holly, B. Hudson, T.W. Lovell, K.J. McCollam, P.D. Nonn, R. O'Connell, S.P. Oliva, S.C. Prager, J.C. Reardon, M.A. Thomas, M.D. Wyman, D.L. Brower, W.X. Ding, S.D. Terry, M.D. Carter, V.I. Davydenko, A.A. Ivanov, R.W. Harvey, R.I. Pinsker and C. Xiao, "Tokamak-like confinement at a high beta and low toroidal field in the MST reversed field pinch," *Nuclear Fusion*, **43**, 1684 (2003).

D.L. Brower, W.X. Ding, S.D. Terry, J.K. Anderson, T.M. Biewer, B.E. Chapman, **D. Craig**, C.B. Forest, S.C. Prager, and J.S. Sarff, "Laser Polarimetric measurement of equilibrium and fluctuating magnetic field in a reversed field pinch," *Review of Scientific Instruments*, **74**, 1534 (2003).

J.C. Reardon, **D. Craig**, D.J. Den Hartog, G. Fiksel, and S.C. Prager, "Comparison of ion temperature diagnostics on the Madison symmetric torus reversed-field pinch," *Review of Scientific Instruments*, **74**, 1892 (2003).

D.R. Demers, P.M. Schoch, R.J. Radke, J.K. Anderson, **D. Craig**, and D.J. Den Hartog, "Spectroscopic ion beam imaging for investigations into magnetic field mapping of a plasma," *Review of Scientific Instruments*, **74**, 2103 (2003).

J.K. Anderson, P.L. Andrew, B.E. Chapman, **D. Craig**, and D.J. Den Hartog, "Direct removal of edge-localized pollutant emission in a near-infrared bremsstrahlung measurement," *Review of Scientific Instruments*, **74**, 2107 (2003).

C. Xiao, P. Franz, B.E. Chapman, **D. Craig**, W.X. Ding, G. Gadani, L. Marrelli, P. Martin, R.

Pasqualotto, G. Spizzo, J.S. Sarff, S.D. Terry, "Soft x-ray emission, plasma equilibrium, and fluctuation studies on Madison Symmetric Torus," *Review of Scientific Instruments*, **74**, 2157 (2003).

W.X. Ding, D.L. Brower, S.D. Terry, **D. Craig**, S.C. Prager, J.S. Sarff, and J.C. Wright, "Measurement of Internal Magnetic Field Fluctuations in a Reversed-Field Pinch by Faraday Rotation," *Physical Review Letters*, **90**, 035002 (2003).

L. Marrelli, P. Martin, G. Spizzo, P. Franz, B.E. Chapman, **D. Craig**, J.S. Sarff, T.M. Biewer, S.C. Prager, and J.C. Reardon, "Quasi-single helicity spectra in the Madison Symmetric Torus," *Physics of Plasmas*, **9**, 2868 (2002).

B. E. Chapman, A. F. Almagri, J. K. Anderson, T. M. Biewer, P. K. Chattopadhyay, C.-S. Chiang, **D. Craig**, D. J. Den Hartog, G. Fiksel, C. B. Forest, A. K. Hansen, D. Holly, N. E. Lanier, R. O'Connell, S. C. Prager, J. C. Reardon, J. S. Sarff, M. D. Wyman, D. L. Brower, W. X. Ding, Y. Jiang, S. D. Terry, P. Franz, L. Marrelli, and P. Martin, "High confinement plasmas in the Madison Symmetric Torus reversed-field pinch," *Physics of Plasmas*, **9**, 2061 (2002).

P.K. Chattopadhyay, J.K. Anderson, T. Biewer, **D. Craig**, and C.B. Forest, "Electron Bernstein Wave Emission from an Over-Dense Reversed Field Pinch Plasma," *Physics of Plasmas*, **9**, 752 (2002).

D.L. Brower, W.X. Ding, S.D. Terry, J.K. Anderson, T.M. Biewer, B.E. Chapman, **D. Craig**, C.B. Forest, S.C. Prager, and J.S. Sarff, "Measurement of the Current-Density Profile and Plasma Dynamics in the Reversed-Field Pinch," *Physical Review Letters*, **88**, 185005 (2002).

B.E. Chapman, J. K. Anderson, T. M. Biewer, D. L. Brower, S. Castillo, P. K. Chattopadhyay, C.-S. Chiang, **D. Craig**, D. J. Den Hartog, G. Fiksel, P. W. Fontana, C. B. Forest, S. Gerhardt, A. K. Hansen, D. Holly, Y. Jiang, N. E. Lanier, S. C. Prager, J. C. Reardon, and J. S. Sarff "Reduced Edge Instability and Improved Confinement in the MST Reversed Field Pinch," *Physical Review Letters*, **87**, 205001 (2001).

N.E. Lanier, **D. Craig**, J.K. Anderson, T.M. Biewer, B.E. Chapman, D.J. Den Hartog, C.B. Forest, S.C. Prager, D.L. Brower, and Y. Jiang, "An investigation of density fluctuations and electron transport in the Madison Symmetric Torus reversed-field pinch," *Physics of Plasmas*, **8**, 3402 (2001).

**D. Craig**, G. Fiksel, S.C. Prager, J.S. Sarff, "Control of Magnetic Fluctuations in the Reversed Field Pinch with Edge Current Drive," *Physics of Plasmas*, **8**, 1463 (2001).

**D. Craig**, D.J. Den Hartog, G. Fiksel, V.I. Davydenko, A.A. Ivanov, "First Charge Exchange Recombination Spectroscopy and Motional Stark Effect Results from the Madison Symmetric Torus Reversed Field Pinch," *Review of Scientific Instruments*, **72**, 1008 (2001).

N. E. Lanier, **D. Craig**, J. K. Anderson, T. M. Biewer, B. E. Chapman, D. J. Den Hartog, C. B. Forest, S. C. Prager, D. L. Brower and Y. Jiang, "Measurement of Electron Transport in the Madison Symmetric Torus Reversed-Field Pinch," *Review of Scientific Instruments*, **72**, 1039

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J.S. Sarff, A.F. Almagri, J.K. Anderson, B.E. Chapman, **D. Craig**, C.-S. Chiang, N.A. Crocker, D.J. Den Hartog, G. Fiksel, A.K. Hansen, and S.C. Prager, "Plasma Flow in MST: Effects of Edge Biasing and Momentum Transport from Nonlinear Magnetic Torques," *Czechoslovak Journal of Physics*, **50**, 1471 (2000).

D.J. Den Hartog, and **D. Craig**, "Isotropy of Ion Heating During a Sawtooth Crash in a Reversed Field Pinch," *Plasma Physics and Controlled Fusion*, **42**, L47 (2000).

B.E. Chapman, T.M. Biewer, P.K. Chattopadhyay, C.-S. Chiang, **D.J. Craig**, N.A. Crocker, D.J. Den Hartog, G. Fiksel, P.W. Fontana, S.C. Prager, and J.S. Sarff, "Modifications to the Edge Current Profile with Auxiliary Edge Current Drive and Improved Confinement in a Reversed-Field Pinch," *Physics of Plasmas*, **7**, 3491 (2000).

A.K. Hansen, A.F. Almagri, **D. Craig**, D.J. Den Hartog, C. Hegna, S.C. Prager, J.S. Sarff, "Momentum Transport from Nonlinear Mode Coupling of Magnetic Fluctuations," *Physical Review Letters*, **85**, 3408 (2000).

N. E. Lanier, **D. Craig**, J. K. Anderson, T. M. Biewer, B. E. Chapman, D. J. Den Hartog, C. B. Forest, S. C. Prager, D. L. Brower and Y. Jiang, "Reduction of Density Fluctuations and Particle Transport in the Reversed-Field Pinch," *Physical Review Letters*, **85**, 2120 (2000).

D. J. Den Hartog, J. T. Chapman, **D. Craig**, G. Fiksel, P. W. Fontana, S. C. Prager, and J. S. Sarff, "Measurement of core velocity fluctuations and the dynamo in a reversed field pinch," *Physics of Plasmas*, **6**, 1813 (1999).

A. F. Almagri, J. T. Chapman, C. S. Chiang, **D. Craig**, D. J. Den Hartog, C. C. Hegna, S. C. Prager, "Momentum transport and flow damping in the reversed field pinch plasma," *Physics of Plasmas*, **5**, 3982 (1998).

B. E. Chapman, A. F. Almagri, J. K. Anderson, C. S. Chiang, **D. Craig**, G. Fiksel, N. E. Lanier, S. C. Prager, J. S. Sarff, M. R. Stoneking, P. W. Terry, "E x B flow shear and enhanced confinement in the Madison Symmetric Torus reversed field pinch," *Physics of Plasmas*, **5**, 1848 (1998).

**D. Craig**, A. F. Almagri, J. K. Anderson, J. T. Chapman, C.-S. Chiang, N. A. Crocker, D. J. Den Hartog, G. Fiksel, S. C. Prager, J. S. Sarff, and M. R. Stoneking, "Enhanced confinement with plasma biasing in the MST reversed field pinch," *Physical Review Letters*, **79**, 1865 (1997).

D. J. Den Hartog, **D. J. Craig**, G. Fiksel, and J. S. Sarff, "Impurities, temperature and density in a miniature electrostatic plasma and current source," *Plasma Sources Science and Technology*, **6**, 492 (1997).

G. Fiksel, A. F. Almagri, **D. Craig**, M. Iida, S. C. Prager, and J. S. Sarff, "High current plasma electron emitter," *Plasma Sources Science and Technology*, **5**, 78 (1996).

J. S. Sarff, A. F. Almagri, M. Cekic, C.-S. Chaing, **D. Craig**, D. J. Den Hartog, G. Fiksel, S. A. Hokin, R. W. Harvey, H. Ji, C. Litwin, S. C. Prager, D. Sinitzyn, C. R. Sovinec, J. C. Sprott, and E. Uchimoto, "Transport reduction by current profile control in the reversed-field pinch," *Physics of Plasmas*, 2, 2440 (1995).

From Work at National Superconducting Cyclotron Laboratory:

P. A. DeYoung, **D. Craig**, C. Dykstra, P. Gonthier, R. Lacey, T. Li, C. Mader, A. Nadasen, G. F. Peaslee, D. Peterson, T. Reposeur, R. Sedlar, S. Sundbeck, N. Shaw, A. Vander Molen, G. Westfall, J. S. Winfield, and S. Yennello, "Sensitivity of small-angle correlations of light charged particles to reaction mechanisms in the  $^{16}\text{O} + ^{27}\text{Al}$  reaction at 40 MeV/nucleon," *Physical Review C*, 56, 244 (1997).

R. Pak, W. J. Llope, **D. Craig**, E. E. Gualtieri, S. A. Hannuschke, R. A. Lacey, J. Lauret, A. C. Mignerey, D. E. Russ, N. T. B. Stone, A. M. Vander Molen, G. D. Westfall, and J. Yee, "Impact parameter dependence of the disappearance of transverse flow in nuclear collisions," *Physical Review C*, 53, R1469 (1996).

R. Pak, **D. Craig**, E. E. Gualtieri, S. A. Hannuschke, R. A. Lacey, J. Lauret, W. J. Llope, N. T. B. Stone, A. M. Vander Molen, G. D. Westfall, and J. Yee, "Radial flow in  $^{40}\text{Ar} + ^{45}\text{Sc}$  reactions at  $E = 35\text{-}115$  MeV/nucleon," *Physical Review C*, 54, 1681 (1996).

W. J. Llope, J. A. Conrad, C. M. Mader, G. Peilert, W. Bauer, **D. Craig**, E. Gualtieri, S. Hannuschke, R. A. Lacey, J. Lauret, T. Li, A. Nadasen, E. Norbeck, R. Pak, N. T. B. Stone, A. M. Vander Molen, G. D. Westfall, J. Yee, and S. J. Yennello, "Autocorrelations and intermediate-mass-fragment multiplicities in central heavy-ion collisions," *Physical Review C*, 51, 1325 (1995).

W. J. Llope, W. Bauer, **D. Craig**, E. E. Gualtieri, S. Hannuschke, R. A. Lacey, J. Lauret, T. Li, C. M. Mader, A. Nadasen, E. Norbeck, R. Pak, G. Peilert, N. T. B. Stone, A. M. Vander Molen, G. D. Westfall, J. Yee, and S. J. Yennello, "The sphericity of central heavy-ion reactions," *Physical Review C*, 52, 1900 (1995).

W. J. Llope, S. E. Pratt, N. Frazier, R. Pak, **D. Craig**, E. E. Gualtieri, S. A. Hannuschke, N. T. B. Stone, A. M. Vander Molen, G. D. Westfall, J. Yee, R. A. Lacey, J. Lauret, A. C. Mignerey, and D. E. Russ, "The fragment coalescence model," *Physical Review C*, 52, 2004 (1995).

T. Li, W. Bauer, **D. Craig**, E. Gualtieri, S. Hannuschke, R. Pak, A. M. Vander Molen, G. D. Westfall, J. S. Winfield, J. Yee, S. J. Yennello, R. Lacey, A. Nadasen, R. S. Tickle, and E. Norbeck, "Mass dependence of critical behavior in nucleus-nucleus collisions," *Physical Review C*, 49, 1630 (1994).

E. Bauge, A. Elmaani, Roy A. Lacey, J. Lauret, N. N. Ajitanand, **D. Craig**, M. Cronqvist, E. Gualtieri, S. Hannuschke, T. Li, B. Llope, T. Reposeur, A. Vander Molen, G. D. Westfall, J. S. Winfield, J. Yee, S. Yennello, A. Nadasen, R. S. Tickle, and E. Norbeck, "Observation of a saturation in the time scale for multifragment emission in symmetric heavy-ion collisions,"

*Physical Review Letters*, 70, 3705 (1993).

T. Li, W. Bauer, **D. Craig**, M. Cronqvist, E. Gaultieri, S. Hannuschke, R. Lacey, W. J. Llope, T. Reposeur, A. M. Vander Molen, G. D. Westfall, W. K. Wilson, J. S. Winfield, J. Yee, S. J. Yennello, A. Nadasen, R. S. Tickle, and E. Norbeck, "Intermediate mass fragment production in central collisions of intermediate energy heavy ions," *Physical Review Letters*, 70, 1924 (1993).

R. A. Lacey, A. Elmaani, J. Lauret, T. Li, W. Bauer, **D. Craig**, M. Cronqvist, E. Gaultieri, S. Hannuschke, T. Reposeur, A. Vander Molen, G. D. Westfall, W. K. Wilson, J. S. Winfield, J. Yee, S. Yennello, A. Nadasen, R. S. Tickle, and E. Norbeck, "Multifragment azimuthal correlation functions: Probes for reaction dynamics in collisions of intermediate energy heavy ions," *Physical Review Letters*, 70, 1224 (1993).

G. D. Westfall, W. Bauer, **D. Craig**, M. Cronqvist, E. Gaultieri, S. Hannuschke, D. Klakow, T. Li, T. Reposeur, A. M. Vander Molen, W. K. Wilson, J. S. Winfield, J. Yee, S. J. Yennello, R. Lacey, A. Elmaani, J. Lauret, A. Nadasen, and E. Norbeck, "Mass dependence of the disappearance of flow in nuclear collisions," *Physical Review Letters*, 71, 1986 (1993).

#### Seminar and Colloquia Presentations

"Motional Stark Effect Measurements of Magnetic Field in MST," Atomic Physics Seminar, University of Wisconsin - Madison, 2002.

"Measuring Fluctuations and Transport in the Core of MST," Plasma Physics Seminar, Columbia University, 1999.

"Electrostatic Current Injection in the MST," Plasma Physics Seminar, University of Wisconsin - Madison, 1998.

#### Invited Conference Presentations

"Ion Heating During Reconnection Events in MST," Invited Talk, April Meeting of the American Physical Society, Dallas, TX, 2006.

"Reconnection and Transport in MST," Invited Talk, Easter Meeting on Stability and Confinement of Magnetized Plasmas, Turin, Italy, 2005.

"Turbulence and Its Effects in Reversed Field Pinch Plasmas," Invited Talk, Meeting on the Interrelations between Plasma Experiments in Laboratory and Space, Whitefish, MT, 2003.

"An Overview of Recent RFP Research," Invited Talk, Innovative Confinement Concepts Workshop, Seattle, WA, 2003.

"Momentum Transport in the MST Reversed Field Pinch," Invited Talk, Joint U.S.-European Transport Task Force Workshop, Fairbanks, AK, 2001.

"Controlling Edge Resonant Modes and Transport in the MST Reversed Field Pinch," Invited

Talk, Meeting of the American Physical Society - Division of Plasma Physics, Seattle, WA, 1999.

“Improved Confinement Regimes and the Importance of Flows in the Reversed Field Pinch,” Invited Talk, Joint U.S.-European Transport Task Force Workshop, Atlanta, GA, 1998.

#### Contributed Conference Presentations

“Spectral Motional Stark Effect Measurements in MST,” Meeting of the American Physical Society – Division of Plasma Physics, Philadelphia, PA, 2006.

“Ion Confinement and Heating in the MST Reversed Field Pinch,” European Physical Society Conference on Controlled Fusion and Plasma Physics, Rome, Italy, 2006.

“Measurement of Hall Effects During Reconnection in the Madison Symmetric Torus,” Fall American Geophysical Union Meeting, San Francisco, CA, 2005.

“Driven and Spontaneous Reconnection in the Lab and in Astrophysics,” Meeting of the American Physical Society – Division of Plasma Physics, Denver, CO, 2005.

“Experimental Tests of Two-Fluid Relaxation,” General Meeting of the Center on Magnetic Self-Organization in Laboratory and Astrophysical Plasmas, Princeton, NJ, 2005.

“Driven and Spontaneous Reconnection in MST,” General Meeting of the Center on Magnetic-Self Organization in Laboratory and Astrophysical Plasmas, San Diego, CA, 2005.

“Fast Motional Stark Effect Measurements in MST,” Meeting of the American Physical Society – Division of Plasma Physics, Savannah, GA, 2004.

“New Observations Concerning the Origin and Consequences of MHD Activity in the MST Reversed Field Pinch,” Fusion Energy Conference of the International Atomic Energy Agency, Lisboa, Portugal, 2004.

“Momentum Transport,” General Meeting of the Center on Magnetic Self-Organization in Laboratory and Astrophysical Plasmas, Madison, WI, 2004.

“Ion Heating in MST,” International Reversed Field Pinch Workshop, Padova, Italy, 2004.

“A High Throughput Spectrometer for Fast Localized Doppler Measurements,” High Temperature Plasma Diagnostics Meeting, San Diego, CA, 2004.

“MST Progress and Plans,” Meeting of the American Physical Society - Division of Plasma Physics, Albuquerque, NM, 2003.

“Momentum Transport,” Planning Meeting for the Center on Magnetic Self-Organization in Laboratory and Astrophysical Plasmas, Chicago, IL, 2003.

“An Overview of Momentum Transport in Laboratory Plasmas,” Topical Planning Meeting for the Center on Magnetic Self-Organization in Laboratory and Astrophysical Plasmas, Princeton, NJ, 2003.

“Advances in Our Understanding of Fluctuation-Induced Transport,” International Reversed Field Pinch Workshop, Tsukuba, Japan, 2003.

“Spectral Motional Stark Effect Measurements in MST,” Meeting of the American Physical Society - Division of Plasma Physics, Orlando, FL, 2002.

“The Environment for ADAS at the University of Wisconsin - Madison,” Atomic Data and Analysis Structure (ADAS) Workshop, Cadarache, France, 2002.

“Auxiliary Heating and Current Drive in the MST Reversed Field Pinch,” European Physical Society Conference on Controlled Fusion and Plasma Physics, Montreux, Switzerland, 2002.

“Non-reversed Discharges - A Tool for Understanding Reversed Field Pinch Physics,” Meeting of the American Physical Society - Division of Plasma Physics, Long Beach, CA, 2001.

“The Importance of Multi-Mode Control in the Reversed Field Pinch,” Workshop on Active MHD Control, Princeton, NJ, 2000.

“Localized Measurements of Impurity Ion Dynamics in MST,” Meeting of the American Physical Society - Division of Plasma Physics, Quebec City, Canada, 2000.

“First CHERS and MSE Results from the MST Reversed Field Pinch,” Topical Conference on High Temperature Plasma Diagnostics, Tucson, AZ, 2000.

“Transport Reduction in the MST Reversed Field Pinch via Plasma Edge Control,” European Physical Society Conference on Controlled Fusion and Plasma Physics, Budapest, Hungary, 2000.

“Understanding and Controlling Edge Resonant Modes in MST,” International Reversed Field Pinch Workshop, Madison, WI, 2000.

“Generation and Evolution of Plasma Flow in the Reversed Field Pinch,” Innovative Confinement Concepts Workshop, San Francisco, CA, 2000.

“Flow Structure and Dynamo in a Laboratory Plasma,” Meeting on the Interrelations between Plasma Experiments in Laboratory and Space, Kreuth, Germany, 1999.

“Spectroscopic Measurement of Plasma Flow Fluctuations and the MHD Dynamo in a Laboratory Plasma,” Centennial Meeting of the American Physical Society, Atlanta, GA, 1999.

“Response of Magnetic Fluctuations to Electrostatic Current Drive in MST,” Meeting of the American Physical Society - Division of Plasma Physics, New Orleans, LA, 1998.

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