

NSTX Refereed Journal Publications, Acceptances and Submissions 2004 – 2006

2006 (to Aug 28)

1. Alonso, J.A; S.J. Zweben *et al.*
"Impact of different confinement regimes on the two dimensional structure of edge turbulence"
submitted to Plasma Physics and Controlled Fusion
2. Beiersdorfer, P.; M. Bitter, L. Roquemore, J. Lepson, M.F. Gu
"Grazing-Incidence Spectrometer for Soft X-Ray and Extreme Ultraviolet Spectroscopy on the National Spherical Torus Experiment"
Rev. Sci. Inst. - to appear (Oct 2006)
3. Bell, M.G., R.E. Bell, D.A. Gates, S.M. Kaye, H. Kugel, B.P. LeBlanc, F.M. Levinton, R. Maingi, J.E. Menard, R. Raman, S.A. Sabbagh, D. Stutman and the NSTX Research Team
"New capabilities and results for the National Spherical Torus Experiment"
Nucl. Fusion **46** S565-S572 (August 2006)
4. Bell, R.E.
"Carbon Ion Plume Emission Produced by Charge Exchange with Neutral Beams on NSTX"
Rev. Sci. Inst. - to appear (Oct 2006)
5. Crocker, N.A., Peebles, W.A., Kubota, S., Fredrickson, E.D., Kaye, S.M., LeBlanc, B.P., Menard, J.E.
"Three wave interaction between fast ion modes in NSTX"
Phys. Rev. Lett. **97**, 045002 (July 2006)
6. Davis, W.; D.M. Mastrovito, C.E. Bush, D.A. Gates, R.J. Maqueda, J.E. Menard, N. Nishino, P.G. Roney, A.L. Roquemore, S. Sabbagh, B.C. Stratton, S.J. Zweben
"Storage and analysis techniques for fast 2D camera data on NSTX"
Fusion Engineering and Design **81** (2006) 1975-1979
7. Decker, J.; A.K. Ram
"Relativistic description of electron Bernstein waves."
submitted to Phys. Plasmas (2006)
8. Diem, S.; G. Taylor, P.C. Efthimion, B.P. LeBlanc, M. Carter, J. Caughman, J.B. Wilgen, R.W. Harvey, J. Preinhaelter, J. Urban
"Te(R, t) Measurements using Electrom Bernstein Wave Thermal Emission on NSTX"
Rev. Sci. Inst. - to appear (Oct 2006)
9. Dorf, L.A.; A.L. Roquemore, G.A. Wurden, C.M. Ticos, Z. Wang
"Imaging system for hypervelocity dust injection diagnostic on NSTX"
Rev. Sci. Inst. - to appear (Oct 2006)

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10. Doyle, E.J.; A.M. Garofalo, C.M. Greenfield *et al.*
"Progress on Advanced Tokamak and steady-state scenario development on DIII-D and NSTX"
submitted to Plasma Physics and Controlled Fusion
11. Foley, E.L. *et al.*
"Development of LIF-MSE"
Rev. Sci. Inst. - to appear (Oct 2006)
12. Foley, E.L.; Levinton, F.M.
"A collisional-radiative model including sublevel parameters (CRISP) for H-alpha radiation"
Journal of Physics B, **39**(2), 443-453 (2006)
13. Fredrickson, E.D., Bell, R.E., Darrow, D.S., *et al.*
"Collective fast ion instability-induced losses in national spherical tokamak experiment"
Phys. Plasmas **13**(5) 056109 (May 2006)
14. Gates, D.A., Ferron, J.R., Bell, M., *et al.*
"Plasma shape control on the National Spherical Torus Experiment (NSTX) using real-time equilibrium reconstruction"
Nuclear Fusion **46**(1) 17-23 (Jan 2006)
15. Gates, D.A., Kessel, C., Menard, J., *et al.*
"Progress towards steady state on NSTX"
Nuclear Fusion **46**(3) S22-S28 Sp. Iss. (SI Mar 2006)
16. Gates, D.A., Maingi, R., Menard, J., *et al.*
"Effect of plasma shaping on performance in the national spherical torus experiment"
Phys. Plasmas **13**(5) 056122 (May 2006)
17. Gates, D.A.; J.R. Ferron, M. Bell, T. Gibney, R. Johnson, R. J. Marsala, D. Mastrovito, J. E. Menard, D. Mueller, C. Neumeyer, B. Penaflor, T. Stevenson
"Status of the control system on the National Spherical Torus Experiment"
Fusion Engineering and Design **81** (2006) 1911
18. Heidbrink, W. *et al.*
"A Fast-ion D-alpha Diagnostic for NSTX"
Rev. Sci. Inst. - to appear (Oct 2006)
19. Heidbrink, W.W., Fredrickson, E.D., Gorelenkov, N.N., *et al.*
"Observation of compressional Alfvén eigenmodes (CAE) in a conventional tokamak"
Nuclear Fusion **46**(2):324-334 (Feb 2006)
20. Kaye, S.M., Bell, M.G., Bell, R.E., Fredrickson, E.D., LeBlanc, B., Lee, K.C., Lynch, S., Sabbagh, S.A.
"Energy confinement scaling in the low aspect ratio National Spherical Torus Experiment (NSTX)"
Nuclear Fusion **46**(10) (Oct. 2006) 848-857

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21. Kaye, S.M., Valovic M., Chudnovskiy A., *et al.*
"The role of aspect ratio and beta in H-mode confinement scalings"
Plasma Physics and Controlled Fusion **48** A429-A438 Sp. Iss. SI Suppl. 5A (May 2006)
22. Kessel, C.E.; Bell, R.E.; Bell, M.G.; Gates, D.A.; Kaye, S.M.; LeBlanc, B.P.; Menard, J.E.; Phillips, C.K.; Synakowski, E.J.; Taylor, G.; Wilson, R.; Harvey, R.W.; Mau, T.K.; Ryan, P.M.; Sabbagh, S.A.
"Long pulse high performance plasma scenario development for the National Spherical Torus Experiment"
Phys. Plasmas **13**(5) 056108 (May 2006)
23. Kubota, S. *et al.*
"Ultrafast FM-CW Reflectometry on NSTX"
Rev. Sci. Inst. - *to appear* (Oct 2006)
24. Kugel, H. *et al.*
"Effect of Lithium PFC Coatings on NSTX Density Control"
submitted to J. Nucl. Mater.
25. Lee, K.C.
"Radial electric field formation by the gyrocenter shifts of the charge exchange reactions at the boundary of fusion device"
Phys. Plasmas **13**(6) 062505 (June 2006)
26. Lee, K.C.; C.W. Domier, M. Johnson, N.C. Luhmann, Jr., H. Park, V.A. Soukhanovskii
"Survey of diagnostic system for the study of gyrocenter shifts on National Spherical Torus Experiment"
Rev. Sci. Inst. - *to appear* (Oct 2006)
27. Liu, D. *et al.*
"Performance of the Solid-state Neutral Particle Analyzer Array on the National Spherical Torus Experiment"
Rev. Sci. Inst. - *to appear* (Oct 2006)
28. Maingi, R.; C.E. Bush, R. Kaita, H.W. Kugel, A.L. Roquemore *et al.*
"Divertor Heat Flux Scaling with Heating Power and Plasma Current in H-mode Discharges in the National Spherical Torus Experiment"
Journal of Nuclear Materials - *to appear*
29. Maingi, R.; M.G. Bell, E.D. Fredrickson, K.C. Lee, R.J. Maqueda *et al.*
"Characterization of Small, Type V ELMs in the National Spherical Torus Experiment"
Phys. Plasmas - *to appear*
30. Maqueda, R.J. *et al.*
"Three-dimensional structure of MARFES and ELMs in the National Spherical Torus Experiment"
submitted to J. Nucl. Mater.

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31. Menard, J.E.; R.E. Bell, D.A. Gates, S.M. Kaye, B.P. LeBlanc, F.M. Levinton, S.S. Medley, S.A. Sabbagh, D. Stutman, K. Tritz, and H. Yuh
"Observation of instability-induced current redistribution in a spherical-torus plasma"
Phys. Rev. Lett. - *to appear*
32. Meyer, H; Carolan, PG; Conway, GD; Cunningham, G; Horton, LD; Kirk, A; Maingi, R; Ryter, F; Saarelma, S; Schirmer, J; Suttrop, W; Wilson, HR MAST Team; ASDEX Upgrade Team; NSTX Team
"H-mode physics of near double null plasmas in MAST and its applications to other tokamaks"
Nucl. Fusion **46**(1): 64-72 (January 2006)
33. Munsat, T.; S.J. Zweben
"Derivation of time dependent 2-D velocity maps for plasma turbulence studies"
Rev. Sci. Inst. - *to appear (Oct 2006)*
34. Myra, J.; S.J. Zweben, D.P. Stotler; D. D'Ippolito, R. Maqueda, J. Boedo, B.P. LeBlanc. J.E. Menard
"Blob birth and transport in the tokamak edge plasma: analysis of imaging data"
Phys. Plasmas - *to appear*
35. Oyama, N; Gohil, P; D Horton, L; Hubbard, AE; Hughes, JW; Kamada, Y; Kamiya, K; Leonard, AW; Loarte, A; Maingi, R; Saibene, G; Sartori, R; Stober, JK; Suttrop, W; Urano, H; West, WP
"Pedestal conditions for small ELM regimes in tokamaks"
Plasma Physics and Controlled Fusion **48** A171-A181 Sp. Iss. SI Suppl. 5A (May 2006)
36. Parker, C.V. *et al.*
"Controlling Surface Dust in a Tokamak"
submitted to J. Nucl. Mater.
37. Paul, S. *et al.*
"An Updated Design for a Low-Noise, Wideband Transimpedance Amplifier"
Rev. Sci. Inst. - *to appear (Oct 2006)*
38. Raman, R.
"Advanced fueling system for use as a burn control tool in a burning plasma device"
Fusion Science and Technology **50**(1) 84-88 (Jul 2006)
39. Raman, R.; B.A. Nelson, M.G. Bell, T.R. Jarboe, D. Mueller, T. Bigelow, B. LeBlanc, R. Maqueda, J. Menard, M. Ono, R. Wilson
"Efficient generation of closed magnetic flux surfaces in a large spherical tokamak using coaxial helicity injection"
submitted to Phys. Rev. Lett.
40. Reimerdes, H., Hender, T.C., Sabbagh, S.A., *et al.*
"Cross-machine comparison of resonant field amplification and resistive wall mode stabilization by plasma rotation"
Phys. Plasmas **13**(5) 056107 (May 2006)

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41. Roquemore, L.A. *et al.*
"3D measurements of mobile dust particle trajectories in NSTX"
submitted to J. Nucl. Mater.
42. Roquemore, L.A. *et al.*
"Imaging Techniques of High-speed Dust Particle Trajectories on NSTX"
Rev. Sci. Inst. - to appear (Oct 2006)
43. Sabbagh, S.A., Bell, R.E., Menard, J.E., Gates, D.A., Sontag, A.C., Bialek, J.M., LeBlanc, B.P., Levinton, F.M., Tritz, K., Yuh, H.
"Active RWM stabilization of the RWM in high beta low rotation plasmas"
Phys. Rev. Lett. **97**, 045004 (July 2006)
44. Sabbagh, S.A., Sontag, A.C., Bialek, J.M. *et al.*
"Resistive wall stabilized operation in rotating high beta NSTX plasmas"
Nuclear Fusion 46(5) 635-644 (May 2006)
45. Skinner, C.H. *et al.*
"Pulse-by-pulse measurements of deposition in NSTX"
submitted to J. Nucl. Mater.
46. Soukhanovskii, V. *et al.*
"Divertor heat flux reduction and detachment at low aspect ratio: experimental results from NSTX"
submitted to J. Nucl. Mater.
47. Soukhanovskii, V. *et al.*
"Electron Density measurements in the tokamak detached divertor region using Stark broadening of Deuterium infrared Paschen line emission"
Rev. Sci. Inst. - to appear (Oct 2006)
48. Stotler, D. *et al.*
"Details of Neutral Transport in Gas Puff Imaging Experiments"
submitted to J. Nucl. Mater.
49. Stutman, D.; K. Tritz, L. Delgado-Aparicio, M. Finkenthal, G. Suliman, L. Roquemore, R. Kaita, H. Kugel, D. Johnson, N. Tamura, K. Sato, S. Sudo
"High Throughput Measurements of Soft X-ray Impurity Emission Using a Multilayer Mirror Telescope"
Rev. Sci. Inst. - to appear (Oct 2006)
50. Stutman, D.; M. Finkenthal, K. Tritz, M.H. Redi, S.M. Kaye, M.G. Bell, R.E. Bell, B.P. LeBlanc, K.W. Hill, S.S. Medley, J.E. Menard, G. Rewoldt, W.X. Wang, E.J. Synakowski, F. Levinton, C. Bourdelle, W. Dorland, NSTX Team
"Studies of improved electron confinement in low density L-mode NSTX discharges"
Phys. Plasmas - to appear (Oct 2006)

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51. Tang, X.Z. and Boozer, A.H.
"Spherical Tokamak with a Plasma Center Column"
Physics of Plasmas **13**, 042514 (2006)
52. Ticos, C.M.; Z. Wang, L.A. Dorf, G.A. Wurden
"A Plasmadynamic Hypervelocity Dust Injector for the National Spherical Torus Experiment"
Rev. Sci. Inst. - *to appear (Oct 2006)*
53. Wang, W.X.; G. Rewoldt, W.M. Tang, F.L. Hinton, J. Manickam, L.E. Zakharov, R.B. White, and S. Kaye
"Nonlocal neoclassical transport in tokamak and Spherical torus experiments"
Phys. Plasmas **13** 082501 (2006)
54. Wang, Z.; C.M. Ticos, L.A. Dorf, G.A. Wurden
"Microparticle probes for laboratory plasmas"
IEEE Trans. Plasma. Sci. **34**, 242 (2006)
55. White, A.E.; S.J. Zweben, M.J. Burin, T.A. Carter, T.S. Hahm, J.A. Krommes, and R.J. Maqueda
"Bispectral Analysis of Low- to High-confinement Mode Transitions in the National Spherical Torus Experiment"
Phys. Plasmas **13** 072301 (2006)
56. Yan, L., Evans, T.E., Kaye, S.M., Maingi, R.
"Modeling of stochastic magnetic perturbation by RWMEF coils on NSTX"
Nuclear Fusion - *to appear*
57. Zhu, W., S.A. Sabbagh, R.E. Bell, J.M. Bialek, M.G. Bell, B. P. LeBlanc, S.M. Kaye, F.M. Levinton, J.E. Menard, K.C. Shaing, A.C. Sontag, H. Yuh
"Observation of plasma toroidal momentum dissipation by neoclassical toroidal viscosity"
Phys. Rev. Lett. **96**, 225002 (June 2006)
58. Zweben, S.J., Maqueda, R.J., Terry, J.L., *et al.*
"Structure and motion of edge turbulence in the National Spherical Torus Experiment and Alcator C-mod"
Phys. Plasmas **13**(5) 056114 (May 2006)

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59. Beiersdorfer, P.; M. Bitter, M. Marion, R.E. Olson
"Charge-exchange-produced K-shell x-ray emission from Ar¹⁶⁺ in a tokamak plasma with neutral-beam injection"
Phys. Rev. A **72**, 032725 (2005)
60. Biewer, T.M., Bell, R.E, Diem, S.J., Phillips, C.K., Wilson, J.R., Ryan. P.M.,
"Edge ion heating by launched high harmonic fast waves in the National Spherical Torus Experiment"
Phys. Plasmas **12**, 056108 (2005)

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61. Brooks, J. N., J. P. Allain, *et al.*
"Overview of the ALPS program."
Fusion Science and Technology **47**(3): 669-677 (2005)
62. Brooks, J. N., J. P. Allain, *et al.*
"PSI modeling of liquid lithium divertors for the NSTX tokamak."
Journal of Nuclear Materials **337-39**(1-3): 1053-1057 (2005)
63. Choe, W; Kim, J; Ono, M
"Solenoid-free toroidal plasma start-up concepts utilizing only the outer poloidal field coils and a conducting centre-post"
Nuclear Fusion **45**(12) S168-s180 (Dec. 2005)
64. Dumont, R.J., C.K. Phillips and D.N. Smithe
"Effects of non-Maxwellian Populations on the Propagation and Absorption of Ion Cyclotron Waves in Toroidal Devices"
Physics of Plasmas **12** (2005) 042508
65. Foley, E.L.; Levinton, F.M.
"Sensitive dependence of hydrogen Balmer-alpha laser-induced fluorescence signal from hydrogen neutral beam on background magnetic field"
Journal of Applied Physics **98**(9) 93101 (Nov. 2005)
66. Harvey, R.W., and G. Taylor,
"Electron Bernstein wave-bootstrap current synergy in the National Spherical Torus Experiment"
Phys. Plasmas **12** (May 2005) 052509
67. Horton W, Wong H.V., Morrison P.J., *et al.*
"Temperature gradient driven electron transport in NSTX and Tore Supra"
Nuclear Fusion **45** (8): 976-985 (Aug 2005)
68. Kaye, S.M., Bell, M.G., Bell, R.E., *et al.*
"Progress towards high performance plasmas in the National Spherical Torus Experiment (NSTX)"
Nuclear Fusion **45**(10) S168-S180 (Oct 2005)
69. Kessel CE, Synakowski EJ, Bell ME, *et al.*
"Advanced ST Plasma Scenario Simulations For NSTX"
Nuclear Fusion **45** (8): 814-824 Aug 2005
70. Kugel, H.W., Maingi, R., Bell, M., Gates, D., Hill, K., LeBlanc, B., Mueller, D., Kaita, R., Paul, S., Sabbagh, S., Skinner, C.H., Soukhanovskii, V., Stratton, B., and Raman, R.,
"Development of NSTX Particle Control Techniques"
Journal of Nuclear Materials **337-39**(1-3): 495-499 (2005)
71. Maingi R, Sabbagh SA, Bush CE, *et al.*
"ELMS and the H-mode pedestal in NSTX"
Journal Of Nuclear Materials **337** (1-3): 727-731 Mar 2005

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72. Maingi, R., Bush, C.E., Fredrickson, E.D., *et al.*
"H-mode pedestal, ELM and power threshold studies in **NSTX**"
Nuclear Fusion **45** (9): 1066-1077 Sep 2005
73. Maingi, R., K. Tritz, *et al.*
"Observation of a high performance operating regime with small edge-localized modes in the national spherical torus experiment"
Nuclear Fusion **45**(4): 264-270 (Apr 2005)
74. Menard JE, Bell RE, Fredrickson ED, *et al.*
"Internal kink mode dynamics in high-beta **NSTX** plasmas"
Nuclear Fusion **45** (7): 539-556 (Jul 2005)
75. Mueller, D; Nelson, BA; Hamp, WT; Redd, AJ; Jarboe, TR; O'Neill, RG; Smith, RJ
"Observation of persistent edge current driven by coaxial helicity injection"
Phys. Plasmas **12**(7) 070702 (Jul 2005)
76. Nishino, N.; L. Roquemore, T. M. Biewer, S. J. Zweben, R. Maqueda, R. Maingi, C. Bush, K. Tritz, D. Stutman, & NSTX Team
"Measurement of Edge Localized Mode using Fast Camera in NSTX"
IEEEJ Trans. on Fundamentals and Materials **125-A**(11) 902-907 (Nov. 2005)
77. Ono, M.
"Status and Plans for the National Spherical Torus Experimental Research Facility"
IEEEJ Trans. on Fundamentals and Materials **125-A**(11) 868-880 (Nov. 2005)
78. Paul SF, Maingi R, Soukhanovskii V, *et al.*
"Accounting of the power balance for neutral-beam heated H-mode plasmas in **NSTX**"
Journal Of Nuclear Materials **337** (1-3): 251-255 (Mar 1 2005)
79. Peng, Y. K. M., C. A. Neumeyer, *et al.*
"Fusion engineering and plasma science conditions of spherical torus component test facility."
Fusion Science and Technology **47**(3): 370-383 (2005)
80. Peng, Y-K.M.; P. J. Fogarty, T. W. Burgess, *et al.*
"Spherical Tokamak Plasma Science and Fusion Energy Component Testing"
IEEEJ Trans. on Fundamentals and Materials **125-A**(11) 857-867 (Nov. 2005)
81. Peng, YKM; Fogarty, PJ; Burgess, TW *et al.*
"A component test facility based on the spherical tokamak"
Plasma Physics and Controlled Fusion **47** B263-B283 Sp. Iss. SI Suppl. 12B (Dec 2005)
82. Ram, A.K., Decker, J., Peysson, Y.
"On electron Bernstein waves in spherical tori"
Journal of Plasma Physics **71**: 675-693 Part 5 Oct 2005

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83. Raman, R., T.R. Jarboe, R.G. O'Neill, W.T. Hamp, B.A. Nelson, V.A. Izzo, A.J. Redd, P.E. Sieck, R.J. Smith,
"Non-inductive solenoid free plasma startup using coaxial helicity injection"
Nuclear Fusion **45** (2005) L15-L19 (2005)
84. Raman, R.; Jarboe, T.R.; Bell, M.G.; Mueller, D.; Nelson, B.A.; LeBlanc, B.P.; Bush, C.; Nagata, M.; Biewer, T.M.
"Solenoid-free Plasma Startup in NSTX using Coaxial Helicity Injection"
IEEEJ Trans. on Fundamentals and Materials **125**(11) 895-901 (Nov. 2005)
85. Rewoldt, G., Budny, R. V., Tang. W. M., *et al.*
"Multispecies density and temperature gradient dependence of quasilinear particle and energy fluxes"
Physics of Plasmas **12** (April 2005) 042506, 9 pp.
86. Sharpe, J. P., P. W. Humrickhouse, *et al.*
"Characterization of dust collected from NSTX and JT-60U."
Journal of Nuclear Materials **337-39**(1-3): 1000-1004 (2005)
87. Skinner CH, Kugel H, Roquemore AL, *et al.*
"Time resolved deposition measurements in **NSTX**"
Journal Of Nuclear Materials **337** (1-3): 129-133 (Mar 2005)
88. Sontag, A.C., S.A. Sabbagh, W. Zhu, J.M. Bialek, J.E. Menard, D.A. Gates, A.H. Glasser, R.E. Bell, B.P. LeBlanc, M.G. Bell, A. Bondeson, J.D. Callen, M.S. Chu, C.C. Hegna *et al.*,
"Resistive wall mode stabilization of high-beta plasmas in the National Spherical Torus Experiment"
Physics of Plasmas **12** (2005) 056112
89. Soukhanovskii, V. A., R. Maingi, *et al.*
"Divertor regimes in NSTX."
Journal of Nuclear Materials **337-39**(1-3): 475-479 (2005)
90. Stutman, D.; M. Finkenthal, G. Suliman, K. Tritz, L. Delgado-Aparicio, R. Kaita, D. Johnson, V. Soukhanovskii, M.J. May
"Spectroscopic Imaging Diagnostics for Burning Plasma Experiments"
Review of Scientific Instruments **76** (2005) 023505-1 - 023505-9
91. Tang, X.Z. and Boozer, A.H.
"Flux Amplification in Helicity Injected Spherical Tori"
Physics of Plasmas **12**, 042113 (2005)
92. Tang, X.Z. and Boozer, A.H.
"Chandrasekhar-Kendall Modes and Taylor Relaxation in an Axisymmetric Torus"
Physics of Plasmas **12**, 102102 (2005)

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93. Tang, X.Z. and Boozer, A.H.
"Force-free Magnetic Relaxation in Driven Plasmas"
Physical Review Letters **94**, 225004 (2005)
94. Tang, X.Z. and Boozer, A.H.
"Constrained Resonance in Magnetic Self-Organization"
Physical Review Letters **95**, 155002 (2005)
95. Taylor, G., P. C. Efthimion, B. P. LeBlanc, M. D. Carter, J. B. Caughman, J. B. Wilgen, J. Preinhaelter, R. W. Harvey, S. A. Sabbagh,
"Efficient coupling of thermal electron Bernstein waves to the ordinary electromagnetic mode on the National Spherical Torus Experiment"
Phys. Plasmas **12** (May 2005) 052511
96. Voinier C, Skinner CH, Roquemore AL
"Electrostatic dust detection on remote surfaces"
Journal of Nuclear Materials **346** (2-3): 266-271 (Nov 2005)
97. Zweben, S. J., C. E. Bush, *et al.*
"Images of edge turbulence in NSTX."
IEEE Transactions On Plasma Science **33**(2): 446-447 (2005)

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98. Bader, A., Skinner, C.H., Roquemore, A.L., and Langish, S.,
"Development of an Electrostatic Dust Detector for use in a Tokamak Reactor"
Review of Scientific Instruments **75** (February 2004) 370-375;
99. Beiersdorfer, P., Bitter, M., von Goeler, S., and Hill K.W.,
"Laboratory Measurements of the Fe XVII 2-3s and 2p-3d Transitions and Comparison with Solar and Astrophysical Observations"
Astrophys. J. **610**, Number 1, Part 1 (20 July 2004) 616-623.
100. Belikov, V. S., Y. I. Kolesnichenko, *et al.*
"On the stabilization of fast magnetoacoustic waves by toroidally trapped energetic ions."
Physics of Plasmas **11**(12): 5409-5412 (Dec 2004)
101. Bell, R.E.
"Exploiting a Transmission Grating Spectrometer"
Review of Scientific Instruments **75**:10 (October 2004) 4158-4161
102. Biewer, T.M., Bell, R.E., Feder, R, Johnson, D.W., and Palladino, R.W.,
"Edge Rotation and Temperature Diagnostic on the National Spherical Torus Experiment"
Review of Scientific Instruments **75**:3 (March 2004) 650-654;
103. Bitter, M., Hill, K.W., Stratton, B., Roquemore, A.L., Mastrovito, D., Lee, S.G., Bak, J.G., Moon, M.K., Nam, U.W., Smith, G., Rice, J.E., Beiersdorfer, P., and Fraenkel, B.S.,
"Spatially Resolved Spectra from a New X-ray Imaging Crystal Spectrometer for Measurements of

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Ion and Electron Temperature Profiles”

Review of Scientific Instruments **75**:10 (October 2004) 3660-3665.

104. Cheng, C. Z. and N. N. Gorelenkov
"Trapped electron stabilization of ballooning modes in low aspect ratio toroidal plasmas."
Physics of Plasmas **11**(10): 4784-4795 (2004)
105. Cheng, Z., Z. Deng, *et al.*
"Relaxed states for Ohmically driven tokamaks with an arbitrary aspect ratio."
Physics of Plasmas **11**(4): 1445 (2004)
106. Davis, W. and Mastrovito, D.,
"DbAccess: Interactive Statistics and Graphics for Plasma Physics Databases"
Fusion Engineering and Design **71**:1-4 (June 2004) 183-188
107. Delgado-Aparicio, L. F., D. Stutman, *et al.*
""Optical" soft x-ray arrays for fluctuation diagnostics in magnetic fusion energy experiments."
Review of Scientific Instruments **75**(10): 4020-4022 (2004)
108. Foley, E.L. and Levinton, F.M.,
"Development of the Motion Stark Effect with Laser-induced Fluorescence Diagnostic"
Review of Scientific Instruments **75**:10 (October 2004) 3462-3464.
109. Fredrickson, E.D., Gorelenkov, N.N., and Menard, J.,
"Phenomenology of Compressional Alfvén Eigenmodes"
Physics of Plasmas **11**:7 (July 2004) 3653-3659;
110. Gates, D. A., J. E. Menard, *et al.*
"Vessel eddy current measurement for the National Spherical Torus Experiment."
Review of Scientific Instruments **75**(12): 5090-5093 (2004)
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