

Publikationsliste Hans-Stephan Bosch

Stand: 6.08.2018

Referierte Veröffentlichungen

- 1.) H.-S. Bosch, U. Schumacher, ASDEX-, NI-, und LH-Teams,
Plasmadiagnostics with Charged Fusion Products from the D-D reactions in ASDEX,
in *Basic and Advanced Fusion Plasma Diagnostic Techniques*,
Band III, 761-766, Varenna, 1986, EUR 10797 EN.
- 2.) H.-S. Bosch, J. D. Strachan, C. W. Barnes, E. B. Nieschmidt,
Calibration of a Surface Barrier Detector for 14-MeV Neutron Flux Measurements on TFTR,
Rev. Sci. Instrum. **59** (8), 1718-1720 (1988).
- 3.) H. W. Hendel, D. L. Jassby, H. S. Bosch, C. W. Barnes, L. C. Johnson, T. J. Murphy, E. B. Nieschmidt, T. Saito, J. D. Strachan, G. D. Tait, K. M. Young,
TFTR Epithermal Neutron Detector System: Recalibration and Effect of Nonisotropic Neutron Emission,
Rev. Sci. Instrum. **59** (8), 1682-1684 (1988).
- 4.) D. L. Jassby, H. W. Hendel, H.-S. Bosch,
Relative Intensities of 2.5- and 14-MeV Source Neutrons from Comparative Responses of U-235 and U-238 Detectors,
Rev. Sci. Instrum. **59** (8), 1688-1690 (1988).
- 5.) E. B. Nieschmidt, T. Saito, C. W. Barnes, H.-S. Bosch, T. J. Murphy,
Calibration of the TFTR Neutron Activation System,
Rev. Sci. Instrum. **59** (8), 1715-1717 (1988).
- 6.) F. X. Söldner, E. R. Müller, F. Wagner, H. S. Bosch, A. Eberhagen et al.,
Improved Confinement in High-Density Ohmic Discharges in ASDEX,
Phys. Rev. Lett. **61** (9), 1105-1108 (1988).
- 7.) H.-S. Bosch, G. A. Wurden, J. Gernhardt, F. Karger, J. Perchermeier,
Electrochemical Cold Fusion Trials at IPP Garching,
Journal of Fusion Energy **9** (2), 165-186 (1990).
- 8.) H.-S. Bosch,
Diagnostics with Charged Fusion Products in ASDEX,
Rev. Sci. Instrum. **61** (6), 1699-1707 (1990).
- 9.) J. D. Strachan, J. M. Adams, C. W. Barnes, P. Batistoni, H.-S. Bosch, J. S. Brzosko, A. C. England, C. L. Fiore, R. S. Granetz, H. W. Hendel, F. Hoenen, O. N. Jarvis, D. L. Jassby, L. P. Ku, P. Liu, G. Martin, S. McCauley, R. W. Motley, T. Nishitani, B. V. Robouch, T. Saito, M. Sasao, R. D. Stav, P. L. Taylor,
Neutron Calibration Techniques for Comparison of Tokamak Results,
Rev. Sci. Instrum. **61** (11), 3501-3504 (1990).
- 10.) M. Bessenrodt-Weberpals, K. McCormick, F. X. Söldner, F. Wagner, H. S. Bosch, O. Gehre, E. R. Müller, H. D. Murmann, J. Neuhauser, W. Poschenrieder, K. H. Steuer, N. Tsois, ASDEX Team,
The Multiple Facets of Ohmic Confinement in ASDEX,
Nuclear Fusion **31** (1), 155-170 (1991).

- 11.) F. X. Söldner, V. Mertens, R. Bartiromo, H.-S. Bosch, M. Kornherr, R. Lang, F. Leuterer, R. Loch, W. Sandmann, K. Ushigusa,
Combined Operation of Pellet Injection and Lower Hybrid Current Drive on ASDEX,
Plasma Phys. Controlled Fusion **33** (5), 405-416 (1991).
- 12.) F. Hoenen, H. Euringer, H.-S. Bosch, A. V. Alevra, H. Klein, T. Delvigne,
In-Situ Calibration of Neutron Detectors on TEXTOR,
Rev. Sci. Instrum. **63** (3), 1945-1952 (1992).
- 13.) H.-S. Bosch, G. M. Hale
Improved Formulas for Fusion Cross Sections and Thermal Reactivities
Nucl. Fusion **32** (4), 611-631 (1992).
- 14.) H.-S. Bosch, G. Haas, und M. Lörcher,
Helium and Hydrogen Atom Detection in the Recycling Gas Using Optical Measurements on an ASDEX
Pressure Gauge,
J. Nucl. Mater. **196-198**, 1074-1077 (1992).
- 15.) F. X. Söldner, R. Bartiromo, F. Leuterer, M. C. Zarnstorff, H.-S. Bosch, H. U. Fahrbach, E. R. Müller, H. D. Murmann, K.-H. Steuer, und O. Vollmer,
Combined Operation of Lower Hybrid Current Drive and Heating and Neutral Beam Injection on ASDEX,
Nucl. Fusion **33** (2), 333-347 (1993).
- 16.) M. Kaufmann, H.-S. Bosch, A. Field, G. Fussmann, O. Gruber, A. Herrmann, W. Junker,
A. Kallenbach, W. Köppendörfer, K. Krieger, et al.,
Edge Physics and H-Mode Studies in ASDEX-Upgrade,
Plasma Phys. Controlled Fusion **35** (B12), B205-B214 (1993).
- 17.) K. Lackner, H.-S. Bosch, D. Coster, O. Gruber, G. Haas, A. Herrmann, A. Kallenbach, M. Kaufmann, V. Mertens, J. Neuhauser, et al.,
Recent Results from Divertor Operation in ASDEX Upgrade,
Plasma Phys. Controlled Fusion **36** (12B), B79-B92 (1994).
- 18.) R. Schneider, D. Reiter, K. Lackner, J. Neuhauser, B. Braams, D. Coster, H.-S. Bosch, und H. Kastelewicz,
B2-EIRENE Scrape-off-Layer Calculations,
in *Theory of Fusion Plasmas*, 273, Hgb.: E. Sindoni, F. Troyon, und J. Vaclavik, Bologna, 1994, SIF.
- 19.) A. Herrmann, W. Junker, K. Günther, S. Bosch, M. Kaufmann, J. Neuhauser, G. Pautasso, T. Richter,
R. Schneider, und ASDEX Upgrade Team,
Energy Flux to the ASDEX-Upgrade Divertor Plates Determined by Thermography and Calorimetry,
Plasma Phys. Controlled Fusion **37** (1), 17-29 (1995).
- 20.) H.-S. Bosch, J. Neuhauser, R. Schneider, A. Field, A. Herrmann, G. Lieder, W. Junker, C. S. Pitcher,
D. Reiter, B. Braams, und ASDEX-Upgrade Team,
2D-Modelling of the ASDEX-Upgrade Scrape-off Layer and Divertor Plasma,
J. Nucl. Mater. **220-222**, 558-562 (1995).
- 21.) C. S. Pitcher, H.-S. Bosch, K. Büchl, A. Field, C. Fuchs, G. Haas, W. Junker, R. Neu, J. Neuhauser,
U. Wenzel, und ASDEX-Upgrade Team,
The Effect of Density on Divertor Conditions in ASDEX-Upgrade,
J. Nucl. Mater. **220-222**, 213-217 (1995).
- 22.) W. Poschenrieder, K. Behringer, H.-S. Bosch, A. Field, A. Kallenbach, M. Kaufmann, K. Krieger,
J. Küppers, G. Lieder, D. Naujoks, et al.,
Molecular Impurities in ASDEX Upgrade Plasma Discharges,
J. Nucl. Mater. **220-222**, 36-49 (1995).

- 23.) K. Krieger, H.-S. Bosch, W. Eckstein, J. D. Elder, A. R. Field, G. Lieder, C. S. Pitcher, J. Roth, R. Schneider, P. C. Stangeby,
Modelling of Impurities in the ASDEX Upgrade Divertor with DIVIMP,
J. Nucl. Mater. **220-222**, 548-552 (1995).
- 24.) A. Kallenbach, R. Dux, V. Mertens, O. Gruber, G. Haas, M. Kaufmann, W. Poschenrieder, F. Ryter, H. Zohm, M. Alexander, K. H. Behringer, M. Bessenrodt-Weberpals, H.-S. Bosch, K. Büchl, A. R. Field et al.,
H-Mode Discharges with Feedback-Controlled Radiative Boundary in the ASDEX-Upgrade Tokamak,
Nucl. Fusion **35** (10), 1231-1246 (1995).
- 25.) J. Neuhauser, M. Alexander, G. Becker, H.-S. Bosch, K. Büchl, C. Coster, R. Dux, A. Field, S. Fiedler, C. Fuchs et al.,
The Compatibility of High Confinement Times and Complete Divertor Detachment in ASDEX Upgrade,
Plasma Phys. Controlled Fusion **37** (11A), A37-A51 (1995).
- 26.) G. Haas, H.-S. Bosch, und L. de Kock,
Neutral Gas Diagnostics for ITER,
in *Diagnostics for Experimental Thermonuclear Fusion Reactors*, 571-579,
Hgb.: P. E. Stott, G. Gorini, und E. Sindoni, New York, 1996, Plenum Press.
- 27.) H.-S. Bosch, R. Dux, G. Haas, A. Kallenbach, M. Kaufmann, K. Lackner, V. Mertens, H.-D. Murmann, H. Salzmann, J. Schweinzer, W. Suttrop, M. Weinlich, ASDEX Upgrade Team, und NI Team,
Invariance of Divertor Retention against External Particle Flow in Detached ASDEX Upgrade Discharges,
Phys. Rev. Lett. **76**, 2499-2502 (1996).
- 28.) H.-S. Bosch, V. Erckmann, L. Laurent, O. Motojima, G. H. Neilson, E. Oktay, D. K. Owens, F. Rau, K. I. Thomassen, und F. Wagner,
Summary of the Workshop on Technological Aspects of Steady-State Devices,
Plasma Phys. Controlled Fusion **38**, 415-449 (1996).
- 29.) R. Dux, A. Kallenbach, M. Bessenrodt-Weberpals, K. Behringer, H.-S. Bosch, J. C. Fuchs, O. Gehre, F. Mast, W. Poschenrieder, H. Murmann, H. Salzmann, J. Schweinzer, W. Suttrop, ASDEX Upgrade Team, und NI Team,
Measurement and Modelling of Neon Radiation Profiles in Radiating Boundary Discharges in ASDEX Upgrade,
Plasma Phys. Controlled Fusion **38** (7), 989-999 (1996),
- 30.) H.-S. Bosch, O. Gruber, G. Haas, A. Kallenbach, M. Kaufmann, K. Lackner, V. Mertens, R. Neu, J. Neuhauser, F. Ryter, J. Schweinzer, H. Zohm, ASDEX Upgrade Team, NI Team,
Compatibility of H-Mode with a Radiating Boundary and Divertor Detachment,
Plasma Phys. Controlled Fusion, **38** (8), 1493-1496 (1996).
- 31.) A. Kallenbach, R. Dux, H.-S. Bosch, K. Büchl, J. C. Fuchs, O. Gehre, A. Haas, G. and Herrmann, W. Herrmann, W. Junker, M. Kaufmann, V. Mertens, K. F. Mast, J. Neuhauser, S. de Pena Hempel, F. Ryter, J. Schweinzer, K.-H. Steuer, W. Suttrop, H. Zohm, ASDEX Upgrade Team, NI Team, and ICRH Team,
Radiative Boundary Discharges with Impurity Injection and the H-L Transition in ASDEX Upgrade,
Plasma Phys. Controlled Fusion **38** (12), 2097-2112 (1996).
- 32.) R. Neu, K. Asmussen, K. Krieger, A. Thoma, H.-S. Bosch, S. Deschka, R. Dux, W. Engelhardt, C. Garcia-Rosales, O. Gruber, A. Herrmann, A. Kallenbach, M. Kaufmann, V. Mertens, F. Ryter, V. Rohde, J. Roth, M. Sokoll, A. Stäbler, W. Suttrop, M. Weinlich, H. Zohm, M. Alexander, et al.
The Tungsten Divertor Experiment at ASDEX Upgrade,
Plasma Phys. Controlled Fusion **38**, A165-A179 (1996).

- 33.) H.-S. Bosch, D. Coster, R. Dux, J. C. Fuchs, G. Haas, A. Herrmann, S. Hirsch, A. Kallenbach, J. Neuhauser, R. Schneider, J. Schweinzer, M. Weinlich, ASDEX Upgrade Team, und NBI Team, Particle Exhaust in Radiative Divertor Experiments, *J. Nucl. Mater.* **241-243**, 82-91 (1996).
- 34.) D. P. Coster, R. Schneider, J. Neuhauser, H.-S. Bosch, R. Wunderlich, J.C. Fuchs, K. F. Mast, A. Kallenbach, R. Dux, G. Becker, ASDEX Upgrade Team, B. J. Braams, und D. Reiter, B2-Eirene Modelling of ASDEX Upgrade, *J. Nucl. Mater.* **241-243**, 690-695 (1996).
- 35.) R. Schneider, H.-S. Bosch, J. Neuhauser, D. Coster, K. Lackner, und M. Kaufmann, Divertor Geometry Optimization for ASDEX Upgrade, *J. Nucl. Mater.* **241-243**, 701-706 (1996).
- 36.) A. Kallenbach, H.-S. Bosch, S. de Pena Hempel, R. Dux, M. Kaufmann, V. Mertens, J. Neuhauser, W. Suttrop, H. Zohm, ASDEX Upgrade Team, NBI Team, and ICRH Team, Possible Divertor Solutions for a Fusion Reactor, in *Fusion Technology (Proc. of the 19th Symposium on Fusion Technology, Lisbon, 1997)*, Band 1, 101-108, Herausgeber: C. Varandas and F. Serra, Amsterdam, 1997, Elsevier.
- 37.) H.-S. Bosch, D. Coster, R. Dux, G. Haas, A. Kallenbach, M. Kaufmann, K. Lackner, J. Neuhauser, S. de Pena Hempel, W. Poschenrieder, R. Schneider, ASDEX Upgrade Team, NI Team, ICRH Team, and ECRH Team, Particle Exhaust Studies in ASDEX Upgrade, *Plasma Phys. Controlled Fusion* **39** (11), 1771-1792 (1997).
- 38.) W. Ullrich, H.-S. Bosch, F. Hoenen, and ASDEX Upgrade Team, Application of a Si-Diode Detector for Fusion Product Measurements in ASDEX Upgrade, *Rev. Sci. Instrum.* **68** (12), 4434-4438 (1997).
- 39.) A. Loarte, H. Bosch, J. Lingertat, J. McCormick, K. Schweinzer, W. Suttrop et al. Experimental Edge Results and Multimachine Comparisons, *Contrib. Plasma Phys.* **38** (1/2), 11-19 (1998).
- 40.) G. Haas, H.-S. Bosch, In Vessel Pressure Measurement in Nuclear Fusion Experiments with ASDEX Gauges, *Vacuum* **51** (1), 39-46 (1998).
- 41.) C. W. Barnes, H.-S. Bosch, H. W. Hendel, A. G. A. Huibers, D. L. Jassby, R. W. Motley, E. B. Nieschmidt, T. Saito, J. D. Strachan, M. Bitter et al., Triton Burnup Measurements and Calculations on TFTR, *Nucl. Fus.* **38** (4), 597-618 (1998).
- 42.) T. Kass, H.-S. Bosch, F. Hoenen, K. Lackner, M. Maraschek, H. Zohm, and ASDEX Upgrade Team, The Fishbone Instability in ASDEX Upgrade, *Nucl. Fus.* **38** (6), 807-819 (1998).
- 43.) G. Haas, H.-S. Bosch, D. Coster, L. de Kock, R. Maingi, J. Neuhauser, R. Schneider, Pressure Gauges and Neutral Pressure Measurement in ITER, in *Diagnostics for Experimental Thermonuclear Fusion Reactors 2*, 559-568, Hgb.: P. E. Stott, G. Gorini, P. Prandoni und E. Sindoni, New York, 1998, Plenum Press.
- 44.) D. P. Coster, R. Schneider, H.-S. Bosch, A. Carlson, C. Fuchs, J. Gafert, A. Herrmann, A. Kallenbach, H. Maier, and ASDEX Upgrade Team, A Comparison of B2-EIRENE Code Results and ASDEX Upgrade Divertor II, *Czech. Journ. of Phys.* **48** (S2), 327-332 (1998).

- 45.) H.-S. Bosch, J.C. Fuchs, J. Gafert, G. Haas, A. Herrmann, A. Kallenbach, M. Kaufmann, J. Neuhauser, F. Ryter, R. Schneider, J. Schweinzer, W. Ullrich, U. Wenzel, G.C. Vlases, L.D. Horton, G. F. Matthews, ASDEX Upgrade Team, JET Divertor Physics Topic Group, Effect of Divertor Geometry on Boundary and Core Plasma Performance in ASDEX Upgrade and JET, Plasma Phys. Controlled Fusion **41** (3A), A401-A408 (1999).
- 46.) H.-S. Bosch, W. Ullrich, A. Bard, D. Coster, G. Haas, A. Kallenbach, J. Neuhauser, R. Schneider, and ASDEX Upgrade Team, Noble Gas Exhaust with a Strongly Baffled Divertor in ASDEX Upgrade, J. Nucl. Mater. **266-269**, 462-466 (1999).
- 47.) R. Schneider, H.-S. Bosch, D. Coster, J. Fuchs, J. Gafert, G. Haas, A. Herrmann, M. Kaufmann, A. Kallenbach, J. Neuhauser, J. Schweinzer, U. Wenzel, and ASDEX Upgrade Team, Role of Divertor Geometry on Detachment in ASDEX Upgrade, J. Nucl. Mater. **266-269**, 175-181 (1999).
- 48.) A. Loarte, S. Bosch, A. Chankin, S. Clement, A. Herrmann, D. Hill, K. Itami, J. Lingertat, B. Lipschultz, K. McCormick, R. Monk, G. D. Porter, M. Shimada, and M. Sugihara, Multi-Machine Scaling of the Divertor Peak Heat Flux and Width for L-Mode and H-Mode Discharges, J. Nucl. Mater. **266-269**, 587-592 (1999).
- 49.) K. McCormick, N. Asakura, H.-S. Bosch, S. Davies, S. Fielding, K. Itami, H. Kawashima, B. LaBombard, B. Lipschultz, A. Loarte, R.. Monk, G. Porter, J. Schweinzer, M. Shimada, M. Sugihara, ITER Edge Database Investigations of the SOL Width, J. Nucl. Mater. **266-269**, 99-108 (1999).
- 50.) A. Kallenbach, M. Kaufmann, D. P. Coster, J. C. Fuchs, A. Herrmann, J. Neuhauser, R. Schneider, K. Borrass, H.-S. Bosch, A. Carlson, J. Gafert, K. Lackner, K. Schmidtman, J. Schweinzer, W. Suttrop, U. Wenzel, and ASDEX Upgrade Team, Scrape-off Layer Radiation and Heat Load to the ASDEX Upgrade LYRA Divertor, Nucl. Fusion **39** (7), 901-917 (1999).
- 51.) O. Gruber, H.-S. Bosch, S. Günter, A. Herrmann, A. Kallenbach, M. Kaufmann, K. Krieger, K. Lackner, V. Mertens, R. Neu, F. Ryter, J. Schweinzer, A. Stäbler, W. Suttrop, R. Wolf et al., Overview on ASDEX Upgrade Results, Nucl. Fusion **39** (9Y), 1321-1336 (1999).
- 52.) O. Gruber, R.C. Wolf, H.-S. Bosch, R. Dux, S. Günter, P.J. McCarthy, K. Lackner, M. Maraschek, H. Meister, G. Pereverzev et al., Steady-State H Mode and $T_e \approx T_i$ Operation with Internal Transport Barriers on ASDEX Upgrade, Nucl. Fusion **40** (6), 1145-1155 (2000).
- 53.) O. Gruber, R.C. Wolf, H.-S. Bosch, R. Dux, S. Günter, P.J. McCarthy, K. Lackner, M. Maraschek, H. Meister, G. Pereverzev et al., Steady-State Operation with Transport Barriers and Control by On/Off-Axis Current Drive on ASDEX Upgrade, Journal of Plasma Fusion Research SERIES **3**, 31-39 (2000).
- 54.) H.-S. Bosch, W. Ullrich, D. Coster, O. Gruber, G. Haas, A. Kallenbach, R. Schneider, R. Wolf and ASDEX Upgrade Team, Helium Transport and Exhaust with an ITER-like Divertor in ASDEX Upgrade, J. Nucl. Mater. **290-293**, 836-839 (2001).
- 55.) D. P. Coster, H.-S. Bosch, W. Ullrich and ASDEX Upgrade Team, B2-EIRENE Modelling of Helium Compression and Enrichment, J. Nucl. Mater. **290-293**, 845-848 (2001).

- 56.) D. Reiser, R. Schneider, D. Coster, H.-S. Bosch,
Helium Compression Analysis for ASDEX Upgrade with fluid and kinetic Codes,
J. Nucl. Mater. **290-293**, 953-956 (2001).
- 57.) J. Neuhauser, H.-S. Bosch, D. Coster, A. Herrmann, A. Kallenbach,
Edge and Divertor Physics in ASDEX Upgrade,
Fusion Science and Technology **44**, 659-681 (2003).
- 58.) H.-S. Bosch,
Nuclear Fusion, in *Plasma Physics: Confinement, Collective Effects and Transport*,
Lecture Notes in Physics **670**, Eds.: A. Dinklage, T. Klinger, G. Marx, L. Schweickhard,
Springer Verlag, Heidelberg Berlin (2005), 445-460.
- 59.) H.-S. Bosch and the Wendelstein 7-X Team,
Wendelstein 7-X – A Technology Step towards Demo,
Plasma and Fusion Research **5**, S1002 (2010). http://www.jstage.jst.go.jp/article/pfr/5/0/S1002/_pdf
- 60.) H.-S. Bosch, V. Erckmann, R. W. T. König, F. Schauer, R. J. Stadler, A. Werner,
Construction of Wendelstein 7-X – Engineering a Steady-State Stellarator,
IEEE Transactions on Plasma Science **38** (3), 265-273 (2010). DoI: 10.1109/TPS.2009.2036918
- 61.) H.-S. Bosch, A. Dinklage, T. Klinger, R. Wolf and Wendelstein 7-X Team,
Physics Programme for Initial Operation of Wendelstein 7-X,
Contributions to Plasma Physics, **8** 786-794, (2010). DoI: 10.1002/ctpp.201010101
- 62.) T. Bräuer, T. Klinger, H.-S. Bosch,
Progress, Challenges, and Lessons Learned in the Construction of Wendelstein 7-X,
IEEE Transactions on Plasma Science **40** (3) 577-583 (2012). DoI: 10.1109/TPS.2011.2174658
- 63.) Lorenz, K. Kuettler, H.-S. Bosch,
Implementation of Earned Value Management Tools in the Wendelstein 7-X Project,
IEEE Transactions on Plasma Science **40** (12) 3560-3565 (2012).
- 64.) T. Klinger, C. Baylard, C. D. Beidler, J. Boscary, H.-S. Bosch, A. Dinklage, D. Hartmann, P. Helander, H. Maaßberg, A. Peacock, T.S. Pedersen, T. Rummel, F. Schauer, L. Wegener, R. Wolf, Towards Assembly Completion and Preparation of Experimental Campaigns of Wendelstein 7-X in the Perspective of a Path to a Stellarator Fusion Power Plant,
Fus. Eng. Design, **88** (6-8) 461-465 (2013).
- 65.) R. Vilbrandt, H.-S. Bosch, P. van Eeten,
Risk Management as an executive task in the construction of Wendelstein 7-X,
Fusion Eng. Design, **88** (9-10) 2151-2154 (2013).
<http://dx.doi.org/10.1016/j.fusengdes.2012.11.005>
- 66.) H.-S. Bosch, R. C. Wolf, T. Andreeva, J. Baldzuhn, J. Baldzuhn et al.,
Technical challenges in the construction of the steady-state stellarator Wendelstein 7-X,
Nucl. Fusion **53** (12) 126001 (2013). [doi:10.1088/0029-5515/53/12/126001](https://doi.org/10.1088/0029-5515/53/12/126001)
- 67.) H.-S. Bosch, R. Brakel, M. Gasparotto, H. Grote, D. A. Hartmann, R. Herrmann, M. Nagel,
D. Naujoks, M. Otte, K. Risse, T. Rummel, A. Werner,
Transition from Construction to Operation Phase of the Wendelstein 7-X Stellarator,
IEEE Transactions on Plasma Science **42** (3) 432-438 (2014).
- 68.) R. Vilbrandt, H.-S. Bosch, J.-H. Feist,
Quality Management System in Fusion Research – Experience from W7-X,
IEEE Transactions on Plasma Science **42** (11) 3644-3649 (2014).

- 69.) M. Gasparotto, C. Baylard, H.-S. Bosch, D. Hartmann, T. Klinger, R. Vilbrandt, L. Wegener, Wendelstein 7-X – Status of the project and commissioning planning, *Fus. Eng. Design* **89**, 2121-2127 (2014).
- 70.) H.-S. Bosch, V. Bykov, R. Brakel, P van Eeten, J.-H. Feist, M. Gasparotto, H. Grote, T. Klinger, M. Nagel, D. Naujoks, G.H. Neilson, T. Rummel, J. Schacht, R. Vilbrandt, L. Wegener, A. Werner, Experience with the Commissioning of the Superconducting Stellarator Wendelstein 7-X, *Fus. Eng. Design* **96-97**, 22-27 (2015).
- 71.) R. Vilbrandt, H.-S. Bosch, J.-H. Feist, T. Klinger, Continuity and enhancement of quality management during commissioning of W7-X *Fus. Eng. Design* **96-97**, 337-377 (2015).
- 72.) R. König, J. Baldzuhn, W. Biel, C. Biedermann, H.-S. Bosch et al., The Set of Diagnostics for the First Operation Campaign of the Wendelstein 7-X Stellarator, *Journal of Instrumentation* **10**, P10002 (2015). <http://iopscience.iop.org/article/10.1088/1748-0221/10/10/P10002/meta>
- 73.) T. Sunn Pedersen , T. Andreeva , H.-S. Bosch, S. Bozhenkov, F. Effenberg, M. Endler, Y. Feng , D.A. Gates, J. Geiger, D. Hartmann, H. Hölbe, M. Jakubowski, R. König, H.P. Laqua, S. Lazerson, M. Otte, M. Preynas, O. Schmitz, T. Stange, Y. Turkin and the W7-X Team, Plans for first plasma operation of Wendelstein 7-X, *Nucl. Fusion* **55**, 126001 (2015). <http://stacks.iop.org/0029-5515/55/12600>
- 74.) K. Risse, D. Birus, H.-S. Bosch, V. Bykov, A. Carls, C. P. Dhard, J. Fellingner, T. Mönnich, M. Nagel, M. Otte, T. Rummel, M. Schneider, Wendelstein 7-X – Commissioning of the Superconducting Magnet System, *IEEE Trans. Appl. Supercond.* **26** (4) 4202004 (2016).
- 75.) V. Bykov, J. Fellingner, F. Schauer, A. Carls, M. Köppen, P. van Eeten, H.-S. Bosch, L. Wegener, J. Zhu, Structural Analysis at the Transition from W7-X Construction to Operation, *IEEE Trans. Plasma Science*, **44** (9) 1722-1730 (2016).
- 76.) M. Krychowiak, A. Adnan, A. Alonso, T. Andreeva, J. Baldzuhn, T. Barbui, M. Beurskens, W. Biel, C. Biedermann, B. D. Blackwell, H. S. Bosch, S. Bozhenkov et al., Overview of diagnostic performance and results for the first operation phase in Wendelstein 7-X, *Review of Scientific Instruments* **87**, 11D304 (2016).
- 77.) T. Sunn Pedersen, M. Otte, S. Lazerson, P. Helander, S. Bozhenkov, C. Biedermann, T. Klinger, R.C. Wolf, H.-S. Bosch & The Wendelstein 7-X Team, Confirmation of the topology of the Wendelstein 7-X magnetic field to better than 1:100,000, *Nature Communications* (2016), DOI: 10.1038/ncomms13493.
- 78.) T. Rummel, M. Nagel, V. Bykov, D. Birus, A. Carls, C. P. Dhard, E. Köster, T. Mönnich, K. Risse, M. Schneider, H.-S. Bosch, W7-X Team, Commissioning Results of the Superconducting Magnet System of Wendelstein 7-X, *IEEE Trans. Appl. Supercond.* **27** (4) 1-7 (2017). %ASC2016
- 79.) T. Sunn Pedersen, A. Dinklage, Y. Turkin, R. Wolf, S. Bozhenkov, J. Geiger, G. Fuchert, H.-S. Bosch, K. Rahbarnia, H. Thomsen, U. Neuner, T. Klinger, A. Langenberg, H. Trimiño Mora, P. Kornejew, J. Knauer, M. Hirsch, N. Pablant and the W7-X Team, Key results from the first plasma operation phase and outlook for future performance in Wendelstein 7-X *Physics of Plasmas* **24**, 055503 (2017); <http://dx.doi.org/10.1063/1.4983629> %APS2016
- 80.) M. Nagel, C. P. Dhard, H. Bau, U. Meyer, S. Raatz, T. Rummel, K. Risse, H.-S. Bosch, W7-X Team, Cryogenic commissioning, cool down and first magnet operation of Wendelstein 7-X, *IOP Conf. Series: Materials Science and Engineering* **171** (2017) 012050. %IEC2016

- 81.) M. Hirsch, A. Dinklage, A. Alonso, G. Fuchert, S. Bozhenkov, U. Höfel, T. Andreeva, J. Baldzuhn, M. Beurskens, H.-S. Bosch, C.D. Beidler, C. Biedermann, et al.,
Confinement in Wendelstein 7-X Limiter Plasmas, *Nucl. Fusion* **57**, 086010 (2017) (8pp) %FEC2016
- 82.) R.C. Wolf, A. Ali, A. Alonso, J. Baldzuhn, C. Beidler, M. Beurskens, C. Biedermann, H.-S. Bosch, S. Bozhenkov, R. Brakel et al.,
Major results from the first plasma campaign of the Wendelstein 7-X stellarator,
Nucl. Fusion **57**, 102020 (2017) (13pp), <https://doi.org/10.1088/1741-4326/aa770d> %FEC2016
- 83.) H.-S. Bosch, R. Brakel, T. Braeuer, V. Bykov, P. van Eeten, J.-H. Feist, F. Füllenbach, M. Gasparotto, H. Grote, T. Klinger, H. Laqua, M. Nagel, D. Naujoks, M. Otte, K. Risse, T. Rummel, J. Schacht, A. Spring, T. Sunn Pedersen, R. Vilbrandt, L. Wegener, A. Werner, R. C. Wolf, J. Baldzuhn, C. Biedermann, H. Braune, R. Burhenn, M. Hirsch, U. Höfel, J. Knauer, P. Kornejew, S. Marsen, T. Stange, H. Trimino Mora, W7-X Team.,
Final integration, commissioning and start of the Wendelstein 7-X stellarator operation,
Nucl. Fusion **57**, 116015 (2017) (9pp); <https://doi.org/10.1088/1741-4326/aa7cbb> %FEC2016
- 84.) V. Bykov, J. Zhu, A. Carls, J. Fellingner, P. van Eeten, H.-S. Bosch, L. Wegener and W7-X Team,
Engineering Challenges of W7-X: Improvement of Numerical Modeling and Mechanical Monitoring after Commissioning and First Phase of Operation,
Fusion Science and Technology, **72** (4) 546-558 (2017),
<https://dx.doi.org/10.1080/15361055.2017.1352427>
- 85.) M. Nagel, C. P. Dhard, H. Bau, U. Meyer, S. Raatz, T. Rummel, K. Risse, H.-S. Bosch, W7-X Team,
First evaluation of cryogenic performance of Wendelstein 7-X cryostat,
Fus. Eng. Design, **123**, 153-157 (2017).
<https://doi.org/10.1016/j.fusengdes.2017.03.151> %SOFT 2016
- 86.) R. Vilbrandt, H.-S. Bosch, G. Kühner, D. Naujoks, J. Schacht, A. Werner, S. Degenkolbe, W7-X Team,
Application of the engineering standard for functional safety to the W7-X central Safety System,
Fus. Eng. Design, **123**, 632-636 (2017).
<https://doi.org/10.1016/j.fusengdes.2017.02.066> %SOFT2016
- 87.) K. Risse, V. Bykov, M. Nagel, T. Rummel, H.-S. Bosch, A. Carls, T. Mönnich, M. Schneider, W7-X Team,
First Operational Phase of the Superconducting Magnet System of Wendelstein 7-X,
Fus. Eng. Design, **124**, 10-13 (2017).
<https://doi.org/10.1016/j.fusengdes.2017.03.050> %SOFT2016
- 88.) F. Füllenbach, K. Risse, T. Rummel, M. Fricke, E. Köster, H.-S. Bosch, S. Lazerson, W7-X team,
The Wendelstein 7-X Trim Coil system Commissioning and first operational results,
Fus. Eng. Design, **124**, 93-9813 (2017).
<https://doi.org/10.1016/j.fusengdes.2017.03.104> %SOFT2016
- 89.) V. Bykov, A. Carls, J. Zhu, P. van Eeten, L. Wegener, H-S. Bosch and W7-X team,
Mechanical Monitoring Issues in Preparation to Next Step of Wendelstein 7-X Operation
IEEE Trans. Plasma Science, **46** (5) 1086-1094 (2018).
<https://10.1109/TPS.2017.2786744> %SOFE 2017
- 90.) H.-S. Bosch, T. Andreeva, R. Brakel, T. Bräuer, D. Hartmann, A. Holtz, T. Klinger, H. Laqua, M. Nagel, D. Naujoks, K. Risse, A. Spring, T. Sunn Pedersen, T. Rummel, P. van Eeten, A. Werner, R. Wolf and the W7-X Team,
Engineering Challenges in W7-X: lessons learned and status for the second operation phase,
IEEE Trans. Plasma Science, **46** (5) 1131-1140 (2018).
<https://10.1109/TPS.2018.2818934> %SOFE 2017
- 91.) T. Rummel, K. Risse, M. Nagel, T. Mönnich, F. Füllenbach, H.-S. Bosch, and the W7-X Team,
Challenges for the Wendelstein 7-X Magnet Systems during the next Operation Phase,
IEEE Trans. Plasma Science, **46** (5) 1517-1521 (2018).

<https://10.1109/TPS.2018.2816399>

%SOFE 2017

- 92.) J. Zhu, V. Bykov, M. Nagel, G. Ehrke, J. Fellingner, L. Wegener, H-S. Bosch and W7-X team,
Refined Multiphysics Analysis of W7-X Cryopumps,
IEEE Trans. Plasma Science, **46** (5) 1592-1602 (2018).

<https://10.1109/TPS.2017.2782739>

%SOFE 2017