

List of Publications

Francesco Volpe

13 invited talks at international conferences + **4 invited talks** by group members
71 journal articles published
20 IAEA conference papers
113 non-refereed conference papers, reports and other publications

h-index = 15 and >700 citations according to ISI Web of Science
(<http://www.researcherid.com/rid/D-2994-2009>)

h-index = 19 and >1,100 citations according to Google Scholar.

Invited Talks at International Conferences

- I13) **Review of locked mode control techniques using 3D fields and ECCD**
invited to 22nd Workshop on MHD Stability Control, Madison, WI (USA), 30 October - 1 Nov. 2017
- I12) **Overdense heating and high β stability of the CNT stellarator**
invited to International Stellarator-Heliotron Workshop (ISHW2017), Kyoto (Japan), 2-6 October 2017
- I11) **Prediction, Avoidance and Control of Disruptive Locked Modes in DIII-D and ITER**
invited to the Theory and Simulation of Disruptions Workshop, Princeton, NJ (USA), 20-22 July 2016
- I10) **New directions in simplified stellarators, stabilization of plasmas and of liquid walls**
invited to the International Colloquium on "New Trends in High Temperature Plasma Physics", Greifswald (Germany), 14-15 October 2015
- I9) **Cross-fertilization of magnetic confinement fusion research, nuclear and sub-nuclear physics and accelerator science**
plenary at Int. Conf. on Dark Matter, Hadron Phys. and Fusion Phys., Messina (Italy), 24-26 Sept. 2014
- I8) **Stellarator Experiments at Columbia University**
invited to the Workshop on Exploratory Topics in Plasma and Fusion Research (EPR) and US-Japan Compact Torus (CT) Workshop, Madison, WI (USA), 5-8 August 2014
- I7) **Using 3D Fields to control Islands, aid ECCD-Stabilization and measure Error-Fields at DIII-D**
invited to the 41st European Physical Society (EPS) Conference on Plasma Physics, Berlin (Germany), 23-27 June 2014
- I6) **Research Trends in the Use of Millimeter Waves to heat, diagnose and stabilize Fusion Plasmas**
invited to the 3rd International Symposium of Advanced Energy Science, Kyoto (Japan), 2-4 Sept. 2012
- I5) **Control of disruptive Locked Modes by Magnetic Perturbations and ECCD**
invited to the 15th Workshop on MHD Stability Control: "US-Japan Workshop on 3D Magnetic Field Effects in MHD Control", Madison, WI (USA), 15-17 November 2010
- I4) **Advanced Techniques for Neoclassical Tearing Mode Control in DIII-D**
invited to the 50th Annual Meeting of the Division of Plasma Physics of the American Physical Society (APS), Dallas, TX (USA), 17-21 November 2008

- I3) **ART: a Ray-Tracing Code for mode-converted Electron Bernstein Waves in Tokamaks and Stellarators**
invited to the meeting of the IMP5 Project (Fast Particles and Heating) of the EFDA Integrated Tokamak Modelling Task Force (ITM-TF), Cadarache (France), 10-11 January 2006
- I2) **BXO mode-converted electron Bernstein emission diagnostic of electron temperature profiles at W7-AS Stellarator**
invited to the 14th Topical Conference on High Temperature Plasma Diagnostics (HTPD 2002) Madison, Wisconsin (USA), 8-11 July 2002
- I1) **Electron Bernstein emission diagnostic of electron temperature profiles at W7-AS Stellarator**
invited to the International Conference on Advanced Diagnostics for Magnetic and Inertial Fusion Villa Monastero, Varenna (Italy), 3-7 September 2001

Invited Talks given by Students and Post-docs at International Conferences

- Ig4) W. Choi, **Dynamics, stability and stabilization of magnetic islands by feedback phase-control and synchronized ECCD**
invited to 22nd Workshop on MHD Stability Control, Madison, WI (USA), 30 October - 1 Nov. 2017
- Ig3) K. Hammond, **CNT stellarator: overview of recent and ongoing research**
invited to the Exploratory Plasma and Fusion Research Workshop (EPR), Auburn, AL (USA), 22-26 Feb., 2016
- Ig2) W. Choi, **Analysis of locked mode disruption database in the DIII-D tokamaks**
invited to the 20th Workshop on MHD Stability Control, Princeton, NJ (USA), 22-24 November 2015
- Ig1) D. Shiraki, **Error Field Detection and Mode Locking Avoidance by the Interaction of Applied Rotating 3D Fields With Otherwise Locked Modes**
invited to the 18th Workshop on MHD Stability Control, Santa Fe, NM (USA), 18-20 November 2013

In the remainder, a wavy underline denotes advised students and post-docs.

Journal Articles

- J71) R. Sweeney, W. Choi, M. Austin, M. Brookman, V. Izzo, M. Knolker, R.J. La Haye, A. Leonard, E.J. Strait, F.A. Volpe and the DIII-D Team
Relationship between locked modes and thermal quenches in DIII-D
Nucl. Fusion, in press (2018)
- J70) D.A. Gates, D. Anderson, S. Anderson, M. Zarnstorff, F. Volpe and 44 coauthors
Stellarator Research Opportunities, A report of the National Stellarator Coordinating Committee
J. Fusion Energy **37**, 51 (2018)

- J69) W. Choi, R.J. La Haye, M. Lanctot, K.E.J. Olofsson, E.J. Strait, R. Sweeney, F.A. Volpe
Feedforward and feedback control of locked mode phase and rotation in DIII-D with application to modulated ECCD experiments
Nucl. Fusion **58**, 036022 (2018)
- J68) E. Poli, A. Bock, M. Lochbrunner, O. Maj, F. Volpe and 21 coauthors
TORBEAM 2.0, a paraxial beam tracing code for electron-cyclotron beams in fusion plasmas for extended physics applications
Comp. Phys. Comm. **225**, 36 (2018)
- J67) K.C. Hammond, R.R. Diaz-Pacheco, A. Köhn, F.A. Volpe, Y. Wei
Overdense microwave plasma heating in the CNT stellarator
Plasma Phys. Controll. Fusion **60**, in press (2018)
 Preprint: arXiv:1708.02684
- J66) K.C. Hammond, R. Raman, F.A. Volpe
Application of Townsend avalanche theory to tokamak startup by coaxial helicity injection
Nucl. Fusion, **58**, 016013 (2018)

2017

- J65) S.M.H. Mirhoseini, R.R. Diaz-Pacheco, F.A. Volpe
Passive and active electromagnetic stabilization of free-surface liquid metal flows
Magnetohydrodyn. **53**, 45 (2017)
 Preprint: arXiv:1702.01040
- J64) K.C. Hammond, S.A. Lazerson, F.A. Volpe
High β equilibrium and ballooning stability of low aspect ratio CNT stellarator
Phys. Plasmas **24**, 042510 (2017)
 Preprint: arXiv:1612.09350
- J63) F.A. Volpe
Prospects for a dominantly microwave-diagnosed magnetically confined fusion reactor
J. Instrum. **12**, C01094 (2017)
 Preprint: arXiv:1701.03132
- J62) F.A. Volpe, P.-D. Létourneau, A. Zhao
Huygens-Fresnel wavefront tracing
Comput. Phys. Commun. **212**, 123 (2017)
 Preprint: arXiv:1509.02966
- J61) M. Okabayashi, P. Zanca, E.J. Strait, D. Shiraki, F.A. Volpe and 10 coauthors
Avoidance of Tearing Mode Locking and Disruption with Electro-Magnetic Torque Introduced by Feedback-Based Mode Rotation Control in DIII-D and RFX-mod
Nucl. Fusion **57**, 016035 (2017)
- J60) R. Sweeney, W. Choi, R.J. La Haye, S. Mao, K.E.J. Olofsson, F.A. Volpe
Statistical analysis of $m/n=2/1$ locked and quasi-stationary modes with rotating precursors at DIII-D
Nucl. Fusion **57** 016019 (2017)
 Preprint: arXiv:1606.04183

2016

- J59) S.M.H. Mirhoseini, F.A. Volpe
Resistive sensor and electromagnetic actuator for feedback control of liquid metal walls in fusion reactors
Plasma Phys. Controll. Fusion **58**, 124005 (2016)
 Preprint: arXiv:1604.07473

- J58) R. Sweeney, L. Frassinetti, P. Brunzell, R. Fridström, F.A. Volpe
Local measurement of error field using naturally rotating tearing mode dynamics in EX-TRAP T2R
Plasma Phys. Controll. Fusion **58**, 124001 (2016)
 Preprint: arXiv:1604.00294
- J57) S.M.H. Mirhoseini, F.A. Volpe
Space- and time-resolved resistive measurements of liquid metal wall thickness
Rev. Sci. Instrum. **87**, 11D427 (2016)
 Preprint: arXiv:1606.04008
- J56) O. Meneghini, F.A. Volpe
Full-wave feasibility study of anti-Radar diagnostic of magnetic field based on O-X mode conversion and oblique reflectometry imaging
Rev. Sci. Instrum. **87**, 11E120 (2016)
 Preprint: arXiv:1606.04181
- J55) K.C. Hammond, R.R. Diaz-Pacheco, Y. Kornbluth, F.A. Volpe, Y. Wei
Onion-peeling inversion of stellarator images
Rev. Sci. Instrum. **87**, 11E119 (2016)
 Preprint: arXiv:1606.03151
- J54) K. Nagasaki, Y. Nakamura, S. Kamioka, H. Igami, F. Volpe and 15 coauthors
Development of Electron Bernstein Emission Diagnostic for Heliotron J
Plasma Fusion Research **11**, 2402095 (2016)
- J53) K.C. Hammond, A. Anichowski, P.W. Brenner, T.S. Pedersen, S. Raftopoulos, P. Traverso, F.A. Volpe
Experimental and numerical study of error fields in the CNT stellarator
Plasma Phys. Controll. Fusion, **58**, 074002 (2016)
 Preprint: arXiv:1602.04867
- J52) K.E.J. Olofsson, W. Choi, D.A. Humphreys, R.J. La Haye, D. Shiraki, R. Sweeney, F.A. Volpe, A.S. Welander
Electromechanical modelling and design for phase control of locked modes in the DIII-D tokamak
Plasma Phys. Controll. Fusion, **58**, 045008 (2016)

2015

- J51) F.A. Volpe, A. Hyatt, R.J. La Haye, M.J. Lanctot, J. Lohr, R. Prater, E.J. Strait, A. Welander
Avoiding Tokamak disruptions by applying static magnetic fields that align locked modes with stabilizing wave-driven currents
Phys. Rev. Lett., **115**, 175002 (2015)
 Preprint: arXiv:1510.08932
- J50) M. Reich, R. Bilato, U. Mszanowski, E. Poli, C. Rapson, J. Stober, F. Volpe, R. Zille, ASDEX Upgrade team
Real-time beam tracing for control of the deposition location of electron cyclotron waves
Fusion Eng. Design, **100**, 73 (2015)
- J49) C. Caliri, D. Mascali, F.A. Volpe
Modeling of ion extraction from a toroidal Electron Cyclotron Resonance Ion Source
Nucl. Instr. Meth. Phys. Res. A, **790**, 57 (2015)
 Preprint: arXiv:1502.00672

- J48) D. Shiraki, C. Paz-Soldan, R.J. La Haye, N.C. Logan, K.E.J. Olofsson, E.J. Strait, R.M. Sweeney, F.A. Volpe
Measurements of the toroidal torque balance of error-field penetration locked modes
Plasma Phys. Controll. Fusion, **57**, 025016 (2015)

2014

- J47) A.W. Clark, M. Doumet, K.C. Hammond, Y. Kornbluth, D.A. Spong, R. Sweeney, F.A. Volpe
Proto-CIRCUS Tilted-Coil Tokamak-Torsatron Hybrid: Design and Construction
Fusion Eng. Design **89**, 2732 (2014)
Preprint: arXiv:1410.2309
- J46) K.E.J. Olofsson, J. Hanson, D. Shiraki, F.A. Volpe, D. Humphreys, R.J. La Haye, M. Lanctot, E.J. Strait, A. Welander, E. Kolemen, M. Okabayashi
Array magnetics modal analysis for the DIII-D tokamak based on localised time-series modelling
Plasma Phys. Controll. Fusion **56**, 095012 (2014)
- J45) E.J. Strait, R.J. Buttery, T.A. Casper, M.S. Chu, J.M. Hanson, A.M. Garofalo, Y. Gribov, R.J. La Haye, H. Reimerdes, M.J. Schaffer, F.A. Volpe
Measurement of tokamak error fields using plasma response and its applicability to ITER
Nucl. Fusion, **54**, 073004 (2014)
- J44) D. Shiraki, R.J. La Haye, N. Logan, E.J. Strait and F.A. Volpe
Error Field Detection in DIII-D by Magnetic Steering of Locked Modes
Nucl. Fusion, **54**, 033006 (2014)

2013

- J43) K. Nagasaki, S. Yamamoto, S. Kobayashi, F. Volpe and 26 coauthors
Stabilization of energetic-ion-driven MHD modes by ECCD in Heliotron J
Nucl. Fusion, **53**, 113041 (2013)
- J42) K. Hammond, W.J. Capecchi, S. Massidda, F.A. Volpe
Metamaterial Lens of Specifiable Frequency-Dependent Focus and Adjustable Aperture for Electron Cyclotron Emission in the DIII-D Tokamak
J. Infrared Millim. THz Waves, **34**, 437 (2013)
Preprint: arXiv:1410.3529
- J41) L. Frassinetti, K.E.J. Olofsson, R. Fridström, A.C. Setiadi, P.R. Brunzell, F.A. Volpe, J.R. Drake
A method for the estimate of the wall diffusion for non-axisymmetric fields using rotating external fields
Plasma Phys. Controll. Fusion, **55**, 084001 (2013)
- J40) F.A. Volpe, L. Frassinetti, P.R. Brunzell, J.R. Drake, K.E.J. Olofsson
Error Field Assessment from Driven Rotation of Stable External Kinks at Extrap-T2R Reverse Field Pinch
Nucl. Fusion, **53**, 043018 (2013)
Preprint: arXiv:1302.7052
- J39) M.A. Bitar, A. Gallo and F.A. Volpe
Multi-pole Multi-zero Frequency-independent Phase-shifter
Rev. Sci. Instrum., **83**, 114703 (2013)
Preprint: arXiv:1302.7059

2012

- J38) F.A. Volpe, M.E. Austin, G. Campbell, and T. Detterly
Oblique electron-cyclotron-emission radial and phase detector of rotating magnetic islands applied to alignment and modulation of electron-cyclotron-current-drive for neoclassical tearing mode stabilization
Rev. Sci. Instrum., **83**, 103507 (2012)
Preprint: arXiv:1302.7054
- J37) F.A. Volpe, J. Kessler, H. Ali, T.E. Evans and A. Punjabi
Magnetic Barriers and their q_{95} dependence at DIII-D
Nucl. Fusion **52**, 054017 (2012)
Preprint: arXiv:1111.2072
- J36) W.J. Capecchi, N. Behdad and F.A. Volpe
Reverse Chromatic Aberration and its Numerical Optimization in Planar Metamaterial Lenses
Optics Express **20**, 8761 (2012)
Preprint: arXiv:1302.7058
- J35) J.D. King, R.J. La Haye, C.C. Petty, F.A. Volpe and 12 coauthors
Hybrid-Like 2/1 Flux-Pumping and Magnetic Island Evolution due to Edge Localized Mode-Tearing Mode Coupling in DIII-D
Phys. Plasmas **19**, 022503 (2012)

2011

- J34) L. Delgado-Aparicio, D. Stutman, K. Tritz, F. Volpe, K.L. Wong, S. Gerhardt, E. Fredrickson, R. Bell, B. Leblanc, S. Kaye, J. Menard, M. Finkenthal, S. Paul and L. Roquemore
Impurity transport experiments and effects on MHD in the National Spherical Torus Experiment (NSTX)
Nucl. Fusion, **51**, 083047 (2011)
- J33) A. Köhn, J. Jacquot, M.W. Bongard, S. Gallian, E.T. Hinson, and F.A. Volpe
Full-wave modeling of the O-X mode conversion in the Pegasus Toroidal Experiment
Phys. Plasmas, **18**, 082501 (2011)
Preprint: arXiv:1104.0743
- J32) A. Köhn, R. Bilato, F. Volpe, R. Paccagnella
Full-wave simulations of the O-X-B mode conversion in a realistic experimental geometry in the RFX-mod device
IEEE Trans. Plasma Sci. **39**, 3016 (2011)
- J31) H. Reimerdes, R.J. Buttery, A.M. Garofalo, Y. In, R.J. La Haye, M.J. Lanctot, M. Okabayashi, J.-K. Park, M.J. Schaffer, E.J. Strait, F.A. Volpe
Error Field Tolerance and Error Field Correction Strategies for ITER
Fusion Science & Technology, **59**, 572 (2011)

2010

- J30) F. Volpe
A Spinning Mirror for Fast Angular Scans of EBW Emission for Magnetic Pitch Profile Measurements
Rev. Sci. Instrum. **81**, 10D905 (2010)
Preprint: arXiv:1007.2382

- J29) F. Volpe
Analytical Solution of the O-X Mode Conversion Problem
Phys. Lett. A, **374**, 1737 (2010)
 Preprint: arXiv:0907.3981
- J28) N.K. Hicks, W. Suttrop, K. Behler, F. Volpe and 9 coauthors
Fast sampling upgrade and real time NTM control application of the ECE radiometer on Asdex Upgrade
Fusion Science & Technology, **57**, 1 (2010)

2009

- J27) H. Meyer, R.J. Akers, F. Alladio, F. Volpe and 106 coauthors
Overview of Physics Results from MAST
Nucl. Fusion **49**, 104017 (2009)
- J26) H. Zohm, J. Adamek, C. Angioni, F. Volpe and 179 coauthors
Overview of ASDEX Upgrade results
Nucl. Fusion **49**, 104009 (2009)
- J25) R. Bilato, F. Volpe, A. Köhn, R. Paccagnella, D. Farina, E. Poli, M. Brambilla
Feasibility of electron Bernstein wave coupling via O-X-B mode conversion in the RFX-mod reversed field pinch device
Nucl. Fusion **49**, 075020 (2009)
- J24) L. Giannone, W. Schneider, P.J. McCarthy, F. Volpe and 22 coauthors
Real time magnetic field and flux measurements for tokamak control using a multi-core PCI Express system
Fus. Eng. Design **84**, 825 (2009)
- J23) B. Esposito, G. Granucci, S. Nowak, F. Volpe and 10 coauthors
Disruption Control on FTU and ASDEX Upgrade with ECRH
Nucl. Fusion **49**, 065014 (2009)
- J22) D.H. Wagner, J.K. Stober, F. Leuterer, F. Volpe and 24 coauthors
Progress and First Results with the New Multi-Frequency ECRH System for ASDEX Upgrade
IEEE Trans. Plasma Science **37**, 395 (2009)
- J21) F.A.G. Volpe, M.E. Austin, R.J. La Haye, J. Lohr, R. Prater, E.J. Strait and A.S. Welander
Advanced techniques for neoclassical tearing mode control in DIII-D
Phys. Plasmas **16**, 102502 (2009)
- J20) J.P. Qian, L.L. Lao, Q.L. Ren, H. Rinderknecht, F. Volpe, C. Zhang and B.N. Wan
Equilibrium reconstruction of plasma profiles based on soft x-ray imaging in DIII-D
Nucl. Fusion **49**, 025003 (2009)

2004 - 2008 (Post-doc years)

- J19) R. Prater, D. Farina, Yu. Gribov, R.W. Harvey, Y.R. Lin-Liu, E. Poli, A.K. Ram, A.P. Smirnov, F. Volpe, E. Westerhof, A. Zvonkov and ITPA Steady State Operations Topical Group
Benchmarking of codes for electron cyclotron heating and electron cyclotron current drive under ITER conditions
Nucl. Fusion **48**, 035006 (2008)

- J18) A.Pochelon, A.Mueck, L.Curchod, Y.Camenen, S.Coda, B.P.Duval, T.P.Goodman, I.Klimanov, H.P.Laqua, Y.Martin, J.-M.Moret, L.Porte, A.Sushkov, V.S.Udintsev, F.Volpe and the TCV Team
Electron Bernstein wave heating of over-dense H-mode plasmas in the TCV tokamak via O-X-B double mode conversion
Nucl. Fusion **47**, 1552 (2007)
- J17) B.Lloyd, R.J.Akers, F.Alladio, F.Volpe and 83 coauthors
Overview of physics results from MAST
Nucl. Fusion **47**, S658 (2007)
- J16) V.Shevchenko, G.Cunningham, A.Gurchenko, E.Gusakov, B.Lloyd, M.O'Brien, J.Preinhaelter, A.Saveliev, A.Surkov, F.Volpe, M.Walsh
Development of Electron Bernstein Wave Research in MAST
Fusion Science & Technology **52**, 202 (2007)
- J15) A.Mueck, Y.Camenen, S.Coda, L.Curchod, T.P.Goodman, H.P.Laqua, A.Pochelon, L.Porte, V.S.Udintsev, F.Volpe, TCV Team
Electron Bernstein Wave Heating and Emission in the TCV Tokamak
Fusion Science & Technology, **52**, 221 (2007)
- J14) A.Mueck, L.Curchod, Y.Camenen, S.Coda, T.P.Goodman, H.P.Laqua, A.Pochelon, L.Porte, F.Volpe, TCV Team
Demonstration of Electron-Bernstein-Wave Heating in a Tokamak via O-X-B Double-Mode Conversion
Phys. Rev. Lett. **98**, 175004 (2007)
- J13) F.Volpe
Weakly relativistic dielectric tensor for arbitrary wavenumbers
Phys. Plasmas **14**, 122105 (2007)
- J12) U.Tartari, G.Grosso, G.Granucci, F.Gandini, S.Garavaglia, G.Grossetti, A.Simonetto, V.Mellera, V.Muzzini, L.Lubyako, A.Shalashov, F.P.Orsitto, G.Ciccone and F.Volpe
Evolution of the millimeter-wave collective Thomson scattering system of the high-field tokamak Frascati Tokamak Upgrade
Rev. Sci. Instrum. **78**, 043506 (2007)
- J11) U.Tartari, G.Grosso, G.Granucci, L.V.Lubyako, A.G.Shalashov, E.V.Suvorov, F.P.Orsitto, A.Simonetto, S.Nowak, F.Volpe, A.Bruschi, F.Gandini, V.Muzzini, S.Garavaglia and G.Grossetti
Critical issues highlighted by Collective Thomson Scattering below electron cyclotron resonance in FTU
Nucl. Fusion **46**, 928 (2006)
- J10) G.F.Counsell, R.J.Akers, L.C.Appel, F.Volpe and 69 coauthors
Overview of MAST Results
Nucl. Fusion **45**, S157 (2005)
- J9) F.Volpe
Sensitivity of ITER ECRH Upper Launcher to Steering Errors and Changes of Profiles and Integration with Equatorial Launcher
Journal of Phys.: Conf.Series **25**, 283 (2005)
- J8) W.A.Houlberg, C.Gormezano, J.F.Artaud, F.Volpe and 20 coauthors
Integrated Modeling of the Current Profile in Steady-State and Hybrid ITER Scenarios
Nucl. Fusion **45**, 1309 (2005)
- J7) F.Wagner, S.Bäumel, J.Baldzuhn, F.Volpe and 49 coauthors
W7-AS: One step of the Wendelstein stellarator line
Phys. of Plasmas **12**, 072509 (2005)

J6) B.Lloyd, J-W.Ahn, R.J.Akers, F.Volpe and 65 coauthors
MAST and the impact of low aspect ratio on tokamak physics
Plasma Phys. Control. Fusion **46**, B477 (2004)

≤ 2003 (BS and PhD years)

J5) H.P.Laqua, H.Maassberg, F.Volpe, W7-AS Team and ECRH-Group
Electron Bernstein Wave Heating and Current Drive in Overdense Plasmas at the Wendelstein 7-AS Stellarator
Nucl. Fusion **43**, 1324 (2003)

J4) H.P.Laqua, H.Maassberg, N.Marushchenko, F.Volpe, A.Weller, W7-AS Team, W.Kasperek and ECRH-Group
Electron-Bernstein-Wave Current Drive in an Overdense Plasma at the Wendelstein 7-AS Stellarator
Phys. Rev. Lett. **90**, 75003 (2003)

J3) F.Volpe, H.P.Laqua and the W7-AS Team
BXO mode-converted electron Bernstein emission diagnostic (invited)
Rev. Sci. Instrum. **74**, 1409 (2003)

J2) H.H.Hacker, R.Burhenn, K.Kond, F.Volpe and 73 coauthors
Spectra of highly ionized xenon (6-30 nm) excited in W7-AS plasmas
Appl. Phys. B **73**, 59 (2001)

J1) F.Orsitto, A.Brusadin, Yu.Brodsky, S.Cirant, S.Filchenkov, G.Grosso, E.Giovannozzi, L.Lubyako, A.Perminov, U.Tartari, F.Volpe
Characterization and Preliminary Results of the Collective Thomson Scattering (CTS) System on FTU Tokamak
Rev. Sci. Instrum. **70**, 1158 (1999)

IAEA conference papers

Cr20) M. Okabayashi, Z.R. Wang, Y.Q. Liu, W.Choi, F. Volpe and 19 coauthors
Sustainment of Multi-layered Structure of Unlocked Tearing Modes by Feedback-based Electromagnetic Torque Injection
Proc.26th IAEA Fusion Energy Conf., Kyoto (Japan), 17-22 October 2016.

Cr19) L. Frassinetti, R. Fridström, P. Brunsell, Y. Sun, A.C. Sethiadi, M.W.M. Kahn, R. Sweeney, F.A. Volpe
Effect of external magnetic perturbations on the EXTRAP T2R reversed-field pinch plasma
Proc.26th IAEA Fusion Energy Conf., Kyoto (Japan), 17-22 October 2016.

Cr18) M. Okabayashi, P. Zanca, E.J. Strait, F.A. Volpe and 10 coauthors
Avoidance of Tearing Mode Locking and Disruption with Electro-Magnetic Torque Introduced by Feedback-Based Mode Rotation Control in DIII-D and RFX-Mod
Proc.25th IAEA Fusion Energy Conf., St. Petersburg (Russia), 13-18 October 2014, paper EX/P2-42.

Cr17) P. Brunsell, L. Frassinetti, F. Volpe, K.E.J. Olofsson, R. Fridström, C.A. Setiadi
Resistive Wall Mode Studies Utilizing External Magnetic Perturbations
Proc.25th IAEA Fusion Energy Conf., St. Petersburg (Russia), 13-18 October 2014, paper EX/P4-20.

- Cr16) S. Yamamoto, K. Nagasaki, S. Kobayashi, F. Volpe and 12 coauthors
External Control of Energetic-Ion-Driven MHD Instabilities by ECH/ECCD in Heliotron J Plasmas
 Proc.25th IAEA Fusion Energy Conf., St. Petersburg (Russia), 13-18 October 2014, paper EX/P4-27.
- Cr15) K. Nagasaki, S. Yamamoto, S. Kobayashi, F. Volpe and 23 coauthors
Stabilization of Energetic-Ion-Driven MHD Mode by ECCD in Heliotron J
 Proc.24th IAEA Fusion Energy Conf., San Diego (USA), 8-12 October 2012, paper EX/P8-10.
- Cr14) L. Delgado-Aparicio, D. Stutman, K. Tritz, F. Volpe and 10 coauthors
Dependence of Impurity Transport on ρ^* , ν^* , rotation and MHD in NSTX
 Proc. 23rd IAEA Fusion Energy Conference, Daejeon (South Korea), 11-16 October 2010, paper EXC/P4-04
- Cr13) H. Zohm, J. Adamek, C. Angioni, F. Volpe and 179 coauthors
Overview of ASDEX Upgrade Results
 Proc.22nd IAEA Fusion Energy Conference, 13-18 October 2008 Geneva, Switzerland, paper OV/2-3.
- Cr12) H. Meyer, R. J.Akers, F. Alladio, F. Volpe and 106 coauthors
Overview of Physics Results from MAST
 Proc.22nd IAEA Fusion Energy Conference, 13-18 October 2008 Geneva, Switzerland, paper OV/3-2.
- Cr11) B. Esposito, G. Granucci, S. Nowak, F. Volpe and 9 coauthors
Disruption Control on FTU and ASDEX Upgrade with ECRH
 Proc.22nd IAEA Fusion Energy Conference, 13-18 October 2008 Geneva, Switzerland, paper EX/7-3a
- Cr10) B. Lloyd, R.J. Akers, F. Alladio, F. Volpe and 83 coauthors
Overview of Physics Results from MAST
 Proc. 21st IAEA Fusion Energy Conference, Chengdu, 16-21 October 2006, paper OV/2-3
- Cr9) A.F. Fasoli, S. Alberti, P. Amorim, F. Volpe and 60 coauthors
Overview of TCV Results
 Proc. 21st IAEA Fusion Energy Conference, Chengdu, 16-21 October 2006, paper OV/3-3
- Cr8) T.C. Luce, K.H. Burrell, R.J. Buttery, F. Volpe and 19 coauthors
Dependence of Confinement and Stability on Variation of the External Torque in the DIII-D Tokamak
 Proc. 21st IAEA Fusion Energy Conference, Chengdu, 16-21 October 2006, paper PD-3
- Cr7) M.R.Wade, G.Abla, S.L.Allen, F.Volpe and 345 coauthors
Development in the DIII-D Tokamak of Advanced Operating Scenarios and Associated Control Techniques for ITER
 Proc.21st IAEA Fusion Energy Conf., Chengdu (China), 16-21 October 2006, paper OV/1-4
- Cr6) A. Pochelon, A. Mueck, Y. Camenen, F. Volpe and 11 coauthors
Electron Bernstein Wave Heating of High Density H-modes in the TCV Tokamak
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- Cr5) V. Shevchenko, G. Cunningham, A. Gurchenko, E. Gusakov, B. Lloyd, M. O'Brien, J. Preinhaelter, A. Saveliev, A. Surkov, F. Volpe, M. Walsh
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- Cr4) G.F.Counsell, R.J.Akers, L.C.Appel, F.Volpe and 69 coauthors
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- Cr3) F.Wagner, R.Burhenn, F.Gadelmeier, F.Volpe and 48 coauthors
Major Results from the Wendelstein 7-AS Stellarator
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- Cr2) V.Erckmann, H.P.Laqua, H.Maassberg, N.B.Marushchenko, M.Romé, F.Volpe, W.Kasperek, G.Müller and the W7-AS Team
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- Cr1) R.Jaenicke, M.Anton, J.Baldzuhn, F.Volpe and 52 coauthors
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- C54) R.J. La Haye, E.J. Strait, K.E.J. Olofsson, F. Volpe, N. Ferraro, W. Choi, J. Hanson, M. Lanctot, N.C. Logan, C. Paz-Soldan, W.M. Solomon, R. Sweeney, F. Turco, A. Welander
Exploration of the means for real-time probing of m/n=2/1 tearing mode stability evolution in the ITER baseline scenario in DIII-D
Proc.43rd EPS Conf. Contr. Fusion and Plasma Phys., 4-8 July 2016, Leuven (Belgium), P5.026
- C53) R.M. Sweeney, W. Choi, R.J. La Haye, S. Mao, K.E.J. Olofsson, F.A. Volpe and the DIII-D Team
Analysis of m/n=2/1 locked mode disruption database from the DIII-D tokamak
Proc.43rd EPS Conf. Contr. Fusion and Plasma Phys., 4-8 July 2016, Leuven (Belgium), P5.028
- C52) S.H.M. Mirhosehini and F.A. Volpe
On the way to feedback stabilization of liquid metal walls in a fusion reactor
Proc. 10th PAMIR International Conference on Fundamental and Applied MHD, 20-24 June 2016, Cagliari (Italy)
- C51) F.A. Volpe, P.-D. Létourneau, A. Zhao
Huygens-Fresnel wavefront tracing in non-uniform media
Proc. 12th International Conf. on Mathematical and Numerical Aspects of Wave Propagation 20-24 July, 2015, Karlsruhe (Germany)
- C50) P. Zanca, M. Okabayashi, D. Shiraki, F.A. Volpe and 11 authors
Avoidance of m=2, n=1 tearing mode wall-locking by torque-balance control with magnetic feedback in DIII-D and RFX-mod
Proc.42nd EPS Conf. Contr. Fusion and Plasma Phys., 22-26 June 2015, Lisbon (Portugal), P5.118
- C49) A.S. Welander, R.J. La Haye, D.A. Humphreys, E. Kolemen, F. Volpe
Development of Robust and Multi-Mode Control of Tearing in DIII-D
Proc.26th IEEE Symposium on Fusion Engineering (SOFE), 31 May - 4 June 2015, Austin, TX (USA), Invited paper S05-3
- C48) K. Nagasaki, Y. Nakamura, S. Kamioka, F. Volpe and 16 coauthors
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Proc. Plasma Conference 2014, 18-21 Nov. 2014, Niigata (Japan), paper 21PB-063
- C47) M. Okabayashi, E.J. Strait, A.M. Garofalo, J.M. Hanson, Y. In, R.J. La Haye, D. Shiraki, F. Volpe
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- C46) O. Meneghini, M. Choji and F. Volpe
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- C45) A.W. Clark, D.A. Spong, F.A. Volpe
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- R.Prater, R.J.La Haye, T.C.Luce, C.C.Petty, F.Volpe and 5 coauthors
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- R.Prater, R.J.La Haye, J.R.Ferron, D.A.Humphreys, T.C.Luce, C.C.Petty, E.J.Strait, F.Volpe, A.S.Welander
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- N.B.Marushchenko, Yu.Turkin, F.Volpe, V.Erckmann, H.P.Laqua, H.Maaßberg
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- R.Jaenicke, S.Baeumel, J.Baldzuhn, F.Volpe and 41 coauthors
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B53) K.C. Hammond, A. Anichowski, P.W. Brenner, R. Diaz-Pacheco, Y. Kornbluth, T.S. Pedersen, S. Raftopoulos, P. Traverso, F.A. Volpe, Y. Wei

Inverse methods for stellarator error-fields and emission

58th Annual Meeting of APS Division of Plasma Physics, San Jose, CA (USA), 31 Oct. - 4 Nov.2016, PO4 5

- B52) J. Li, B. Israeli, K.C. Hammond, F.A. Volpe
Zero-plasma-current equilibria generated by tilted planar coils
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- B51) W. Choi, K.E.J. Olofsson, R. Sweeney, F.A. Volpe
Feed-back control of 2/1 locked mode phase: experiment on DIII-D and modeling for ITER
58th Annual Meeting of APS Division of Plasma Physics, San Jose, CA (USA), 31 Oct. - 4 Nov.2016, TO4 11
- B50) L. Zeppetello, M. Doumet, K. Hammond, B. Israeli, J. Mann, F. Volpe, A. Clark
Generation of rotational transform in a toroidal confinement device with tilted coils
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- B49) K. Hammond, A. Anichowski, F. Volpe, Y. Wei, S. Lazerson
Experimental characterization and equilibrium reconstructions of first electron cyclotron heated plasmas in the low-aspect ration CNT stellarator
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- B48) W. Choi, K.E.J. Olofsson, R. Sweeney, F.A. Volpe, M. Okabayashi
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- B47) R. Sweeney, W. Choi, K.E.J. Olofsson, F.A. Volpe, R.J. La Haye, S. Mao
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- B46) S.M. Mirhoseini, F. Volpe
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- B45) K.C. Hammond, A. Anichowski, S.A. Lazerson, F.A. Volpe, Y. Wei
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- B44) F.A. Volpe, A.W. Clark, M. Doumet, K.C. Hammond, B.Y. Israeli, S.A. Lazerson, J.H. Mann, D.A. Spong, L.R. Zeppetello
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- B43) F.A. Volpe
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- B42) A. Zhao, P.-D. Létourneau, and F.A. Volpe
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- B41) R. Sweeney, W. Choi, K.E.J. Olofsson, F.A. Volpe
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- B40) F.A. Volpe, S. Sabbagh, R. Sweeney, T. Hender, R.J. La Haye, E.J. Strait, Y.H. Ding, B. Rao, S. Fietz,
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- B39) M. Doumet, B.Y. Israeli, K.C. Hammond, R.M. Sweeney, F.A. Volpe, D.A. Spong, A.W. Clark,
Y. Kornbluth
Proto-CIRCUS tilted-coil tokamak-torsatron hybrid: design and construction
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Bull. Am. Phys. Soc. **59**, No.15, p.351, UP8 68
- B38) K.C. Hammond, F.A. Volpe, S. Lazerson
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- B37) K. Nagasaki, S. Yamamoto, S. Kobayashi, F. Volpe and 17 coauthors
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- B36) M. Okabayashi, E.J. Strait, A.M. Garofalo, R.J. La Haye, Y. In, J.M. Hanson, D. Shiraki, F. Volpe
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- B35) F.A. Volpe, C. Caliri, A.W. Clark, A. Febre, K.C. Hammond, S.D. Massidda, R.M. Sweeney, T.S. Pedersen,
X. Sarasola, D.A. Spong, Y. Kornbluth
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- B34) C. Caliri, F.A. Volpe, S. Gammino, D. Mascali
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- B33) Y. Kornbluth, F.A. Volpe
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- B32) D. Shiraki, K.E.J. Olofsson, F.A. Volpe, R.J. La Haye, E.J. Strait, C. Paz-Soldan, N. Logan, M. Okabayashi
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- B31) K. Hammond, S. Massidda, W. Capecchi, F. Volpe
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- B29) K. Nagasaki, N. Fujita, Y. Nakamura, F. Volpe and 15 coauthors
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- B28) D.A. Spong, J.H. Harris, W.T. Reiersen, A. Clark, A. Nielsen, F. Volpe, A. Ware
Recent optimized stellarator designs
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- B24) F.A. Volpe, L. Frassinetti, P.R. Brunzell, J.R. Drake and K.E.J. Olofsson
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- B19) E.J. Strait, R.J. Buttery, A.M. Garofalo, R.J. La Haye, M.J. Schaffer, P.E. Sieck, F.A.G. Volpe, J.M. Hanson
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- B17) K.J. Luh, F.A. Volpe, M.E. Austin, R.J. La Haye, E.J. Strait
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- B14) R.J. Fonck, M.W. Bongard, E.T. Hinson, B.A. Kujak-Ford, B.T. Lewicki, A.J. Redd, D.J. Schlossberg, F. Volpe, G.R. Winz
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- B9) H. Rinderknecht, R.K. Fisher, E.M. Hollmann, M.J. Lanctot, F. Volpe
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- B7) F. Volpe, F. Volpe, M.E. Austin, R.J. La haye, C.C. Petty, M.A. Makowski
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- B6) F. Volpe and V. Shevchenko
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- B5) G. Cunningham, A. Gurchenko, E. Gusakov, V. Shevchenko, A. Surkov, F. Volpe
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- B4) S. Ferrando i Margalet, W.A. Cooper, L. Porte, F. Volpe, F. Castejon
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- B3) F. Volpe and V. Shevchenko
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- R4) F. Volpe and B. Lloyd
Physics analysis, prototyping & beam line mock-up tests for the ITER ECRH Upper Launcher - Report on Deliverables (f).6 (Analysis of Sensitivity to steering errors in the ECH&CD upper launcher) and (f).7.1 (Integrated analysis of Horizontal & Upper Launcher performance) and Additions to March 2004 Report on Deliverable (f).5.2 (Effect of change of plasma parameters and profiles on CD efficiency)
 Dec.2004 (21 pages)
- R3) F. Volpe and B. Lloyd
Physics analysis, prototyping & beam line mock-up tests for the ITER ECRH Upper Launcher - Report on Deliverables (f).2.1 (Specific analysis of NTM stabilisation for multiple launcher position), (f).3.1 (Specific analysis of NTM stabilisation), (f).5.2 (Effect of change of plasma parameters and profiles on CD efficiency)
 March 2004 (62 pages)

R2) F.Volpe
Electron Bernstein emission diagnostic of electron temperature profile at W7-AS Stellarator
IPP Report 13/1, March 2003 (124 pages)

R1) F.Volpe
Metodi numerici alle differenze finite nella magnetoidrodinamica dei metalli liquidi
Internal Report CMFD Univ. Trieste, Nov.1998

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- ENEA 1997/98
- IPP 1999, 2000, 2001 (Chapter “Wendelstein 7-AS”, Sec.3.2)
- Kyoto University 2012
- NIFS 2013 and 2014
- PPPL/NSTX 2009
- UKAEA Fusion 2003/04 (Chap.8), 2004/05 (Chap.5 and 8), 2005/06 (Chap.5), 2006/07 (Chap.5)

Finally, publications J46, J35, J31, J21, Cf11, Cf9 and four coauthored conference proceedings are also available as, respectively, General Atomics reports GA-A27721, GA-A27069, GA-A26831, GA-A26357, GA-A25863, GA-A25864, GA-A27926, GA-A25827, GA-A25671, GA-A25510.

Non-refereed journals

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Electron Bernstein emission electron temperature profile at the W7-AS Stellarator
Stellarator News **77**, 1 (2001) (also available at: www.ornl.gov/fed/stelnews/stelnews.html)

Lecture Notes

F.Volpe

Plasma Waves and Heating

IPP Summer University on Plasma Physics and Fusion Research, 22-26 Sept. 2008 Garching (Germany)