

PUBLICATION LIST

SUMMARY

International and national journals

Conference proceedings

Communications to National and International Workshops and Conferences

International and national journals

1. Tomography feasibility study on the optical emission spectroscopy diagnostic for the negative ion source of the ELISE test facility
Bonomo, F.; Agostini, M.; Brombin, M.; U. Fantz, P. Franzen, R. Pasqualotto, U. Fantz, P. Franzen, D W`underlich and the NNBI Team
PLASMA PHYS CONTR F, **56** Issue: 1, (2014) 015006 (14 pp)
2. Characterization of temperature profiles in the outer region of RFX-mod
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3. First scenario development with the JET new ITER-like wall
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4. Calculation of 3-D Magnetic Fields Produced by MHD Active Control Systems in Fusion Devices
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5. A Novel Tool for Breakdown Probability Predictions on Multi-Electrode Multi-Voltage Systems
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6. Lazy Cohomology Generators Enable the Use of Complementarity for Computing Halo Current Resistive Distribution in Fusion Reactors
Bettini, Paolo; Specogna, Ruben
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7. A 2D Particle in Cell model for ion extraction and focusing in electrostatic accelerators
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8. Ferromagnetic effects in the theory of slow and fast resistive wall modes in tokamaks
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9. Modeling and design of a beam emission spectroscopy diagnostic for the negative ion source NIO1
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10. Electrostatic sensors for SPIDER experiment: Design, manufacture of prototypes, and first tests

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11. Installation of a versatile multiaperture negative ion source
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12. High energy flux thermo-mechanical test of 1D-carbon-carbon fibre composite prototypes for the SPIDER diagnostic calorimeter
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16. Physics design of the injector source for ITER neutral beam injector (invited)
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19. Comparative study of beam losses and heat loads reduction methods in MITICA beam source
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21. Design and R&D of Thermal Sensors for ITER Neutral Beam Injectors
Mauro Dalla Palma, Nicola Pomaro, Moreno Maniero, Roberto Pasqualotto, Lauro Trevisan, and Piergiorgio Sonato
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22. Manufacturing and Testing of Grid Prototypes for the ITER Neutral Beam Injectors
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25. Chaoticity threshold in magnetized plasmas: Numerical results in the weak coupling regime
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26. Pressure-driven reconnection and quasi periodical oscillations in plasmas
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Published: MAR 2014
28. Tearing modes transition from slow to fast rotation branch in the presence of magnetic feedback
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29. Dual-laser calibration of Thomson scattering systems in ITER and RFX-mod
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33. Electric Probe Measurements of the Poloidal Velocity in the Scrape-Off Layer of ASDEX Upgrade
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CONTRIB PLASM PHYS, **54** Issue: 3 Special Issue: SI (2014) 273-278
34. Magnetic Field Effect on Voltage Holding in the MITICA Electrostatic Accelerator
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36. Compensation of Beamlet Deflections and Focusing Methods in the Electrostatic Accelerator of MITICA Neutral Beam Injector
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37. A New Generation of Real-Time Systems in the JET Tokamak
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39. An Original Method for Spot Detection and Analysis for Large Surveys of Videos in JET
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40. The influence of an ITER-like wall on disruptions at JET
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 46. Input/output plugin architecture for MDSplus
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 47. Self-organized 3D equilibrium formation and its feedback control in RFX-mod
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 48. Plasma edge transport with magnetic islands-a comparison between tokamak and reversed-field pinch
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 51. The New Feedback Control System of RFX-mod Based on the MARTe Real-Time Framework
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 53. UMEL: A new regression tool to identify measurement peaks in LIDAR/DIAL systems for environmental physics applications
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58. Tokamak Operation with Safety Factor $q_{95} < 2$ via Control of MHD Stability.
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62. Supervised Image Processing Learning for Wall MARFE Detection Prior to Disruption in JET With a Carbon Wall
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64. Computation of stationary 3D halo currents in fusion devices with accuracy control
Bettini, Paolo; Specogna, Ruben
J COMPUT PHYS, **273** (2014) 100-117
65. Joint 19th ISHW and 16th RFP workshop- Preface
David Terranova, Maria Ester Puiatti and Boyd Blackwell
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66. Experimental Validation of the 3-D Molecular Flow Code AVOCADO
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72. Robustness and increased time resolution of JET Advanced Predictor of Disruptions
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73. Simulation and real-time replacement of missing plasma signals for disruption prediction: an implementation with APODIS
G A Rattà, J Vega¹, A Murari² and JET EFDA Contributors³
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74. Overview of manifold learning techniques for the investigation of disruptions on JET
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75. Overview of image processing tools to extract physical information from JET videos
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76. Extensive statistical analysis of ELMs on JET with a carbon wall
A Murar, F Pisano, J Vega, B Cannas, A Fanni, S Gonzalez, M Gelfusa, M Grosso and JET EFDA Contributors
PLASMA PHYS CONTR F, **56** (2014) 114007 (26pp)
77. Continuous model in dq frame of Thyristor Controlled Reactors for stability analysis of high power electrical systems
Finotti, Claudio; Gaio, Elena
INT J ELEC POWER, **63** (2014) 836-845
78. An integrated data analysis tool for improving measurements on the MST RFP
L. M. Reusch, M. E. Galante, P. Franz, J. R. Johnson, M. B. McGarry, H. D. Stephens and D. J. Den Hartog
Rev. Sci. Instrum. **85** , 11D844 (2014).
79. Note: Effect of photodiode aluminum cathode frame on spectral sensitivity in the soft x-ray energy band
M. B. McGarry, P. Franz, D. J. Den Hartog, J. A. Goetz and J. Johnson
REV. SCI. INSTRUM. **85** , 096105 (2014).
80. Experimental Qualification of the Hybrid Circuit Breaker Developed for JT-60SA Quench Protection Circuit
Alberto Maistrello, Elena Gaio, Alberto Ferro, Mauro Perna, Carlo Panizza, Francesco Soso, Luca Novello, Makoto Matsukawa, and Kunihito Yamauchi
IEEE T APPL SUPERCON **24**, NO. 3 (2014)
81. Dual-angle, self-calibrating Thomson scattering measurements in RFX-MOD
L. Giudicotti, RT. Pasqualotto, A. Fassina
REV. SCI. INSTRUM. **85** , 11d823 (2014).
82. Theoretical description of heavy impurity transport and its application to the modelling of tungsten in JET and ASDEX upgrade
F J Casson, C Angioni, E A Belli, R Bilato, P Mantica, T Odstreil, T Pütterich, M Valisa, L Garzotti¹, C Giroud, J Hobirk, C F Maggi, J Mlynar and M L Reinke
PLASMA PHYS CONTR F, **57** N. 1 (2014) 014031
83. Development of a new virtual diagnostic for V3FIT
G. L. Trevisan, M. R. Cianciosa, D. Terranova, and J. D. Hanson
PHYS. PLASMAS, **21**, vol 2 issue 12 122504 (2014)

Conference proceedings

International Conference on Fusion Reactor Diagnostics 2013

Gonzalez W., Rizzolo A., Peruzzo S., Arshad S., Portales M., Vayakis G.
Thermo-mechanical analyses of ITER in-vessel magnetic sensor assembly
AIP Conf. Proc. (), 1612 (2014) 179-183

CEFC 2014 – The 16th Biennial IEEE Conference on Electromagnetic Field Computation

May 25-28, 2014 Annecy, France

To be published on a special issue of **IEEE Transactions on Magnetics**

N. Marconato, D. Aprile, G. Chitarin

An efficient method for magnetic field and force calculation in complex permanent magnet and current

P. Bettini, Tommaso Bolzonella, Alberto Ferro, Murizio Furno Palumbo, Stefano Mastrostefano, Go Matsunaga, Ruben Specogna, Manabu Takechi, Fabio Villone

Advanced computational tools for the characterization of the dynamic response of MHD control systems

21th International Conference on Plasma Surface Interactions 2014 (PSI)

May 26-30, 2014 Ongaku-do, Kanazawa Ishikawa, Japan

To be published in Journal of Nuclear Materials

P. Scarin, M. Agostini, L. Carraro, G. Ciaccio, G. De Masi, G. Spizzo, M. Spolaore, N. Vianello

Edge plasma physics modifications due to magnetic ripple in RFX-mod

P2-042

P. Innocente, M. Agostini, S. Barison, A. Canton, L. Carraro, R. Cavazzana, G. De Masi, A. Fassina, S. Fiameni, D.K. Mansfield, B. Rais, A.L. Roquemore, P. Scarin

Lithium wall conditioning by high frequency pellet injection in RFX-mod

P2-055

F. Ghezzi, R. Caniello, A. Cantona, P. Innocentea, L. Laguardia, B. Rais

Deuterium and oxygen bounding mechanism in boron coating film for graphite wall conditioning in RFX-mod

P2-112

20th Topical Conference on High-Temperature Plasma Diagnostics (HTPD 2014)

June 1-5, 2014 Atlanta, USA

To be published in Review of Scientific Instruments

M. Brombin, M. Spolaore, G. Serianni, N. Pomaro, C. Taliercio, M. Dalla Palma, R. Pasqualotto, and L. Schiesko

Langmuir probes for SPIDER experiment: tests in BATMAN

L. Giudicotti, R. Pasqualotto, and A. Fassina

Dual-angle, self-calibrating Thomson scattering measurements in RFX-MOD

M. Barbisan, B.Zaniol, and R. Pasqualotto

Modeling and simulation of a beam emission spectroscopy diagnostic for the ITER prototype neutral beam injector

41st EPS conference

June 23-27, 2014 Berlin, Germany

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7th International Conference on New Developments In Photodetection

30 June- 4 July 2014, Tours, France

L. Giudicotti

Gain saturation in microchannel plate detectors

*To be published in a special issue of **Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment***

13th European Vacuum Conference

8-12 September, 2014 Averio, Portugal

*To be published after peer review in **Vacuum** journal*

E. Sartori, G. Serianni, S. Dal Bello

Multi-scale simulation of gas density distribution in a fusion-relevant particle accelerator

28th SOFT Symposium on Fusion Technology

29 September – 3 October, 2014 San Sebastian, Spain

To be published in a special edition of the International Journal “Fusion Engineering and Design”

Piero Agostinetti Mauro Dalla Palma Fabio Degli Agostini Diego Marcuzzi Federico Rossetto Piergiorgio Sonato Pierluigi Zaccaria

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Development of the ITER Continuous External Rogowski: from conceptual design to final design

4th International Symposium on Negative Ions, Beams and Sources (NIBS 2014)

6 - 10 October 2014, IPP Garching, Germany

To be published by AIP, in their conference proceedings series

E. Sartori, P. Veltri, E. Dlougach, R. Hemsworth, G. Serianni, M. Singh

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25th Fusion Energy Conference (FEC2014)

13-18 October, 2014 Saint Petersburg, Russia

The papers will be published by the IAEA as unedited proceedings in electronic format on a CD-ROM and on the IAEA Physics Section website by march 2015

Possible submission to Nuclear Fusion

A. Masiello, V. Antoni, D. Marcuzzi, V. Toigo et al.

Progress Status of the Activities in EU for the Development of the ITER Neutral Beam Injector and Test Facility

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M. Nornberg, F. Aureimma, P. Innocente, D. Terranova, D. Brower, M. Cianciosa, B. Chapman

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S. Masamune, R. Paccagnella et al.

Attainment of High Electron Poloidal Beta in Axisymmetric State and Two Routes to Self-Organized Helical State in Low-Aspect-Ratio RFP

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R. Paccagnella, L. Sugiyama, J. Breslau, S. Jardin, H. R. Strauss

Progresses in 3D Nonlinear Numerical Simulation of Tokamak Disruptions

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G. Spizzo, O. Tudisco, M. Zuin, G. Pucella

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Turbulent Electromagnetic Filaments in Toroidal Plasma Edge

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V. Toigo, D. Boilson, T. Bonicelli, M. Hanada, A. Chakraborty, and NBTF Team

Progress in the Realization of the PRIMA Neutral Beam Test Facility

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E. Lerche, M. Valisa et al.

ICRH for Mitigation of Core Impurity Accumulation in JET-ILW

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Communications to National and International Workshops and Conferences

5th International Conference on Plasma Medicine (ICPM5)

May 18-23, 2014 Nara, Japan

Book of abstracts

M. Zuin, P. Brun, E. Martines, S. Pathak, P. Brun, R. Cavazzana

Control of time-limited activation of human primary fibroblasts through ROS generation induced by cold atmospheric plasma treatment

Theory and Simulation of Disruptions Workshop

July 9-11, 2014, Princeton, New Jersey USA

R. Paccagnella, V. Yanovski, P. Zanca, R. Cavazzana, C. Finotti, G. Manduchi, L. Piron

Progresses in disruptions theory and some new experiments in disruption control

*Theory of fusion plasmas, joint Varenna - Lausanne international workshop
September 1–5, 2014 Villa Monastero, Varenna, Italy*

Xu Xinyang, S. C. Guo, Y. Q. Liu, Z. R. Wang

Trapped Energetic Particles Effect on Resistive Wall Mode and Excitation of Fishbone-Like Mode in RFP plasmas

*M. Veranda, Bonfiglio Daniele, Cappello Susanna, Escande Dominique, Chacon Luis
Helical features in nonlinear 3D MHD simulations of reversed-field pinch*

**ICPP 2014 International Congress on Plasma Physics
15-19 September, 2014 Lisbona, Portugal**

D. Bonfiglio, S. Cappello, M. Veranda, D. F. Escande and L. Chacón

Helical Self-Organization in 3D MHD Modeling of Fusion Plasmas

Book of abstracts MCF.I1

E. Martines, D. Bonfiglio, S. Cappello, P. Innocente, H. Isliker, R. Lorenzini, B. Momo, C. Rea, M. Veranda, L. Vlahos, P. Zanca, and M. Zuin

Magnetic Topology Change Induced By Discrete Relaxation Events In Reversed Field Pinch Plasmas

Book of abstracts MCF.P26

**Joint 24th MHD, Disruptions & Control and 13th Energetic Particle Physics Topical Groups of the International Tokamak Physics Activity (ITPA)
21-23 October, 2014 Padova, Italy**

P. Piovesan

Measurement and modelling of plasma response to 3D fields at high-beta in ASDEX Upgrade

T. Bolzonella

Systematic approach to 3D dynamic e.m. modeling of fusion devices and its validation

R. Paccagnella

Update on disruptions simulations

M. Gobbin/M. Valisa

Runaway electron dynamics in RFX-mod tokamak discharges

P. Zanca

An active feedback avoidance technique for disruption events induced by m=2 n=1 tearing modes in ohm ically heated tokamak

**56th Annual Meeting of the APS Division of Plasma Physics
October 27-31, 2014 • New Orleans, Louisiana**

*Bulletin of the American Physical Society 56th Annual Meeting of the APS Division of Plasma Physics
Volume 59, Number 15*

Vadim Yanovskiy, Roberto Paccagnella

Plasma surface and wall eddy currents and their connection to Halo currents during disruptions in tokamaks

BP8.00015

I. Predebon, P. Xanthopoulos, D. Terranova

Gyrokinetic investigation of ITG turbulence in helical RFPs I.

JP8.00067

A.D. Turnbull, N.M. Ferraro, L.L. Lao, General Atomics, J.M. Hanson, F. Turco, P. Piovesan

External Kink Mode in Diverted Tokamaks

NP8.00021

Roberto Paccagnella, Paolo Zanca, Vadimyanovskiy, Claudio Finotti, Gabriele Manduchi, Chiara Piron
Lorella Carraro, Paolo Franz

Disruption avoidance through active magnetic feedback in tokamak plasmas,

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P. Piovesan, , V. Igochine, Ipp, A. Kirk, M. Maraschek, Ipp, L. Marrelli, , W. Suttrop, D. Yadykin, M.
Cavedon, I.G.J. Classen, Differ, B. Gude, M. Reich, E. Viezzer, E. Wolfrum, Asdex Upgrade Team

Measurement of plasma response to 3D fields at high- β in ASDEX Upgrade

PO3.00014

L.M. Reusch, M.E. Galante, D.J. Den Hartog, P. Franz, J.R. Johnson, M.B. McGarry, H.D. Stephens

**Using IDA to Understand Electron Temperature Structures in High Temperature Discharges in the
Madison Symmetric Torus**

PP8.00012

Matthew Galante, Lisa Reusch, Daniel Den Hartog, Paolo Franz, Jay Johnson, Meghan McGarry

Determination of Z_{eff} in MST Plasmas through Integrated Data Analysis

PP8.00013

J.A. Goetz, M.B. McGarry, P. Franz, D.J. Den Hartog , J. Johnson

Improvements in SXR and Te Measurements on MST

PP8.00014

Stefano Munaretto, F. Auriemma, D. Brower, B.E. Chapman, D.J. Den Hartog,

W.X. Ding, J. Duff, P. Franz, J.A. Goetz, D. Holly, L. Lin, K.J. Mccollam, M. McGarry, L. Morton, M.D.
Nornberg, E. Parke, J.S. Sarff

Dynamics of helical states in MST

PP8.00022

3D MHD modeling of fusion plasmas with the PIXIE3D and SpeCyl codes

D. BONFIGLIO, S. CAPPELLO, M. VERANDA, L. CHAC'ON, LANL, NM, D.F. ESCANDE

PP8.00037

Gianluca De Masi, Fulvio Auriemma, Roberto Cavazzana, Emilio Martines, Gianluca Spizzo

A new technique for effective core fueling and density control in RFX-mod

PP8.00038

Matteo Zuin, Luca Stevanato, Emilio Martines, Winder Gonzalez, Roberto Cavazzana, Davide Cester, G.
Nebbia, Laszlo Sajo-Bohus, Giuseppe Viesti

**Neutron and Gamma-ray Detection in Reversed-Field Pinch Deuterium Plasmas in the RFX-mod
Device**

PP8.00039

Barbara Momo, Emilio Martines, Paolo Innocente, Rita Lorenzini, Cristina Rea, Paolo Zanca, Matteo Zuin

Magnetic topology change induced by reconnection events in RFP plasmas

PP8.00040

Daniele Brunetti, Jonathan Graves, Wilfred Cooper, David Terranova, Christer Wahlberg

Fast growing instabilities and non-linear saturated states in hybrid tokamak and RFP plasmas

PP8.00041

Roberto Cavazzana, Matteo Agostini, Lorella Carraro, Paolo Innocente, Lionello Marrelli, Paolo Scarin, Gianluca Spizzo, Monica Spolaore, Nicola Vianello, Matteo Zuin

Direct Measurement of the First Wall Recycling Coefficient on RFX mod

TP8.00030

Matteo Agostini, Lorella Carraro, Giovanni Ciaccio, Gianluca De Masi, Cristina Rea, Paolo Scarin, Gianluca Spizzo, Monica Spolaore, Nicola Vianello

Turbulence and transport in a 3D magnetic boundary

TP8.00072

Vadim Yanovskiy, Paolo Zanca, Roberto Paccagnella

MHD modes rotation and locking threshold studies in ITER-like plasmas

YP8.00017

Vadim Yanovskiy, Vladimir Pustovitov

Ferromagnetic effect on the rotational stabilization of the resistive wall modes in tokamaks

YP8.00018

19th Workshop on MHD Stability Control - A US-Japan Workshop

Auburn University November 3-5, 2014

C. Piron: "Coupling of externally applied 3D fields with internal MHD, with focus on sawteeth and their control"