

Personal information

Name	Nicola Vianello
Date and Place of birth	14 August 1975, Venice, Italy
Citizenship	Italian
Address	Via dei Giacinti 28, 35126 Padova, Italy
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ResearcherID	B-6323-2008
Google Scholar	Google scholar
Publons	Publons profile

Education

1993	High School Leaving Certificate , Liceo Scientifico Statale <i>U.Morin</i> , Venice Italy. Grade: 56/60
1999	M. Sci. Physics , <i>Università degli Studi di Padova</i> . Grade: 110/110 cum Laude
Thesis Title	<i>Trasporto di particelle ed energia per effetto di turbolenza elettrostatica in plasmi confinati in configurazione Reversed Field Pinch (Particle and energy transport induced by electrostatic turbulence in Reversed Field Pinch plasmas)</i>
advisor	Prof. S. Lo Russo, Dr. V. Antoni
2002	PhD in Energetics , <i>Università degli Studi di Padova</i>
Thesis Title	<i>Self-organization phenomena and coherent structure generation</i>
advisor	Prof. A.Buffa, Dr. V. Antoni

Schools

2000	<i>International School of Plasma Physics and Ultrafast Optics</i> , Capri, Italy
2001	<i>5th Carolus Magnus Euro-Summer School on Plasma and Fusion Energy Physics</i> , Badhonnef, Germany
2002	<i>International School on Topics in Nonlinear Dynamics</i> , Venice, Italy
2011	<i>5th International Iter Summer School: MHD and Energetic Particles</i> , Aix-en-Provence, France

Employment

1999	Consorzio RFX, Padova, Italy, Research Fellow
2002–2003	Consorzio RFX, Padova, Italy, Research Fellow
2003–2009	Consorzio RFX, Padova, Italy, Research Scientist
2009–2015	Consiglio Nazionale delle Ricerche, Research permanent staff
2015–2016	Swiss Plasma Center, Ecole Polytechnique Federale de Lausanne, Scientist
2016–	Consiglio Nazionale delle Ricerche and Consorzio RFX, Research permanent staff

Experience

March – June 2001	Visiting scientist at Royal Institute of Technology, Stockholm, Sweden
May – June 2002	Visiting scientist at Royal Institute of Technology, Stockholm, Sweden
March – April 2003	Visiting scientist at Royal Institute of Technology, Stockholm, Sweden
April – June 2004	Visiting scientist at Royal Institute of Technology, Stockholm, Sweden
October 2005	Visiting scientist at Risö National Laboratory, Denmark
February 2008	Visiting Scientist at Max-Planck Institut für Plasmaphysik, Garching, Germany
May 2009	Visiting Scientist at Max-Planck Institut für Plasmaphysik, Garching, Germany
November 2009	Visiting Scientist at Centre der Recherches en Physique des Plasmas, EPFL, Lausanne
March 2011	Visiting scientist at Royal Institute of Technology, Stockholm, Sweden
April 2011	Visiting scientist at the National Fusion Laboratory, CIEMAT, Madrid
May 2011	Visiting Scientist at Max-Planck Institut für Plasmaphysik, Garching, Germany
February-March 2012	Visiting Scientist at Culham Centre for Fusion Energy, Oxford, JET
July-September 2013	Visiting Scientist at Culham Centre for Fusion Energy, Oxford, JET
May 2014	Visiting Scientist at Max-Planck Institut für Plasmaphysik, Garching, Germany
July 2014	Visiting Scientist at Culham Centre for Fusion Energy, Oxford, JET
July 2015	Visiting Scientist at Max-Planck Institut für Plasmaphysik, Garching, Germany
July 2015	Visiting Scientist at Max-Planck Institut für Plasmaphysik, Garching, Germany
October 2015	Visiting Scientist at Max-Planck Institut für Plasmaphysik, Garching, Germany
February 2016	Visiting Scientist at Max-Planck Institut für Plasmaphysik, Garching, Germany
May 2016	Visiting Scientist at Swiss Plasma Centre, EPFL, Lausanne
July 2016	Visiting Scientist at Swiss Plasma Centre, EPFL, Lausanne
April 2017	Visiting scientist (fellowship), within EUROfusion framework, at Max-Planck Institut für Plasmaphysik, Garching, Germanoa
May 2017	Visiting scientist (fellowship), within EUROfusion framework, at Max-Planck Institut für Plasmaphysik, Garching, Germanoa
June 2017	Visiting scientist (fellowship), within EUROfusion framework, at Swiss Plasma Centre, EPFL, Lausanne
September 2017	Visiting scientist (fellowship), within EUROfusion framework, at the Swiss Plasma Centre, EPFL, Lausanne
November 2017	Visiting scientist (fellowship), within EUROfusion framework, at the Swiss Plasma Centre, EPFL, Lausanne
July 2018	Visiting scientist (fellowship), within EUROfusion framework, at Culham Centre for Fusion Energy, Oxford, UK
2019-date	Several visits to different European Laboratories, mainly Swiss Plasma Center at EPFL, Culham Centre for Fusion Energy at Culham, UK and Max-Planck Institut für Plasmaphysik, Garching all within EUROfusion framework scheme

Invited Lectures

July 2012	Invited lecture at the <i>Workshop on Electric Field, Turbulence Self Organization in Magnetized Plasmas</i> , Stockholm, Sweden
Title	<i>The role of 3D fields on edge and SOL turbulence</i>
July 2012	Invited lecture at the <i>41st EPS Conference in Plasma Physics</i> , Berlin, Germany
Title	<i>Magnetic perturbation as a viable tool for edge turbulence modification</i>
December 2014	Invited lecture at the <i>1st International and Interdisciplinary Workshop on Fusion and Technological Plasmas (FUSTECH)</i> , Collaborative Research Center SFB-TR87, Ruhr-University Bochum
Title	<i>Fluctuations in tokamaks and RFPs: Relation with topology</i>

Competition and Habilitation

May 2009	Public selection (Ref.364/12) held by Consiglio Nazionale delle Ricerche, for research position
Advisor Committee	Prof. A. Fasoli, Ecole Polytechnique Federale de Lausanne, Switzerland Dr. V. Antoni, Consiglio Nazionale delle Ricerche, Istituto Gas Ionizzati, Padova Dr. D. Farina, Consiglio Nazionale delle Ricerche, Istituto di Fisica del Plasma, Milano
Result	The competition included written exams and oral colloquium. The candidate resulted the winner of the competition with a final mark of 104.5/120
2012	Abilitazione Scientifica Nazionale (ASN National Scientific Habilitation). Public evaluation of the competences and scientific achievements to obtain the qualification of <i>Professore Associato</i> (Associate Professor) in Experimental Physics and Material Science
Evaluation Panel	Prof. Mattera Lorenzo, Università degli Studi di Genova, Italy Prof. Rinaldo Cubeddu, Politecnico di Milano, Italy Prof. Stefano Nannarone, Università degli Studi di Modena e Reggio Emilia, Italy Prof. Mobilio Settimio, Università degli Studi di Roma Tre, Italy Prof. Andrea Cavalleri, Max Planck Institute for the Structure and Dynamics of Matter, Hamburg
Grade	Excellent
2018	Abilitazione Scientifica Nazionale (ASN National Scientific Habilitation). Public evaluation of the competences and scientific achievements to obtain the qualification of <i>Professore Ordinario</i> (Full Professor) in Experimental Physics and Material Science
Evaluation Panel	Prof. Federico Boscherini, Università degli Studi di Bologna Prof. Giulio Nicola Cerullo, Politecnico di Milano Prof.ssa Pasqualino Maria Maddalena, Università degli Studi di Napoli Prof. Francesco Saverio Pavone, Università degli Studi di Firenze Prof. Sandro Santucci, Università degli Studi dell'Aquila Valid from 26/07/2018 to 26/07/2024
2018	Abilitazione Scientifica Nazionale (ASN National Scientific Habilitation). Public evaluation of the competences and scientific achievements to obtain the qualification of <i>Professore Associato</i> (Associate Professor) in Experimental Physics and Material Science
Evaluation Panel	Prof. Federico Boscherini, Università degli Studi di Bologna Prof. Giulio Nicola Cerullo, Politecnico di Milano Prof. Pasqualino Maria Maddalena, Università degli Studi di Napoli Prof. Francesco Saverio Pavone, Università degli Studi di Firenze Prof. Sandro Santucci, Università degli Studi dell'Aquila Valid from 26/07/2018 to 26/07/2024
2018	Abilitazione Scientifica Nazionale (ASN National Scientific Habilitation). Public evaluation of the competences and scientific achievements to obtain the qualification of <i>Professore Associato</i> (Associate Professor) in Theoretical Physics of Matter
Evaluation Panel	Prof. Federico Boscherini, Università degli Studi di Bologna Prof.ssa Vincenza Cupri, Università degli Studi di Messina Prof. Amos Maritan, Università degli Studi di Padova Prof. Alessandro Tredicucci, Università degli Studi di Pisa Prof. Pierluigi Veltri, Università della Calabria Abilitazione valida dal 08/08/2018 al 08/08/2024

Duties and Responsibilities

2007–2015	Responsible Scientist for edge manipulators in RFX-mod device. Responsibilities implies the maintenance and improvement of the two manipulators used in RFX-mod for the insertion of edge probes and the development of new probe heads with the coordination between design, mechanical and diagnostic technicians.
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- 2015-2016 Responsible Scientist Soft X ray diagnostic in the TCV tokamak. Deputy Responsible Scientist for the Neutral Beam Heating system in the TCV tokamak.
- 2009 Task force leader in RFX-mod experiment for task force *Particle, Momentum and energy transport*. The task force was in charge to implement experimental proposals aimed to the comprehension of physical mechanisms which regulate particle momentum and energy transport in RFX-mod. The task force leaders together with the Scientific Coordinators take part to the decision processes concerning the experimental program of the machine, deciding priorities and objectives
- 2010 Task force leader in RFX-mod experiment for task force *Physics integration for high performance RFP*. The task force aimed to coordinate all the efforts devoted to the comprehension of the physical mechanism behind the appearance of improved confinement regimes in RFX-mod, to establish the physical requirement for a controlled achievement of h-mode confinement regime and to explore all the still open basic physics issues whose knowledge could help to improve plasma performances. As in the previous year the task force leaders take part to the scientific program schedule, coordinating in particular the activities for the high current performance operations.
- 2011 Coordinator of the EFDA working group *3D field effects in edge and SOL and diagnostic development* under EFDA Transport Topical Group. This working group has been established to coordinate the effort promoted by different EFDA associations on the following subject:
1. Investigation on the effect of non-axisymmetric fields on the filamentary structures (L and H-mode regimes)
 2. Investigation into changes in edge transport due to the application of 3D fields
 3. Characterization of the edge turbulence in these 3D situations (including effect of ion temperature and 3D fast particle losses)
 4. Edge turbulence and transport modelling by incorporating 3D field effects into the codes.
 5. Comparison studies between tokamaks, stellarators and RFPs on the above topics.
- The coordinators promote exchange of results between different association and the definition of common objectives which facilitate the comparison between different devices.
- 2012 Member of the Program committee of the 17th Joint EU-US Transport Task Force Meeting in combination with the 4th EFDA Transport Topical Group meeting, 3-6 September 2012, Padova, Italy
- 2013 Scientific Coordinator of experiment *B13-19 Investigation of M-Mode* on JET Tokamak campaigns C31-C34. Coordination implies assigning activities to the experimental team, plan the possible experimental campaign to be designed in collaboration with Session leaders, establish scientific objectives and monitoring scientific activities.
- 2014 Scientific Coordinator of experiment *AUG14-2.2-3, SOL filamentary transport at high density*, under the MST1 Eurofusion Work-Packages. Coordination implies assigning activities to the international experimental team, plan the possible experimental campaign to be designed in collaboration with Session leaders, establish scientific objectives and monitoring scientific activities.
- 2015-2016 Scientific Coordinator of experiment *TCV15-2.2-3: Filamentary Transport in the SOL* under MST1 Eurofusion Work-Package. Coordination implies assigning activities to the international experimental team, plan the possible experimental campaign to be designed in collaboration with Session leaders, establish scientific objectives and monitoring scientific activities.
- 2015-2016 Scientific Coordinator of experiment *TCV15-1.5-1, Mitigation of high Z impurity accumulation through combined central ECRH and tailoring of MHD activity in high performance H-modes* under MST1 Eurofusion Work-Package. Coordination implies assigning activities to the international experimental team, plan the possible experimental campaign to be designed in collaboration with Session leaders, establish scientific objectives and monitoring scientific activities.

- 2017-2018 Scientific Coordinator of Topic 21 *Filamentary transport in high-power H-mode conditions and in no/small-ELM regimes to predict heat and particle loads on PFCs for future devices* under MST1 Eurofusion Work-Package. Coordination implies assigning activities to the international experimental team, plan the experimental campaigns in three European Tokamak Devices (Asdex-Upgrade (Germany), TCV (Switzerland), MAST-U (UK)) in collaboration with Session leaders, establish scientific objectives and monitoring scientific activities.
- 2018-2019 Scientific Coordinator of JET Task T18-02 *Scrape-off layer and SOL - pedestal interaction* under JET1 Eurofusion Work-Package. Coordination implies assigning activities to the international experimental team, plan data analysis campaign and interface with Scientific Coordinators of different experiments.
- 2019-2020 Scientific Coordinator of JET Experiment M18-41 *Divertor geometry effect on detachment and SOL* under JET1 Eurofusion Work-Package. Coordination implies assigning activities to the international experimental team, plan the experimental campaigns in collaboration with Session leaders, establish scientific objectives and monitoring scientific activities
- 2019-2020 Scientific Coordinator of Topic 16 *Effect of filamentary transport on heat and particle loads* under MST1 Eurofusion Work-Package. Coordination implies assigning activities to the international experimental team, plan the experimental campaigns in three European Tokamak Devices (Asdex-Upgrade (Germany), TCV (Switzerland), MAST-U (UK)) in collaboration with Session leaders, establish scientific objectives and monitoring scientific activities.
- 2020- Member of the ITPA Pedestal & Edge Physics Topical Group
- 2020- Responsible of ITPA Div-SOL task D34 to coordinate activity on *Far Scrape Off Layer transport* in a world-wide coordinated effort

Teaching

- 2008–2009 Assistant for the course *Fluid and Plasma Physics*, Department of Physics, University of Padova
- 2010 Assistant for the course *Fluid and Plasma Physics*, Department of Physics, University of Padova
- 2011–2012 Assistant to the course *Fundamental of Plasma Physics*, Department of Physics, University of Padova
- 2012-2013 Assistant to the course *Fundamental of Plasma Physics*, Department of Physics, University of Padova
- 2013-2014 Assistant to the course *Fundamental of Plasma Physics*, Department of Physics, University of Padova
- 2013-2014 Lecturer for basic Physics course of the Joint Research Doctorate and European Interuniversity Doctoral Network on Fusion Science and Engineering
- 2014-2015 Assistant to the course *Fundamental of Plasma Physics*, Department of Physics, University of Padova

Supervising

- 2007 Supervisor for Bachelor Thesis, Department of Physics, University of Padova, candidate: A. Scaggion
- 2009 Supervisor for M.Sci. Thesis, Department of Physics, University of Padova, candidate: A. Scaggion
- 2011 Supervisor for Bachelor Thesis, Department of Physics, University of Padova, candidate: A. Mazzi
- 2013 Supervisor for M.Sci. Thesis, Department of Physics, University of Padova, candidate: A. Mazzi
- 2015 Supervisor for PhD. Thesis, Department of Physics, University of Padova, candidate: C. Rea

- 2009 Supervisor for M.Sci. Thesis, Ecole Polytechnique Federale de Lausanne, candidate: M. Pedro
- 2020 Supervisor for M.Sci. Thesis, Department of Physics, University of Padova, candidate: S. Bresciani

PhD Committee

- 2014 PhD Committee at the Department of Physics, Technical University of Denmark. Candidate: N. Yan
- 2015 PhD Committee at the Faculté de Sciences de Base, Ecole Polytechnique Federale de Lausanne. Candidate: F. Avino
- 2016 PhD Committee at the Faculté de Sciences de Base, Ecole Polytechnique Federale de Lausanne. Candidate: F. Nespoli
- 2017 PhD Committee at the Department of Physics, University of York. Candidate: A. Wynn
- 2018 PhD Committee presso la Faculté de Sciences de Base, Ecole Polytechnique Federale de Lausanne. Candidato: P. Paruta
- 2018 PhD Committee presso il Department of Physics, Technical University of Denmark. Candidato: J. M. B. Olsen

IT skills

Operating systems	Linux, Unix, Mac OSX, Windows, Open VMS
Programming	IDL (Interactive Data Language), Python/NumPy/SciPy, GIT Version Control, Bash, Matlab
Office	Microsoft Office, iWork, L ^A T _E X, web, emails
Design	Adobe InDesign, Adobe Illustrator

Technical Skills and Interest

Areas	Data analysis and Interpretation including advanced statistical tools for turbulent signals
Technicals	Competences in electrostatic and magnetic plasma diagnostic, competences in UHV technology, competences MDSplus technology for data acquisition

Research Interest

I've been involved in fusion plasma science since my M.Sci. thesis in Physics in 1999. During these 21 years I've tried to expand as much as possible my personal research skills focusing in particular on collection, analysis, interpretation and modeling of experimental data collected in fusion oriented experiments (Reversed Field Pinches, Tokamaks and Stellarators), with particular emphasis on the comparison with theoretical and numerical results. Main research subjects may be summarized as follow:

(a) Electromagnetic turbulence induced transport: with emphasis on anomalous transport studies induced by different source of turbulence: electrostatic as Drift-induced or interchange induced transport, or electromagnetic including the role of magnetic flutter fluxes in the mechanism of particle and energy losses

(b) Statistical analysis of plasma turbulence: the topic allowed me to get confident with advanced statistical tool (as Wavelet Transforms, Local Intermittency Measurements, Waiting Time distribution) and with dynamical system model as Self-Organized Criticality (SOC) systems, shell-models

(c) Blobs and ELM filaments: non linear coherent structures arising as a non-linear evolution of plasma instabilities have been experimentally investigated. The research includes studies on the generation and evolution of these structures including their parallel dynamics with emphasis on turbulent *blobs* and ELM *filaments*

(d) Sheared flow generation: Non linear interaction between turbulence and sheared flows including experimental investigation of the role of Maxwell and Reynolds stress in the momentum generation of edge flow

(e) Magnetic topology and its relation with plasma flow: with emphasis on the effect of non-axisymmetric magnetic field perturbation on kinetic properties of the plasma, as plasma flow, ambipolar electric field and Plasma Wall Interaction

(f) Divertor and SOL physics with emphasis on the modification of upstream SOL and pedestal structures depending on the recycling condition of the divertor

(g) Beam plasma interaction: with emphasis on Alfvén instabilities, Energetic Particle Driven instabilities, and turbulent transport of energetic ions

Among the results the following should be highlighted:

- i First experimental proof of non applicability of *Self Organized Criticality* paradigm to edge plasma turbulence [A8, A3]
- ii First experimental evidence of non-linear generation of edge flow in Reversed Field Pinches through Reynolds stress mechanism [A29, A28]
- iii First experimental measurements of parallel current associated to coherent structures in a fusion relevant plasma [A53]
- iv First experimental evidence of the existence of a particular class of coherent structure, named *Drift-Kinetic Alfvén vortices*, arising because of the non linear coupling of Drift and Kinetic Alfvén waves in a laboratory plasma [A62]. This type of structure has been previously detected in the magnetosphere
- v First experimental estimate of parallel current associated to Edge Localized Modes filament [A75]
- vi First experimental measurements of 2D current distribution associated to plasma blobs [A64]
- vii Experimental evidence of transition towards helical states in high current Reversed Field Pinch operation [A45] and its consequence on edge ambipolarity [A92]
- viii Experimental investigation on the role of *blobs* in the formation of the so-called *shoulder* in density gradient in high density regime [A93, A133]

In all my carrier I've always tried to conjugate a strong experimental insight on the data collection, participating in all the experimental activities mandatory in order to obtain useful experimental results, and a rigorous theoretical approach in the data analysis and interpretation, using theories and numerical tools as a framework to understand real plasma signals. This approach helped me to build a bridge between theories and experiments, a necessary effort in order to understand complex plasma dynamics.

Referees

Name	Prof. Volker Naulin
Institute	Department of Physics, DTU Technical University of Denmark Fysikvej Building 309, room 250 2800 Kgs. Lyngby, Denmark
email	vona@fysik.dtu.dk
Name	Prof. Ambrogio Fasoli
Institute	Swiss Plasma Center, Ecole Polytechnique Federal de Lausanne EPFL SB SPC-TCV PPB 318 Station 13 CH-1015 Lausanne Switzerland
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Name	Prof. James Robert Drake
Institute	Department of Fusion Plasma Physics, School of Electrical Engineering, Royal Institute of Technology Teknikringen 31, SE 100 44, Stockholm, Sweden
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Name	Prof. Francesco Gnesotto
Institute	Dipartimento di Ingegneria Industriale, Università degli Studi di Padova e Consorzio RFX Corso Stati Uniti 4, 35127 Padova, Italy
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Name	Prof. Vincenzo Carbone
Institute	Dipartimento di Fisica, Università degli Studi della Calabria Via P. Bucci Arcavacata di Rende (CS), Italy
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Name	Prof. John S Sarff
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1150 University Avenue Madison, WI 53706-1390
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Name Dr. Dominique Escande
Institute Aix-Marseille Université, CNRS, PIIM, UMR 7345
campus Saint-Jerome, FR-13013 Marseille, France
email escande@ymail.com


Other

I'm regular referee for Physical Review Letters, Plasma Physics and Controlled Fusion, Nuclear Fusion.

Declaration

I hereby declare that the above information are true and correct to the best of my knowledge and belief and in the event of any information being found false or incorrect, my candidature will be liable to be canceled.

Padova, June 4, 2020



(Nicola Vianello)

Publications

I have authored a total number of 133 Articles in peer reviewed journal, 92 conference proceedings and personally presented 18 oral contributions.

h-index factor: 28 according to ISI Web of Knowledge (last update June 4, 2020) or 36 according to Google scholar (last update June 4, 2020)

Article in peer-review journal

- [A1] Antoni, V., Cavazzana, R., Fattorini, L., Martines, E., Serianni, G., Spolaore, M., Tramontin, L., and **Vianello, N.** (2000) "*Effects of pulsed poloidal current drive on the edge region of a reversed field pinch plasma*", *Plasma Physics and Controlled Fusion* **42**, 893–904.
- [A2] Antoni, V., Martines, E., Desideri, D., Fattorini, L., Serianni, G., Spolaore, M., Tramontin, L., and **Vianello, N.** (2000) "*Electrostatic transport reduction induced by flow shear modification in a reversed field pinch plasma*", *Plasma Physics and Controlled Fusion* **42**, 83–90.
- [A3] Antoni, V., Carbone, V., Cavazzana, R., Regnoli, G., **Vianello, N.**, Spada, E., Fattorini, L., Martines, E., Serianni, G., Spolaore, M., Tramontin, L., and Veltri, P. (2001) "*Transport processes in reversed-field-pinch plasmas: Inconsistency with the self-organized-criticality paradigm*", *Physical Review Letters* **87**, 045001.
- [A4] Antoni, V., Carbone, V., Martines, E., Regnoli, G., Serianni, G., **Vianello, N.**, and Veltri, P. (2001) "*Electrostatic turbulence intermittency and MHD relaxation phenomena in a RFP plasma*", *Europhys Lett* **54**, 51–57.
- [A5] Antoni, V., Valisa, M., Apolloni, L., Bagatin, M., Baker, W., Barana, O., Bartiromo, R., Bettini, P., Boboc, A., Bolzonella, T., Buffa, A., Canton, A., Cappello, S., Carraro, L., Cavazzana, R., Chitarin, G., Costa, S., D'Angelo, F., Bello, S. D., Lorenzi, A. D., Desideri, D., Escande, D. F., Fattorini, L., Fiorentin, P., Franz, P., Gaio, E., Garzotti, L., Giudicotti, L., Gnesotto, F., Grando, L., Guo, S., Innocente, P., Intravaia, A., Lorenzini, R., Luchetta, A., Malesani, G., Manduchi, G., Marchiori, G., Marrelli, L., Martin, P., Martines, E., Martini, S., Maschio, A., Masiello, A., Milani, F., Moresco, M., Murari, A., Nielsen, P., O'Gorman, M., Ortolani, S., Paccagnella, R., Pasqualotto, R., Pegourie, B., Peruzzo, S., Piovan, R., Pomaro, N., Ponso, A., Preti, G., Puiatti, M., Rostagni, G., Sattin, F., Scarin, P., Serianni, G., Sonato, P., Spada, E., Spizzo, G., Spolaore, M., Taliercio, C., Telesca, G., Terranova, D., Toigo, V., Tramontin, L., **Vianello, N.**, Viterbo, M., Zabeo, L., Zaccaria, P., Zanca, P., Zaniol, B., Zanotto, L., Zilli, E., and Zollino, G. (2001) "*Transport mechanisms and enhanced confinement studies in RFX*", *Nucl. Fusion* **41**, 431–436.
- [A6] Martines, E., Spolaore, M., Antoni, V., Regnoli, G., **Vianello, N.**, Cavazzana, R., Serianni, G., and Tramontin, L. (2001) "*E x B velocity shear and intermittent structures in RFX*", *Czechoslovak Journal Of Physics* **51**, 983–993.

- [A7] Serianni, G., Antoni, V., Bergs aker, H., Brunzell, P. R., Drake, J., Spolaore, M., Satherblom, H., and **Vianello, N.** (2001) “Electrostatic fluxes and plasma rotation in the edge region of EXTRAP-T2R”, *Czechoslovak Journal Of Physics* **51**, 1119–1127.
- [A8] Spada, E., Carbone, V., Cavazzana, R., Fattorini, L., Regnoli, G., **Vianello, N.**, Antoni, V., Martines, E., Serianni, G., Spolaore, M., and Tramontin, L. (2001) “Search of self-organized criticality processes in magnetically confined plasmas: Hints from the reversed field pinch configuration”, *Physical Review Letters* **86**, 3032–3035.
- [A9] Spolaore, M., Antoni, V., Bagatin, M., Desideri, D., Fattorini, L., Martines, E., Serianni, G., Tramontin, L., and **Vianello, N.** (2001) “Study of edge plasma properties comparing operation in hydrogen and helium in RFX”, *Journal of Nuclear Materials* **290-293**, 729–732.
- [A10] Carbone, V., Cavazzana, R., Antoni, V., Sorriso-Valvo, L., Spada, E., Regnoli, G., Giuliani, P., **Vianello, N.**, Lepreti, F., Bruno, R., Martines, E., and Veltri, P. (2002) “To what extent can dynamical models describe statistical features of turbulent flows?”, *Europhys Lett* **58**, 349–355.
- [A11] Martin, P., Martini, S., Antoni, V., Apolloni, L., Bagatin, M., Baker, W., Barana, O., Bartiromo, R., Bettini, P., Boboc, A., Bolzonella, T., Buffa, A., Canton, A., Cappello, S., Carraro, L., Cavazzana, R., Chitarin, G., Costa, S., D’Angelo, F., Bello, S. D., Lorenzi, A. D., Desideri, D., Escande, D. F., Fattorini, L., Fiorentin, P., Franz, P., Gaio, E., Garzotti, L., Giudicotti, L., Gnesotto, F., Grando, L., Guo, S., Innocente, P., Intravaia, A., Lorenzini, R., Luchetta, A., Malesani, G., Manduchi, G., Marchiori, G., Marrelli, L., Martines, E., Maschio, A., Masiello, A., Milani, F., Moresco, M., Murari, A., Nielsen, P., O’Gorman, M., Ortolani, S., Paccagnella, R., Pasqualotto, R., Pegourie, B., Peruzzo, S., Piovan, R., Pomaro, N., Ponno, A., Preti, G., Puiatti, M., Rostagni, G., Sattin, F., Scarin, P., Serianni, G., Sonato, P., Spada, E., Spizzo, G., Spolaore, M., Taliercio, C., Telesca, G., Terranova, D., Toigo, V., Tramontin, L., Valisa, M., **Vianello, N.**, Viterbo, M., Zabeo, L., Zaccaria, P., Zanca, P., Zaniol, B., Zanotto, L., Zilli, E., and Zollino, G. (2002) “New insights into MHD dynamics of magnetically confined plasmas from experiments in RFX”, *Nucl. Fusion* **42**, 247–257.
- [A12] Martines, E., Antoni, V., Cavazzana, R., Regnoli, G., Serianni, G., Spolaore, M., **Vianello, N.**, Hron, M., and Stockel, J. (2002) “Coherent structures in the plasma edge turbulence of the RFX and CASTOR experiments”, *Czechoslovak Journal Of Physics* **52**, 13–24.
- [A13] Spolaore, M., Antoni, V., Cavazzana, R., Regnoli, G., Serianni, G., Spada, E., **Vianello, N.**, Bergs aker, H., and Drake, J. (2002) “Effects of ExB velocity shear on electrostatic structures”, *Phys. Plasmas* **9**, 4110–4113.
- [A14] Tramontin, L., Garzotti, L., Antoni, V., Carraro, L., Desideri, D., Innocente, P., Martines, E., Serianni, G., Spolaore, M., and **Vianello, N.** (2002) “Particle balance during edge biasing experiments in the reversed field pinch RFX”, *Plasma Physics and Controlled Fusion* **44**, 195–204.
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