

Consorzio RFX publications list 2023

Journals

- R.1 Information theoretic and neural computational tools for meta-analysis of cumulative databases in the age of Big Physics experiments**
Murari A., Lungaroni M., Spolladore L., Peluso E., Rossi R., Gelfusa M.
Neural Computing and Applications **35**, Issue 1, 469 – 486 (2023)
<https://link.springer.com/article/10.1007/s00521-022-07768-3>
- R.2 Integrated structural FE analyses of MITICA plant**
Spiezia N., Mazzucco G., Torresan M., Organte M., Paolucci F., D., Gomez G., Garbuglia A., Tayibi Anass El-Ouazzani, Tobarì H., Boldrin M., Zaccaria P.
Fus Eng and Design **186**, 113341 (2023)
<https://doi.org/10.1016/j.fusengdes.2022.113341>
- R.3 Measurement of stripping losses in the negative ion source SPIDER**
Agnello R., Barbisan M., Pasqualotto R., Pimazzoni A., Poggi C., Sartori E., Serianni G
Fus Eng and Design **186**, 13350 (2023)
[DOI 10.1016/j.fusengdes.2022.113350](https://doi.org/10.1016/j.fusengdes.2022.113350)
- R.4 Rotational and vibrational temperatures of hydrogen nonequilibrium plasmas from Fulcher band emission spectra**
Bruno D., Zaniol B., Mario I
Phys Scr **98** Issue 11, 015614 (2023)
[DOI 10.1088/1402-4896/acab96](https://doi.org/10.1088/1402-4896/acab96)
- R.5 Investigations on Caesium Dispersion and Molybdenum Coating on SPIDER Components**
Candela V., Cavallini C., Gasparrini C., Armelao L., Candeloro V., Dalla Palma M., Fadone M., Marcuzzi D., Pavei M., Pepato A., Pouradier Duteil B., Rancan M., Rizzolo A., Sartori E., Segalini B., Serianni G., Spolaore M., Zorzi F., Sonato P.
Materials **16**, Issue 1, 206 (2023)
[DOI 10.3390/ma16010206](https://doi.org/10.3390/ma16010206)
- R.6 The broadening of SOL profiles in JET tritium plasma and its impact on machine operation**
H.J. Sun, S.A. Silburn, I.S. Carvalho, D.B. King, C. Giroud, G. Fishpool, G.F. Matthews, R.B. Henriques, D.L. Keeling, F.G. Rimini, L. Garzotti, D. Frigione, D. Van Eester, M. Groth, J. Flanagan, D. Kos, B. Viola, A. Boboc, P. Shi, M.-L. Mayoral, J. Mailloux, C. Maggi, A. Huber, D. Douai, N. Vianello, P.J. Lomas, M. Lennholm, M. Maslov, K. Kirov, P. Jacquet, C.G. Lowry, M. Baruzzo, C. Stuart, J. Mitchell, L. Horvath, D.C. McDonald, JET Contributors
Nucl Fusion, **63**, 1, 016021 (2023)
<https://dx.doi.org/10.1088/1741-4326/aca48f>
- R.7 Development of HVDC Gas-Insulated Components for the Power Supply of Neutral Beam Injectors**
Lucchini F., Marconato N.
IEEE Access **11**, 9731 – 9741 (2023)
[DOI 10.1109/ACCESS.2023.3239798](https://doi.org/10.1109/ACCESS.2023.3239798)

- R.8 Efficient Numerical Solution of Coupled Axisymmetric Plasma Equilibrium and Eddy Current Problems**
Bonotto M., Abate D., Bettini P., Iaiunese A., Isernia N., Villone F.
IEEE Access **11**, 27489 – 27505 (2023)
[DOI 10.1109/ACCESS.2023.3253380](https://doi.org/10.1109/ACCESS.2023.3253380)
- R.9 Reabsorption and Density Limit in Magnetized Plasmas Through a First-Principles Toy Model**
Carati A., Zuin M., Martines E., Galgani L
Springer INdAM Series **51**, 99 – 106 (2023)
[DOI 10.1007/978-981-19-6462-6_8](https://doi.org/10.1007/978-981-19-6462-6_8)
- R.10 Implementation of a High-Speed Multichannel Data Acquisition System for Magnetic Diagnostics and Plasma Centroid Position Control in ISTTOK**
Corona D., Mele A., Cruz N., Alves H., Carvalho B. B., Figueiredo H., Fernandes H.
IEEE Access **11**, 47595 – 47607 (2023)
[DOI 10.1109/ACCESS.2023.3275101](https://doi.org/10.1109/ACCESS.2023.3275101)
- R.11 Overview of the Neutral Beam Injector for ITER**
Serianni G.
Proceedings - International Symposium on Discharges and Electrical Insulation in Vacuum, ISDEIV 2023, IEEE Xplore 5152023 191580 (2023)
<https://ieeexplore.ieee.org/xpl/conhome/10199104/proceeding>
- R.12 Electrical insulation of plasma facing metallic structures for the RFX-mod2 experiment**
Cordaro L., Zuin M., Abate D., Cavazzana R., Laterza B., Lotto L., Peruzzo L., Peruzzo S.
Proceedings - International Symposium on Discharges and Electrical Insulation in Vacuum, ISDEIV 2023, IEEE Xplore 524 - 5252023 191580 (2023)
<https://ieeexplore.ieee.org/xpl/conhome/10199104/proceeding>
- R.13 Design of electrodes for high voltage tests in MITICA**
Aprile D., Berton G., Chitarin G., Denizeau S., Patton T., Pilan N., Tollin M., Valente M.
Proceedings - International Symposium on Discharges and Electrical Insulation in Vacuum, ISDEIV 2023, IEEE Xplore 521 - 5232023 191580 (2023)
<https://ieeexplore.ieee.org/xpl/conhome/10199104/proceeding>
- R.14 Development of a data analysis software for the XR-GEM installed at HVPTF and preliminary results**
Caruggi F., Croci G., De Lorenzi A., Grosso G., Guiotto F., Kushoro M.H., Lotto L., Mario I, Celora A., Pilan N., Spagnolo S., Muraro A.
Proceedings - International Symposium on Discharges and Electrical Insulation in Vacuum, ISDEIV 2023, IEEE Xplore 29 - 322023 191580 (2023)
<https://ieeexplore.ieee.org/xpl/conhome/10199104/proceeding>
- R.15 Numerical simulations of the plasma parameters in the SPIDER device**
Zagorski R., Sartori E., Serianni G., Shepherd A.
Proceedings - International Symposium on Discharges and Electrical Insulation in Vacuum, ISDEIV 2023, IEEE Xplore 310 - 3132023 191580 (2023)
<https://ieeexplore.ieee.org/xpl/conhome/10199104/proceeding>

- R.16 Analysis and characterization of X-ray events in medium voltage vacuum interrupters under Lightning Impulse Voltage**
Marconato N., N., Gobbo R., Bettini P., De Lorenzi A., Lawall A., Taylor, Erik D., Pino F.
Proceedings - International Symposium on Discharges and Electrical Insulation in Vacuum, ISDEIV 2023, **441** - 4442023 191580 (2023)
<https://ieeexplore.ieee.org/xpl/conhome/10199104/proceeding>
- R.17 Development of X-Ray collimators to identify sources of radiation in devices insulated by large vacuum gaps**
Pilan N. Agostini M., Fincato M., Fontana C., Gobbo R., Lotto L., Marconato N., I., Pasqualotto R., Pesavento G., Patton T., Pino F., Spagnolo S., De Lorenzi A.
Proceedings - International Symposium on Discharges and Electrical Insulation in Vacuum, ISDEIV 2023, **516** - 5202023 191580 (2023)
<https://ieeexplore.ieee.org/xpl/conhome/10199104/proceeding>
- R.18 X-ray Micro-Discharges Fine Dynamics in a Vacuum High Voltage Experiment**
Spagnolo S., Cordaro, L., Patton T., Pilan N., De Lorenzi A., Fontana L., Muraro A., Pino F., Croci G., Rigamonti D., Fincato M., Lotto L., Mario I., Martines E., Spada E., Tardocchi M., Zuin M.
Proceedings - International Symposium on Discharges and Electrical Insulation in Vacuum, ISDEIV 2023, **503** - 5062023 191580 (2023)
<https://ieeexplore.ieee.org/xpl/conhome/10199104/proceeding>
- R.19 The Switch-On Mechanism of the Current Emission**
Spada E., De Lorenzi A., Lotto L., Pilan N., Spagnolo S., Zuin M.
Proceedings - International Symposium on Discharges and Electrical Insulation in Vacuum, ISDEIV 2023, **69** - 732023 191580 (2023)
<https://ieeexplore.ieee.org/xpl/conhome/10199104/proceeding>
- R.20 Electrostatic Design of the MITICA Intermediate Electrostatic Shield**
Patton T., Aprile D., Berton G., Chitarin G., Denizeau S., D., Pilan N., Tollin M., Trevisan L., Valente M.
Proceedings - International Symposium on Discharges and Electrical Insulation in Vacuum, ISDEIV 2023, 537 - 5412023 191580 (2023)
<https://ieeexplore.ieee.org/xpl/conhome/10199104/proceeding>
- R.21 The Roadmap to Fusion: Science and International Cooperation for Sustainable Energy**
Martin P.
Springer Proceedings in Physics **291**, 159 - 1732023 299849
https://doi.org/10.1007/978-3-031-29708-3_18
- R.22 Corrigendum to “Status of SPIDER beam source after the first 3.5 years of operation**
Fus Eng and Design **192**, July 2023, 113831] (*Fus Eng and Design* (2023) 192, (S0920379623004131), (10.1016/j.fusengdes.2023.113831))
Pavei M., Gasparrini C. et al
Fus Eng and Design 113989 (2023)
Erratum <https://www.sciencedirect.com/science/article/pii/S0920379623005719?via%3Dihub>
- R.23 Detection of changes in the dynamics of thermonuclear plasmas to improve the prediction of disruptions**
Craciunescu T., Murari M.
Nonlinear Dynamics **111**, 4, 3509 – 3523 (2023)
[DOI 10.1007/s11071-022-08009-x](https://doi.org/10.1007/s11071-022-08009-x)

- R.24 A strategy to identify breakdown location in MITICA test facility: results of high voltage test campaign**
Zanotto L., Boldrin Marco, Chitarin Giuseppe, Dan Mattia, Patton Tommaso, Santoro Francesco, Toigo Vanni, Tobari Hiroyuki, Kojima Atsushi, Decamps Hans
Fus Eng and Design **187** (2023) 113381
<https://doi.org/10.1016/j.fusengdes.2022.113381>
- R.25 Partial discharges detection in 1 MV power supplies in MITICA experiment, the ITER heating neutral beam injector prototype**
Boldrin Marco, Dan Mattia, Toigo Vanni, Zanotto Loris, Barbato Paolo, Baseggio Lucio, Carraro Manola, Ghiraldelli Raffaele, Zerbetto Enrico, Malgarotti Stefano, Rizzi Alberto, Rizzi Giuseppe, Decamps Hans, Tobari Hiroyuki
Fus Eng and Design **187** (2023) 113385
<https://doi.org/10.1016/j.fusengdes.2022.113385>
- R.26 Studies on high voltage dc cable connection to supply the acceleration grids of the Neutral Beam Injector for DTT**
Santoro Francesco, Ferro Alberto, Murari Andrea, Granucci Gustavo, Romano Roberto
Fus Eng and Design **187** (2023) 113356
<https://doi.org/10.1016/j.fusengdes.2022.113356>
- R.27 Realization and Tests of Prototype Fluxgate Magnetic Sensors for the ITER Neutral Beam Injectors**
Chitarin G., Marconato N., Mayer S.
Sensors **23**, 3 (2023) 1492
<https://doi.org/10.3390/s23031492>
- R.28 Feasibility study of an enhanced heterodyne dispersion interferometer**
Fiorucci D, Fassina A., La Matina M
J Instrum **18**, 21 (2023) C02057
[DOI 10.1088/1748-0221/18/02/C02057](https://doi.org/10.1088/1748-0221/18/02/C02057)
- R.29 Energy load on first wall components in high density, small ELM regimes in ASDEX Upgrade**
Redl A., Eich T., Vianello N., David P.
Nucl Mat and Energy **34** (2023) 101319
[DOI 10.1016/j.nme.2022.101319](https://doi.org/10.1016/j.nme.2022.101319)
- R.30 Characterisation of divertor detachment onset in JET-ILW hydrogen, deuterium, tritium and deuterium–tritium low-confinement mode plasmas**
Groth M., N. Vianello et al.
Nucl Mat and Energy **34** (2023) 101345
<https://doi.org/10.1016/j.nme.2022.101345>
- R.31 2D simulations of inductive RF heating in the drivers of the SPIDER device**
Zagórski R., López-Bruna D., Sartori E. , Serianni G.
Fus Eng and Design **188** (2023) 113427
<https://doi.org/10.1016/j.fusengdes.2023.113427>
- R.32 Multi-code estimation of DTT edge transport parameters**
Balbinot L., Rubino G., Casiraghi I., Meineri C., Frassinetti L., Aucone L., Mantica P., Innocente P., Wigram M.
Nucl Mat and Energy **34** (2023) 101350
<https://doi.org/10.1016/j.fusengdes.2023.113427>

- R.33 Development of a MMC demonstrator for Nucl Fusion devices power supplies**
Magnanimo A., Griepentrog G., Santoro F., Terlizzi C., Teschke M.
Fus Eng and Design (2023) 113433
<https://doi.org/10.1016/j.fusengdes.2023.113433>
- R.34 SPIDER, the Negative Ion Source Prototype for ITER: Overview of Operations and Cesium Injection**
Serianni G., Sartori E., Agnello R., Agostini M., Barbisan M., Bigi M., Boldrin M., Brombin M., Candeloro V., Casagrande R., Dal Bello S., Dan M., Duteil B.P., Fadone M., Grando L., Jain P., Maistrello A., Mario I., Pasqualotto R., Pavei M., Pimazzoni A., Poggi C., Rizzolo A., Shepherd A., Ugoletti M., Veltri P., Zaniol B., Agostinetti P., Aprile D., Berton G., Cavallini C., Cavazzana R., Cavenago M., Chitarin G., Cristofaro S., Croci G., Cruz N., Dalla Palma M., Delogu R., De Muri M., De Nardi M., Denizeau S., Fellin F., Ferro A., Gaio E., Gasparrini C., Luchetta A., Lunardon F., Manduchi G., Marconato N., Marcuzzi D., McCormack O., Milazzo R., Muraro A., Patton T., Pilan N., Recchia M., Rigoni-Garola A., Santoro F., Segalini B., Siragusa M., Spolaore M., Taliercio C., Zaccaria P., Zagorski R., Zanutto L., Zaupa M., Zuin M., Toigo V.
IEEE Trans on Plasma Sci **51**, 3, 927 - 9351 (2023)
<https://dx.doi.org/10.1109/TPS.2022.3226239>
- R.35 Isotope mass dependence of pedestal transport in JET H-mode plasmas**
Predebon I., Hatch D., Frassinetti L., Horvath L., Saarelma S., Chapman-Oplopoiou B., Görler T., Maggi C.
Nucl Fusion **63**, 3 (2023) 036010
[DOI 10.1088/1741-4326/acb44f](https://doi.org/10.1088/1741-4326/acb44f)
- R.36 Numerical study of fully baffled Super-X L-mode discharges on TCV**
Meineri C., Muscente P., Theiler C., Galassi D.
Nucl Mat and Energy **34** (2023) 101383
<https://doi.org/10.1016/j.nme.2023.101383>
- R.37 Drift kinetic effects on plasma response to resonant magnetic perturbation for EU DEMO design**
Zhou Lina, Liu, Yueqiang, Hu Hanqing, Siccino Mattia, Francesco Maviglia, Zohm Hartmut, Pigatto Leonardo, Wang Yong, Li Li, Hao, Guangzhou Yang, Xu, Zhang, Hanyu Duan Ping, Chen Long
Plasma Phys Contr Fusion **65**, 3 (2023) 035008
[DOI 10.1088/1361-6587/acb012](https://doi.org/10.1088/1361-6587/acb012)
- R.38 Parameter dependencies of the separatrix density in low triangularity L-mode and H-mode JET-ILW plasmas**
Lomanowski B., Rubino G., Uccello A., Dunne M., Vianello N., Aleiferis S., Canik J., Carvalho I., Corrigan G., Frassinetti L., Frigione D., Garzotti L., Groth M., Meigs A., Maslov M., von Thun, C. Perez, Rimini F., Schneider P.A., Sergienko G., Simpson J., Van Eester D.
Nucl Fusion **63**, 3 (2023) 036019
<https://iopscience.iop.org/article/10.1088/1741-4326/aca9de>
- R.39 Core integrated simulations for the Divertor Tokamak Test facility scenarios towards consistent core-pedestal-SOL modelling**
Casiraghi I., Mantica P., Ambrosino R., Aucone L., Baiocchi B., Balbinot L., Barberis T., Castaldo A., Cavedon M., Frassinetti L., Innocente P., Koechl F., Nowak S., Agostinetti P., Ceccuzzi S., Fignini L., Granucci G., Vincenzi P.
Plasma Phys Contr Fusion **65**, 3 (2023) 035017
[DOI 10.1088/1361-6587/acb6b1](https://doi.org/10.1088/1361-6587/acb6b1)

- R.40 The first achievement of the double feedback control of the detachment in the long-pulse plasma on EAST**
Wu K., Yuan Q.P., Eldon D., Li K.D., Duan Y.M., Meng L.Y., Wang L., Wang H.Q., Huang J.J., Zhang L., Luo Z.P., Liu X.J., Cao B., Liu J.B., Ding F., Xu G.S., Hu J.S., Xiao B.J., Calabrò G., Innocente P.
Nucl Mat and Energy **34** (2023) 101398
<https://doi.org/10.1016/j.nme.2023.101398>
- R.41 Analysis of edge transport in L-mode negative triangularity TCV discharges**
Muscente P., Innocente P., Ball J., Gorno S.
Nucl Mat and Energy **34** (2023) 101386
<https://doi.org/10.1016/j.nme.2023.101386>
- R.42 Numerical and experimental investigations of a microwave interferometer for the negative ion source SPIDER**
Agnello R., Cavazzana R., Furno I., Jacquier R., Pasqualotto R., Sartori E., Serianni G.
J Instrum **18**, 31 (2023) C03009
[DOI 10.1088/1748-0221/18/03/C03009](https://doi.org/10.1088/1748-0221/18/03/C03009)
- R.43 Investigation of nitrogen fixation in low-pressure microwave plasma via rotational-vibrational NO and N₂ kinetics**
Samadi Bahnamiri Omid, Manaigo Filippo, Chatterjee Abhyuday, Snyders Rony, D'Isa Federico Antonio
J Appl Phys **133**, 1121 (2023) 113303
[http://dx.doi.org/10.1063/5.0138298](https://doi.org/10.1063/5.0138298)
- R.44 Error field and correction coils in DTT: A preliminary analysis**
Albanese, Raffaele, Bolzonella, Tommaso, Chiariello, Andrea G., Cucchiaro, Antonio, Iaiunese, Antonio, Lampasi, Alessandro, Martone, Raffaele, Piron, Lidia, Pizzuto, Aldo
Fus Eng and Design **189** (2023) 113437
<https://doi.org/10.1016/j.fusengdes.2023.113437>
- R.45 Interaction of high-energy neutral beams with Divertor Tokamak Test plasma**
Vincenzi P., Agostinetti P., Ambrosino R., Bolzonella T., Casiraghi I., Castaldo A., De Piccoli C., Granucci G., Mantica P., Pigatto L., Snicker A., Vallar M.
Fus Eng and Design **189** (2023) 113436
<https://doi.org/10.1016/j.fusengdes.2023.113436>
- R.46 Characterization of physics events in JET preceding disruptions**
Rattá G.A., Vega J., Murari A., Gadariya D., Stuart C.
Fus Eng and Design **189** (2023) 113468
<https://doi.org/10.1016/j.fusengdes.2023.113468>
- R.47 Development of the tomographic reconstruction technique of SPIDER negative ion beam**
Ugoletti M., Agostini M.
Fus Eng and Design **189** (2023) 113470
<https://doi.org/10.1016/j.fusengdes.2023.113470>
- R.48 Integration studies of RF solid-state generators in the electrical system of NBTF experiments and ITER HNB**
Casagrande R., Maistrello A., Recchia M., De Nardi M., Bigi M., Zanotto L., Boldrin M., Decamps H.
Fus Eng and Design **189** (2023) 113478
<https://doi.org/10.1016/j.fusengdes.2023.113478>

- R.49 Modeling snowflake plasmas in RFX-mod2: A test bed for SOL and edge physics characterization**
Abate D., Predebon I., Bonotto M., Marchiori G.
Fus Eng and Design **189** (2023) 113484
<https://doi.org/10.1016/j.fusengdes.2023.113484>
- R.50 Special tests on the first unit of the solid-state RF amplifiers for the ITER HNB and the NBTf experiments**
De Nardi M., Maistrello A., Casagrande R., Recchia M., Bigi M., Zanotto L., Decamps H.
Fus Eng and Design **189** (2023) 113466
[DOI 10.1016/j.fusengdes.2023.113466](https://doi.org/10.1016/j.fusengdes.2023.113466)
- R.51 SPIDER ion source and extraction power supplies - An update of the design of the bias circuits after four years of operation**
Shepherd Alastair, Bigi Marco, Casagrande Riccardo, Dan Mattia, Maistrello Alberto, Sartori Emanuele, Seriani Gianluigi, Decamps Hans, Zanotto Loris
Fus Eng and Design **189** (2023) 113472
<https://doi.org/10.1016/j.fusengdes.2023.113472>
- R.52 Summary report of the 4th IAEA Technical Meeting on Fusion Data Processing, Validation and Analysis (FDPVA)**
Gonzalez de Vicente S., Mazon D., Xu M., Pinches S., Churchill M., Dinklage A., Fischer R., Murari A., Rodriguez-Fernandez P., Stillerman J., Vega J., Verdoolaege G.
Nucl Fusion **63**, 4 (2023) 047001
<https://doi.org/10.1088/1741-4326/acbfce>
- R.53 Experimental Characterization of an NEG Pump of Novel Size—A Major Step toward Its Application in DEMO Neutral Beam Injectors**
Hanke Stefan, Day Christian, Giegerich Thomas, Luo Xueli, Siviero Fabrizio, Mura Michele, Busetto Beatrice, Maccallini Enrico, Manini Paolo, Sartori Emanuele, Siragusa Marco, Sonato Piergiorgio
Energies **16**, 7 (2023) 3148
<https://doi.org/10.3390/en16073148>
- R.54 Multipass optical cavity for low density plasma polarimetry: numerical analysis and detection scheme**
Fassina A., Alonzo M., Filippi F., Fiorucci D.
J Instrum **18**, 41 (2023) C04014
<https://iopscience.iop.org/article/10.1088/1748-0221/18/04/C04014>
- R.55 On the Potential of Relational Databases for the Detection of Clusters of Infection and Antibiotic Resistance Patterns**
Gelfusa Michela, Murari Andrea, Ludovici Gian Marco, Franchi Cristiano, Gelfusa Claudio, Malizia Andrea, Gaudio Pasqualino, Farinelli Giovanni, Panella Giacinto, Gargiulo Carla, Casinelli Katia
Antibiotics **12**, 4 (2023) 784
<https://doi.org/10.3390/antibiotics12040784>
- R.56 Advances, Challenges, and Future Perspectives of Microwave Reflectometry for Plasma Position and Shape Control on Future Nucl Fusion Devices**
Gonçalves Bruno, Varela Paulo, Silva António, Silva Filipe, Santos Jorge, Ricardo Emanuel, Vale Alberto, Luís Raúl, Nietiadi Yohanes, Malaquias Artur, Belo Jorge, Dias José

Sensors **23**, 8 (2023) 3926
<https://doi.org/10.3390/s23083926>

- R.57 Newborn alpha particles from proton-boron fusion reactions in magnetically confined plasma**
Bustreo Chiara, Cavazzana Roberto
Joule **7**, 4, 624 - 62519 (2023)
<https://doi.org/10.1016/j.joule.2023.03.022>
- R.58 As built design, commissioning and integration of the SPIDER and NBTF central safety systems**
Luchetta A., Dal Bello S., Battistella M., Grandò L., Moressa M., Paolucci F., Labate C., Agnoletto G.
Fus Eng and Design **190** (2023) 113536
<https://doi.org/10.1016/j.fusengdes.2023.113536>
- R.59 Overview on electrical issues faced during the SPIDER experimental campaigns**
Maistrello Alberto, Agostini Matteo, Bigi Marco, Brombin Matteo, Dan Mattia, Casagrande Riccardo, De Nardi Marco, Ferro Alberto, Gaio Elena, Jain Palak, Lunardon Francesco, Marconato Nicolò
Fus Eng and Design **190** (2023) 113510
<https://doi.org/10.1016/j.fusengdes.2023.113510>
- R.60 Virtualization of accelerators in embedded systems for mixed-criticality: RPU exploitation for fusion diagnostics and control**
Ottaviano D., Cinque M., Manduchi G., Dubbioso S
Fus Eng and Design **190** (2023) 113518
<https://doi.org/10.1016/j.fusengdes.2023.113518>
- R.61 First characterization of the SPIDER beam AC component with the Beamlet Current Monitor**
Pouradier Duteil Basile, Shepher, Alastair, Patton Tommaso, Rigoni Garola Andrea, Casagrande Riccardo
Fus Eng and Design **190** (2023) 113529
<https://doi.org/10.1016/j.fusengdes.2023.113529>
- R.62 CODAS for long lasting experiments. The SPIDER experience**
Manduchi Gabriele, Luchetta Adriano, Rigoni Andrea, Cruz Nuno, Martini Giulio, Trevisan L.
Fus Eng and Design **190** (2023) 113497
<https://doi.org/10.1016/j.fusengdes.2023.113497>
- R.63 Modelling activity in support of MITICA high voltage system protections**
Dan M., Boldrin M., Toigo V., Zanotto L., Santoro F., Tobarì H., Oshita E., Decamps H.
Fus Eng and Design **190** (2023) 113517
<https://doi.org/10.1016/j.fusengdes.2023.113517>
- R.64 Detection of MARFEs using visible cameras for disruption prevention**
Spolladore L., Rossi R., Wyss I., Gaudio P., Murari A., Gelfusa M
Fus Eng and Design **190** (2023) 113507
<https://doi.org/10.1016/j.fusengdes.2023.113507>

- R.65 Design of an optimised movable electrostatic diagnostic for the investigation of plasma properties in a large negative ion source**
Candeloro Valeria, Calciolari Luca, Gnesotto Francesco, Sartori Emanuele, Serianni Gianluigi, Trevisan Lauro, Pasqualotto Roberto
Fus Eng and Design **190** (2023) 113652
<https://doi.org/10.1016/j.fusengdes.2023.113652>
- R.66 The role of isotope mass and transport for H-mode access in tritium containing plasmas at JET with ITER-like wall**
Birkenmeier G., Solano E.R., Carvalho I.S., Hillesheim J.C., Delabie E., Lerche E., Taylor D., Gallart D., Mantsinen M.J., Silva C., Angioni C., Ryter F
Plasma Phys Contr Fusion **65**, 5 (2023) 054001
<https://iopscience.iop.org/article/10.1088/1361-6587/acc423>
- R.67 Divertor power spreading in the Divertor Tokamak Test facility for a full power scenario with Ar and Ne seeding**
Ivanova-Stanik I., Chmielewski P., Day C., Innocente P., Zagórski R.
Plasma Phys Contr Fusion **65**, 5 (2023) 055009
<https://iopscience.iop.org/article/10.1088/1361-6587/acc2e3>
- R.68 Design of a large nonevaporable getter pump for the full size ITER beam source prototype**
Sartori E., Siragusa M., Berton G., Cavallini C., Dal Bello S., Fadone M., Grandò L., Marcuzzi D., Rizzetto D., Serianni G., Sonato P., Zaupa M.
J Vac Sci Technol, B **41**, 3 (2023) 034202
<https://doi.org/10.1116/6.0002395>
- R.69 Development of a Scalable MMC Pulsed Power Supply through HIL Methodology**
Terlizzi Cristina, Magnanimo Antonio, Santoro Francesco, Bifaretti Stefano
Energies **16**, 10 (2023) 4106
<https://doi.org/10.3390/en16104106>
- R.70 A Reduced Order Modelling Approach for Full-Maxwell Lightning Strike Analyses in Layered Backgrounds**
Torchio Riccardo, Lucchini Francesco, Filippini Mattia, Romano Daniele, Feng Lihong, Benner, Peter, Antonini Giulio
IEEE Trans Power Delivery **38**, 3, 1949 - 19571 (2023)
<https://doi.org/10.1109/TPWRD.2022.3228900>
- R.71 The SPIDER Pulse Plant Configuration Environment**
Cruz Nuno, Taliercio Cesare, Luchetta Adriano, Manduchi Gabriele, Rigoni Andrea
IEEE Trans Nucl Sci **70**, 6, 1149 - 11561 (2023)
<http://dx.doi.org/10.1109/TNS.2023.3236428>
- R.72 Assessment of IEEE 1588-Based Timing System of the ITER Neutral Beam Test Facility**
Trevisan L., Luchetta A., Manduchi G., Taliercio C., Rigoni A., Barbato P.
IEEE Trans Nucl Sci **70**, 6, 882 - 8891 (2023)
<http://dx.doi.org/10.1109/TNS.2023.3237003>

- R.73 Lessons learned after three years of SPIDER operation and the first MITICA integrated tests**
Marcuzzi D., Toigo V., Boldrin M., Chitarin G., Dal Bello S., Grando L., Luchetta A., Pasqualotto R., Pavei M., Serianni G., Zanotto L., Agnello R.
Fus Eng and Design 191 (2023) 113590
<https://doi.org/10.1016/j.fusengdes.2023.113590>
- R.74 As built design of the control systems of the ITER full-size beam source SPIDER in the neutral beam test facility - A critical review**
Luchetta A., Taliercio C., Cruz N., Martini G., Manduchi G., Rigoni A., Trevisan L., Paolucci F., Labate C., Breda M., Capobianco R., Moressa M.
Fus Eng and Design 191 (2023) 113624
<https://doi.org/10.1016/j.fusengdes.2023.113624>
- R.75 Collisional-radiative simulation of impurity assimilation, radiative collapse and MHD dynamics after ITER shattered pellet injection**
Hu D., Nardon E., Artola F.J., Lehnen M., Bonfiglio D., Hoelzl M., Huijsmans G.G.T.A., Lee S.-J.
Nucl Fusion 63, 6 (2023) 066008
<https://iopscience.iop.org/article/10.1088/1741-4326/acc8e9>
- R.76 Plasma effect on error fields correction at high β_N in ASDEX Upgrade**
Igochine V., Bonotto M., Gude A., Maraschek M., Pigatto L., Bettini P., Liu Y.Q., Piron L., Voltolina D., Zohm H.
Plasma Phys Contr Fusion 65, 6 (2023) 062001
<https://doi.org/10.1088/1361-6587/acfcfb>
- R.77 Influence of plasma parameters on the effectiveness of multi-cusp magnetic field confinement in negative ion sources**
Candeloro V., Sartori E., Serianni G.
J Instrum 18, 61 (2023) C06028
<https://iopscience.iop.org/article/10.1088/1748-0221/18/06/C06028/pdf>
- R.78 Comparison among possible design solutions for the Stray Field Shielding System of the DTT Neutral Beam Injector**
Veronese Fabio, Agostinetti Piero, Calabrò Giuseppe, Crisanti Flavio, Fanelli Pierluigi, Lombroni Riccardo, Murari Andrea
J Instrum 18, 61 (2023) C06018
<https://doi.org/10.1088/1748-0221/18/06/C06018>
- R.79 Thresholdless stochastic particle heating by a single wave**
Sattin F., Escande D.F.
Phys Rev E 107, 6 (2023) 065201
<https://doi.org/10.1103/PhysRevE.107.065201>
- R.80 Combining neural computation and genetic programming for observational causality detection and causal modelling**
Murari Andrea, Rossi Riccardo, Gelfusa Michela
Artificial Intelligence Review 56, 7, 6365 – 6401 (2023)
<https://doi.org/10.1007/s10462-022-10320-3>

- R.81 Design and characterization of the polychromators for JT-60SA Thomson scattering systems**
D'Isa F.A., Davis S., Fassina A., Giudicotti L., Manfredi M., Montagnani G., Nigro A., Palombi L., Ricciarini S., Tojo H., Verrecchia M., Pasqualotto R.
Fus Eng and Design **192** (2023) 113591
<https://doi.org/10.1016/j.fusengdes.2023.113591>
- R.82 Nuclear fusion impact on the requirements of power infrastructure assets in a decarbonized electricity system**
Giuliani U., Grazian S., Alotto P., Agostini M., Bustreo C., Zollino G.
Fus Eng and Design **192** (2023) 113554
<https://doi.org/10.1016/j.fusengdes.2023.113554>
- R.83 Beam homogeneity of caesium seeded SPIDER using a direct beamlet current measurement**
Shepherd Alastair, Patton Tommaso, Pouradier Duteil Basile, Pimazzoni Antonio, Rigoni Garola Andrea, Sartori Emanuele
Fus Eng and Design **192** (2023) 113599
<https://doi.org/10.1016/j.fusengdes.2023.113599>
- R.84 Magnetic control of DTT alternative plasma configurations**
Acampora E., Ambrosino R., Castaldo A., Iervolino R.
Fus Eng and Design **192** (2023) 113617
<https://doi.org/10.1016/j.fusengdes.2023.113617>
- R.85 Heat loads on the accelerator grids of the ITER HNB prototype**
Pimazzoni A., Agostinetti P., Aprile D., Serianni G., Sartori E., Veronese F., Veltri P.
Fus Eng and Design **192** (2023) 113621
<https://doi.org/10.1016/j.fusengdes.2023.113621>
- R.86 Control strategy for the magnetic energy storage and transfer system (MEST)**
Lunardon Francesco, Maistrello Alberto, Gaio Elena, Piovan Roberto
Fus Eng and Design **192** (2023) 113616
<https://doi.org/10.1016/j.fusengdes.2023.113616>
- R.87 Electrical diagnostics for high voltage tests in MITICA**
Patton T., Aprile D., Boldrin M., Chitarin G., Dan M., Gobbo R., Pilan N., Pomaro N., Rigoni A., Valente M., Zanotto L., Barbato P.
Fus Eng and Design **192** (2023) 113602
<https://doi.org/10.1016/j.fusengdes.2023.113602>
- R.88 Conceptual design of the Gas Injection and Vacuum System for DTT NBI**
Agostinetti P., Dal Bello S., Dinh F., Ferrara A., Fincato M., Grando L., Mura M., Murari A., Sartori E., Siragusa M., Siviero F., Veronese F.
Fus Eng and Design **192** (2023) 113638
<https://doi.org/10.1016/j.fusengdes.2023.113638>
- R.89 Radiation control in Tritium and Deuterium-Tritium JET baseline plasmas – part II**
Piron L., Van Eester D., Frigione D., Garzotti L., Lomas P.J., Lennholm M., Rimini F., Auriemma F., Baruzzo M., Carvalho P.J., Ferreira D.R., Field A.R
Fus Eng and Design **192** (2023) 113695
<https://doi.org/10.1016/j.fusengdes.2023.113695>

- R.90 Correction of JET bolometric maximum likelihood tomography for local gas puffing**
Peluso Emmanuele, Murari Andrea, Craciunescu Teddy, Carvalho, Pedro, Gelfusa Michela, Gaudio Pasqualino, Wyss Ivan
Plasma Phys Contr Fusion **65**, 7 (2023) 075003
<https://iopscience.iop.org/article/10.1088/1361-6587/accd1c>
- R.91 Status of SPIDER beam source after the first 3.5 years of operation**
M. Pavei , C. Gasparri, G. Berton, M. Agostini, V. Candela , V. Candeloro, C. Cavallini, M. Dan, S. Denizeau, M. Fadone, B. Pouradier Duteil , A. LaRosa, N. Marconato, B. Segalini , M. Spolaore, S. D'Amambrosio, E. Miorin, F. Montagner, D. Badocco, P. Pastore, R. Nocentini, S. Dal Bello, L. Grando, M. Boldrin, D. Marcuzzi, A. Rizzolo, E. Sartori, P. Sonato , G. Serianni
Fus Eng and Design **192** (2023) 113831
<https://doi.org/10.1016/j.fusengdes.2023.113831>
- R.92 Development of the electron cyclotron resonance heating system for Divertor Tokamak Test**
Garavaglia Saul, Balbinot Luca, Bruschi Alessandro, Busi Daniele, Bussolan Andrea, Fanale Francesco, Granucci Gustavo, Moro Alessandro, Platania Paola, Rispoli Natale, Romano Afra, Sartori Emanuele
J Vac Sci Technol, B **41**, 41 (2023) 044201
<https://doi.org/10.1116/6.0002396>
- R.93 ORBIT simulations of fast ion power loads on the wall of the Divertor Tokamak Test**
Gobbin, Marco , Spizzo, Gianluca
Plasma Phys Contr Fusion **65**, 7 (2023) 075013
<https://iopscience.iop.org/article/10.1088/1361-6587/acd71d/pdf>
- R.94 A systematic investigation of radiation collapse for disruption avoidance and prevention on JET tokamak**
Rossi R., Gelfusa M., Craciunescu T., Spolladore L., Wyss I., Peluso E., Vega J., Maggi C.F., Mailloux J., Maslov M., Murari A., Jet Contributors
Matter and Radiation at Extremes **8**, 41 (2023) 046903
<http://dx.doi.org/10.1063/5.0143193>
- R.95 Influence of positive ions on the beamlet optics for negative-ion neutral beam injectors**
Pimazzoni A., Sartori E. , Serianni G., Veltri P.
Nucl Fusion **63**, 7 (2023) 076031
<https://doi.org/10.1088/1741-4326/acd12d>
- R.96 Towards self-consistent modelling of negative ion beam acceleration**
Pimazzoni A., Sartori E., Serianni G., Veltri P.
J Instrum **18**, 7 (2023) C07007
<https://doi.org/10.1088/1748-0221/18/07/C07007>
- R.97 Design and Development of a Diagnostic System for a Non-Intercepting Direct Measure of the SPIDER Ion Source Beamlet Current**
Patton Tommaso, Shepherd Alastair, Pouradier Duteil Basile, Rigoni Garola Andrea, Brombin Matteo, Candeloro Valeria, Manduchi Gabriele, Pavei Mauro, Pasqualotto Roberto, Pimazzoni Antonio, Siragusa Marco, Serianni Gianluigi
Sensors **23**, 13 (2023) 6211
<https://doi.org/10.3390/s23136211>

- R.98 Advances, Challenges, and Future Perspectives of Microwave Reflectometry for Plasma Position and Shape Control on Future Nuclear Fusion Devices**
Bruno Gonçalves, Paulo Varela, António Silva, Filipe Silva, Jorge Santos, Emanuel Ricardo, Alberto Vale, Raúl Luís, Yohanes Nietiadi, Artur Malaquias, Jorge Belo, José Dias, Jorge Ferreira, Thomas Franke, Wolfgang Biel, Stéphane Heuraux, Tiago Ribeiro, Gianluca De Masi, Onofrio Tudisco, Roberto Cavazzana, Giuseppe Marchiori, Ocleto D’Arcangelo
Sensors **(8)**, 3926 (2023)
<https://doi.org/10.3390/s23083926>
- R.99 Viscosity impact on 3D non-linear MHD simulations of RFP fusion plasmas**
Vivenzi N., Veranda M., Bonfiglio D., Cappello S.
Phys Plasma **30**, 7 (2023) 072304
<https://doi.org/10.1063/5.0150255>
- R.100 Direct current measurements of the SPIDER beam: a comparison to existing beam diagnostics**
Shepherd A., Patton T., Pimazzoni A., Pouradier Duteil B., Rigoni Garola A., Sartori E., Ugoletti M., Seriani G.
J Instrum **18**, 71 (2023) C07019
<https://doi.org/10.1088/1748-0221/18/07/C07019>
- R.101 Comparison of a fast low spatial resolution inversion method and peaking factors for the detection of anomalous radiation patterns and disruption prediction**
Wyss Ivan, Murari Andrea, Spolladore Luca, Peluso Emmanuele, Gelfusa Michela, Gaudio Pasquale, Rossi Riccardo, on-behalf-of-JET-contributors
Fus Eng and Design **193** (2023) 113625
<https://doi.org/10.1016/j.fusengdes.2023.113625>
- R.102 Conceptual design of in-vessel divertor coils in DTT**
Acampora Emilio, Albanese Raffaele, Ambrosino Roberto, Castaldo Antonio, Innocente Paolo, Loschiavo Vincenzo Paolo
Fus Eng and Design **193** (2023) 113651
<https://doi.org/10.1016/j.fusengdes.2023.113651>
- R.103 Functional optimization for a Beam Driven Plasma Neutralizer in DEMO Neutral Beam Injector**
Veronese Fabio, Agostinetti Piero, Hopf Christian, Starnella Giuseppe
Fus Eng and Design **193** (2023) 113663
<https://doi.org/10.1016/j.fusengdes.2023.113663>
- R.104 Functional safety assessment process for MITICA safety system in the ITER neutral beam test facility**
Grando Luca, Battistella Manuela, Dal Bello Samuele, Luchetta Adriano, Moressa Modesto, Munari Silvia, Gueccia Alessandro, Piccini Michele
Fus Eng and Design **193** (2023) 113678
<https://doi.org/10.1016/j.fusengdes.2023.113678>
- R.105 Radiation control in deuterium, tritium and deuterium-tritium JET baseline plasmas – part I**
Piron L., Van Eester D., Frigione D., Garzotti L., Lomas P.J., Lennholm M., Rimini F., Auriemma F., Baruzzo M., Carvalho P.J., Ferreira D.R., Field A.R.
Fus Eng and Design **193** (2023) 113634
<http://dx.doi.org/10.21203/rs.3.rs-3415561/v1>

- R.106 Development of non evaporable getter pumps for large hydrogen throughput and capacity in high vacuum regimes**
Sartori E., Siragusa M., Sonato P., Siviero F., Mura M., Maccallini E., Ferrara A., Manini P., Hanke S., Day C.
Vacuum **214** (2023) 112198
<https://doi.org/10.1016/j.vacuum.2023.112198>
- R.107 Integration of new sets of magnets for improved plasma confinement in the SPIDER experiment**
Marconato N., Berton G., Candeloro V., Sartori E., Segalini B., Serianni G
Fus Eng and Design **193** (2023) 113805
<http://dx.doi.org/10.1016/j.fusengdes.2023.113805>
- R.108 The beam source of the MITICA experiment: Strategy adopted, manufacturing design, engineering and fabrication of the main components**
Masiello A., Morón Ballester R., Bailly-Maître L., Readman P., Geli F., Marcuzzi D.
Fus Eng and Design **193** (2023) 113801
<https://doi.org/10.1016/j.fusengdes.2023.113801>
- R.109 SPIDER on-line data visualization tool**
Delogu Rita S., Poggi Carlo, Sartori Emanuele , Serianni Gianluigi, Shepherd Alastair, Manduchi Gabriele
Fus Eng and Design **193** (2023) 113856
<https://doi.org/10.1016/j.fusengdes.2023.113856>
- R.110 Influence of different magnetic configurations on plasma parameters in SPIDER device**
Zagórski R., Candeloro V., Sartori E., Serianni G.
J Instrum **18**, 81 (2023) C08008
<https://doi.org/10.1088/1748-0221/18/08/C08008>
- R.111 Measure of negative ion density in a large negative ion source using Langmuir probes**
Poggi C., Spolaore M., Barbisan M., Brombin M., Cavazzana R., Marconato N., Pasqualotto R., Pimazzoni A., Sartori E., Serianni G.
J Instrum **18**, 81 (2023) C08013
<http://dx.doi.org/10.1088/1748-0221/18/08/C08013>
- R.112 Study of positive ion transport to the plasma electrode in giant RF negative ion sources**
Segalini Beatrice, Poggi Carlo, Fadone Michele, Serianni Gianluigi, Sartori Emanuele
Fus Eng and Design **194** (2023) 113736
<https://doi.org/10.1016/j.fusengdes.2023.113736>
- R.113 Influence of plasma grid-masking on the results of early SPIDER operation**
Sartori E., Candeloro V., Fadone M., Pimazzoni A., Serianni G.
Fus Eng and Design **194** (2023) 113730
<https://doi.org/10.1016/j.fusengdes.2023.113730>
- R.114 Improvement of SPIDER diagnostic systems**
Pasqualotto R., Sartori E., Agnello R., Brombin M., Candeloro V., Fadone M., Mario I., Patton T., Poggi C., Segalini B., Serianni G.
Fus Eng and Design **194** (2023) 113889
<https://doi.org/10.1016/j.fusengdes.2023.113889>

- R.115 The new vessel complex for the RFX-mod2 experiment: An effective synergy between fusion research and technological development**
Peruzzo S., Aprile D., Dalla Palma M., Pavei M., Rizzetto D., Rizzolo A., Abate D., Agostinetti P., Agostini M., Andreani R., Anselmi F., Battistin F., Bernardi A., Bernardi M., Berton G., Bettini P., Bonotto M., Brombin M., Canton A., Carraro L., Cavazzana R., Cordaro L., Corniani G., Dal Bello S., De Lorenzi A., De Masi G., Degli Agostini F., Franchin L., Franz P., Gambetta G., Gnesotto F., Grandò L., Innocente P., Manfrin S., Marchiori G., Marconato N., Marcuzzi D., Marrelli L., Martines E., Momo B., Moresco M., Piovan R., Pomaro N., Rossetto F., Siragusa M., Sonato P., Spagnolo S., Spolaore M., Taliercio C., Terranova D., Tiso A., Trevisan L., Valente M., Valisa M., Vianello N., Zaupa M., Zuin M
Fus Eng and Design **194** (2023) 113890
<https://doi.org/10.1016/j.fusengdes.2023.113890>
- R.116 Characterization of cesium and H⁻/D⁻ density in the negative ion source SPIDER**
Barbisan Marco, Agnello R., Baldini L., Casati G., Fadone M., Pasqualotto R., Rizzolo A., Sartori E., Serianni G.
Fus Eng and Design **194** (2023) 113923
<https://doi.org/10.1016/j.fusengdes.2023.113923>
- R.117 Study, design and thermal-hydraulic simulations of Vacuum Enhancement Module cooling circuit**
Cavallini C., Berton G., Fellin F., Rizzetto D., Siragusa M., Zaupa M.
Fus Eng and Design **194** (2023) 113926
<https://doi.org/10.1016/j.fusengdes.2023.113926>
- R.118 Use of electrical measurements for non-invasive estimation of plasma electron density in the inductively coupled SPIDER ion source**
Jain Palak, Recchia Mauro, Sartori Emanuele, Serianni Gianluigi, Poggi Carlo, Ugoletti Margherita, Zaniol Barbara
Plasma Phys Contr Fusion **65**, 9 (2023) 095010
<https://iopscience.iop.org/article/10.1088/1361-6587/acd8ed/pdf>
- R.119 Nonlinear verification of the resistive-wall boundary modules in the SPECYL and PIXIE3D magneto-hydrodynamic codes for fusion plasmas**
L. Spinicci ; D. Bonfiglio ; L. Chacón ; S. Cappello ; M. Veranda
AIP Advances **13**, 095111 (2023)
<https://doi.org/10.1063/5.0161029>
- R.120 A quasi-linear model of particle, momentum and heat transport in a stochastic magnetic field**
Zanca P., Predebpon I., Paccagnella R., Sattin F.
J Plasma Phys **89**, 5, (2023), 905890509
DOI: <https://doi.org/10.1017/S0022377823000971>
- R.121 The Fusion to Hydrogen Option in a Carbon Free Energy System**
U. Giuliani, M. Agostini, C. Bustreo and G. Zollino
IEEE Access, **11**, 131178-131190, (2023)
<https://ieeexplore.ieee.org/document/10321704>

R.122 The global energy balance of the ASDEX Upgrade tokamak determined with the revised cooling water calorimetry

A Redl, T Hohmann, T Eich, N Vianello, M Bernert, P David, N den Harder, A Herrmann, V Rohde, M Weiland, the ASDEX Upgrade Team, the EUROfusion MST1 Team

Plasma Phys Contr Fusion **65**, 11, 115003 (2023)

<https://dx.doi.org/10.1088/1361-6587/acfbb1>

R.123 Continuous pulse advances in the negative ion source NIO1

Barbisan M., Agnello R., Cavenago M., Delogu R., Pimazzoni A., Balconi L., Barbato P., Baseggio L., Castagni A., Pouradier Duteil B., Franchin L., Laterza B.

J Instrum **18**, 91 (2023) C09002

<https://iopscience.iop.org/article/10.1088/1748-0221/18/09/C09002/pdf>

R.124 Highlights of recent SPIDER results and improvements

E. Sartori, R. Agnello, M. Agostini, M. Barbisan, M. Bigi, M. Boldrin, M. Brombin, V. Candeloro, R. Casagrande, S. Dal Bello, M. Dan, B. Pouradier Duteil, M. Fadone, L. Grando, P. Jain, A.

Maistrello, I. Mario, R. Pasqualotto, M. Pavei, A. Pimazzoni, C. Poggi, A. Rizzolo, A. Shepherd, M.

Ugoletti, P. Veltri, B. Zaniol, P. Agostinetti, D. Aprile, G. Berton, C. Cavallini, M. Cavenago, G.

Chitarin, G. Croci, R. Delogu, M. De Muri, M. De Nardi, S. Denizeau, F. Fellin, A. Ferri, E. Gaio, C.

Gasparrini, A. Luchetta, F. Lunardon, G. Manduchi, N. Marconato, D. Marcuzzi, O. McCormack, R.

Milazzo, A. Muraro, T. Patton, N. Pilan, M. Recchia, A. Rigoni-Garola, F. Santoro, B. Segalini, M.

Siragusa, M. Spolaore, C. Taliercio, V. Toigo, P. Zaccaria, R. Zagorski, L. Zanotto, M. Zaupa, M.

Zuin and G. Serianni

J Instrum **18**, 91 (2023) C09001

<https://doi.org/10.1088/1748-0221/18/09/C09001>

R.125 Nonlinear saturation of resistive tearing modes in a cylindrical tokamak with and without solving the dynamics

Loizu J., Bonfiglio D.

J Plasma Phys **89**, 518 (2023) 905890507

<https://doi.org/10.1017/S0022377823000934>

R.126 Combining dimensional and statistical analysis for efficient data driven modelling of complex systems

Murari A., Spolladore L., Rossi R., Gelfusa M

Information Sciences **644** (2023) 119243

<https://doi.org/10.1016/j.ins.2023.119243>

R.127 Locked mode detection during error field identification studies

Piron L., Buratti P., Falessi M., Gambrioli M., Graham G., Lennhol M., Valcarcel D.F., Zonca F., Henriques R., Gerasimov S., Hender T., Joffrin E.

Fus Eng and Design **195** (2023) 113957

<https://doi.org/10.1016/j.fusengdes.2023.113957>

R.128 Lifetime assessment of the modified grounded grid in the negative ion source SPIDER

Tomšič P., Berton G., Zaccaria P., Agostinetti P., Pavei M., Marcuzzi D.

Fus Eng and Design **195** (2023) 113982

<https://doi.org/10.1016/j.fusengdes.2023.113982>

- R.129 Studies on EU-DEMO 3D coils requirements and conceptual design for error field correction and plasma control**
Maviglia Francesco, Pigatto Leonardo, Villone Fabio, Zohm Hartmut, Albert Christopher, Bruzzone Pierluigi, Buchholz Rico, Drumm Ben, Gerardin Jonathan, Liu Yueqiang, Luongo Cesar, Siccino Mattia
Fus Eng and Design **196** (2023) 114010
<https://doi.org/10.1016/j.fusengdes.2023.114010>
- R.130 Predictive modeling of Alfvén eigenmode stability in inductive scenarios in JT-60SA**
Coelho R., Vincenzi P., M. Vallar et al.
Front. Phys., Fusion Plasma Physics **11** – (2023)
<https://doi.org/10.3389/fphy.2023.1267696>
- R.131 Validation of D–T fusion power prediction capability against 2021 JET D–T experiments**
Hyun-Tae Kim, Auriemma F., Ferreira J., Gabriellini S., Ho A, Huynh P., Kirov K., Lorenzini R., Marin M., Poradzinski M.
Nucl Fusion **63** 112004 (2023)
<https://doi.org/10.1088/1741-4326/ace26d>
- R.132 Modelling performed for predictions of fusion power in JET DTE2: overview and lessons learnt**
J. Garcia, F.J. Casson, L. Frassinetti, D. Gallart, L. Garzotti, H.-T. Kim, M. Nocente, S. Saarelma, F. Auriemma et al.
Nucl Fusion **63** 112003 (2023)
https://ui.adsabs.harvard.edu/link_gateway/2023NucFu..63k2003G/doi:10.1088/1741-4326/acedc0
- R.133 The JET hybrid scenario in Deuterium, Tritium and Deuterium-Tritium**
J. Hobirk, C.D. Challis, A. Kappatou, E. Lerche, D. Keeling, D. King, S. Aleiferis, E. Alessi, C. Angioni, F. Auriemma et al.
Nucl Fusion **63** 112001 (2023)
<https://doi.org/10.1088/1741-4326/acde8d>
- R.134 Effect of the isotope mass on pedestal structure, transport and stability in D, D/T and T plasmas at similar β_N and gas rate in JET-ILW type I ELMY H-modes**
L. Frassinetti, C. Perez von Thun, B. Chapman-Oplopoiou, H. Nyström, M. Poradzinski, J.C. Hillesheim, L. Horvat³, C.F. Maggi, S. Saarelma, A. Stagni, G. Szepesi, A. Bleasdale, A. Chomiczewska, R.B. Morales, M. Brix, P. Carvalho, D. Dunai, A.R. Field, J.M. Fontdecaba, H.J. Sun³, D.B. King, D. Kos, E. Kowalska, B. Labit, M. Lennholm, S. Menmuir, E. Rachlew, D.I. Refy, P.A. Schneider, E.R. Solano, N. Vianello, M. Vécsei and JET Contributors
Nucl Fusion **63** 112009 (2023)
<https://iopscience.iop.org/article/10.1088/1741-4326/acf057>
- R.135 Isotope physics of heat and particle transport with tritium in JET-ILW type-I ELMY H-mode plasmas**
P.A. Schneider, C. Angioni, F. Auriemma, N. Bonanomi, T. Görler, R. Henriques, L. Horvath, D. King, R. Lorenzini, H. Nyström et al
Nucl Fusion **63** 112010 (2023)
<https://doi.org/10.1088/1741-4326/acf560>

- R.136 L-H transition studies in tritium and deuterium–tritium campaigns at JET with Be wall and W divertor**
E.R. Solano, G. Birkenmeier, C. Silva, E. Delabie, J.C. Hillesheim, A. Baciero, I. Balboa, M. Baruzzo, A. Boboc, M. Brix, P. Vincenzi et al
Nucl Fusion **63** 112011 (2023)
<https://doi.org/10.1088/1741-4326/acee12>
- R.137 Estimation of wall forces solely from magnetic measurements: an application to RFX-mod experiment**
D. Abate, V. Yanovskiy, M. Bonotto, L. Cordaro, G. Marchiori, L. Pigatto and V.D. Pustovitov
Nucl Fusion **63** 126025 (2023)
<https://doi.org/10.1088/1741-4326/acfd41>
- R.138 Overview of interpretive modelling of fusion performance in JET DTE2 discharges with TRANSP**
Ž. Štancar, K.K. Kirov, F. Auriemma, H.-T. Kim, M. Poradziński, R. Sharma, R. Lorenzini, Z. Ghani, M. Gorelenkova, F. Poli et al
Nucl Fusion **63** 126058 (2023)
<https://doi.org/10.1088/1741-4326/ad0310>
- R.139 On the potential of physics-informed neural networks to solve inverse problems in tokamaks**
R. Rossi, M. Gelfusa, A. Murari and on behalf of JET contributors
Nucl Fusion **63** 126059 (2023)
<https://doi.org/10.1088/1741-4326/ad067c>
- R.140 JET D-T scenario with optimized non-thermal fusion**
M. Maslov, F. Auriemma et al
Nucl Fusion **63** 112002, (2023) DOI 10.1088/1741-4326/ace2d8
<https://iopscience.iop.org/article/10.1088/1741-4326/ace2d8>
- R.141 Upgrades of Genetic Programming for Data-Driven Modeling of Time Series**
A. Murari, E. Peluso, L. Spolladore, R. Rossi, M. Gelfusa
Evolutionary Computation **31** (4) 401–432 (2023)
https://doi.org/10.1162/evco_a_00330
- R.142 On the use of error field correction coils in JET**
L. Piron, M. Baruzzo, L Baylor, C D Challis, M.P. Gryaznevich, T.C. Hender, R.B. Henriques, N. Hawkes, S. Jachmich, E. Joffrin, M. Lehnen, M. Lennholm, Y.Q. Liu, J. Mailloux, L. Moreira, D. Valcarcel, JET Contributors
Fus Eng and Design **197** (2023), 114069
<https://doi.org/10.1016/j.fusengdes.2023.114069>
- R.143 Maximum likelihood bolometry for ASDEX upgrade experiments**
T. Craciunescu, E. Peluso, A. Murari et al
Phys Scr **98** 125603 (2023)
<https://iopscience.iop.org/article/10.1088/1402-4896/ad081e/pdf>
- R.144 Fundamentals of Magnetic Fusion Technology**
P. Agostinetti, P. Sonato, J.N. Noterdaeme, J. Hillairet, M.Q. Tran
IAEA STI/PUB/1945 ISBN 978-92-0-110721-3 - Chapter 2: September 2023

National and international conferences

5th European Conference on Plasma Diagnostics (ECPD) - April 23-27 2023 Rethymno, Greek
Electronic proceedings volume on the Conference website

- P.1. ITER-like Thermal sensors for the Beam Line Components in MITICA and ITER HNB**
M. Brombin, M. Dalla Palma, P. Tinti, M. Maniero, F. Bittanti, A. Saracino, R. Pasqualotto
- P.2. Diagnostics upgrades for the RFX-mod2 facility for multi-magnetic-configuration exploration**
M. Zuin, L. Carraro, D. Abate, M. Agostini, M. Barbisan, M. Brombin, R. Cavazzana, G. Croci, L. Cordaro, P. Franz, G. De Masi, A. Fassina, I. Mario, M. La Matina, L. Marrelli, R. Milazzo, A. Muraro, S. Peruzzo, S. Spagnolo, M. Spolaore, M. Tardocchi, M. Ugoletti, N. Vianello, B. Zaniol and the RFX-mod2 team
- P.3. Reconstruction of beam emission spectra produced by a large negative ion beam for fusion**
R. Agnello, M. Barbisan, R. Pasqualotto, A. Pimazzoni, C. Poggi, E. Sartori and G. Serianni
- P.4. Conceptual design of a visible spectroscopy diagnostic for DTT**
A. Belpane, L. Carraro, M. Cavedon, L. Senni
Electronic proceedings P1-8
- P.5. Status of the EUROfusion Enabling Research Project: Advances in real-time reflectometry plasma tracking, for next generation machines**
F. da Silva, J. Santos, A. Silva, J. Ferreira, E. Ricardo, S. Heurax, R. Sabot, F. Clairet, Y. Moudden, G. De Masi, R. Cavazzana, G. Marchiori, R. Bianchetti Morales, P. R. Resende, J. C. Abrantes, R. Luís, Y. Nietiadi
Electronic proceedings O-39

European Conference on Magnetic Reconnection in Plasmas (Marseille (France)) – 23-26 May 2023

- P.6. Description of magnetic field lines without arcane**
Dominique Escande and Barbara Momo
- P.7. Phenomenology of magnetic reconnection in the RFX-mod reversed-field pinch**
B. Momo, I. Predebon, M. Gobbin, R. Cavazzana, M. Zuin
- P.8. Reconnection processes in 3D MHD modeling of Reversed Field Pinch magnetic self-organization**
S. Cappello, D. Bonfiglio, M. Veranda, D.F. Escande, A. Kryzhanovskyy, L. Spinicci, N. Vivenzi

Trends in Hamiltonian systems, chaos and its applications - 30 May-1 Jun 2023 Marseille (France)

- P.9. Description of magnetic field lines without arcana**
D. F. Escande, B. Momo

41st Annual International Energy Workshop (Golden, CO, US) - 13-15 June, 2023

- P.10. Italy's energy future: alternative low carbon scenarios**
Marco Agostini, Umberto Giuliani, Chiara Bustreo, Piergiorgio Alotto, Giuseppe Zollino

CHAOS 2023 – 13-16 June 2023 (Heraklion, Crete, Greece)

P.11. Weak Chaos in the Plasma of a Fusion Device

Gianluca Spizzo, Pasquale Porcu, Marco Veranda, Matteo Agostini, David Terranova, and Matteo Zuin

Riunione annuale dei Gruppi di Lavoro Biologia Cellulare e Molecolare & Biotecnologie e Differenziamento della Società Botanica Italiana. Ancona, 21-23 June 2023

P.12. Uncovering the effects of water activated by plasma discharge on arbuscular mycorrhizal symbiosis in *Lotus japonicus*.

Cortese E, Binci F, Nouri E, Capparotto A, Settimi AG, Dabalà M, Antoni V, Squartini A, Giovannetti M, Navazio L.

2023 30th International Symposium on Discharges and Electrical Insulation in Vacuum (ISDEIV) – Okinawa, Japan 25-30 June 2023 – IEEE Xplore DOI: [10.23919/ISDEIV55268.2023](https://doi.org/10.23919/ISDEIV55268.2023)

P.13. Overview of the Neutral Beam Injector for ITER

Serianni G

P.14. Electrical insulation of plasma facing metallic structures for the RFX-mod2 experiment

Cordaro L., Zuin M., Abate D., Cavazzana R., Laterza B., Lotto L., Peruzzo L., Peruzzo S.

P.15. Design of electrodes for high voltage tests in MITICA

Aprile D., Berton G., Chitarin G., Denizeau S., Patton T., Pilan N., Tollin M., Valente M.

P.16. Development of a data analysis software for the XR-GEM installed at HVPTF and preliminary results

Caruggi F., Croci G., De Lorenzi A., Grosso G., Guiotto F., Kushoro M.H., Lotto L., Mario I, Celora A., Pilan N., Spagnolo S., Muraro A.

P.17. Numerical simulations of the plasma parameters in the SPIDER device

Zagorski R., Sartori E., Serianni G., Shepherd A.

P.18. Analysis and characterization of X-ray events in medium voltage vacuum interrupters under Lightning Impulse Voltage

Marconato N., Gobbo R., Bettini P., De Lorenzi A., Lawall A., Taylor, Erik D., Pino F.

P.19. Development of X-Ray collimators to identify sources of radiation in devices insulated by large vacuum gaps

Pilan N. Agostini M., Fincato M., Fontana C., Gobbo R., Lotto L., Marconato N., Pasqualotto R., Pesavento G., Patton T., Pino F., Spagnolo S., De Lorenzi A.

P.20. X-ray Micro-Discharges Fine Dynamics in a Vacuum High Voltage Experiment

Spagnolo S., Cordaro L., Patton T., Pilan N., De Lorenzi A., Fontana L., Muraro A., Pino F., Croci G., Rigamonti D., Fincato M., Lotto L., Mario I., Martines E., Spada E., Tardocchi M., Zuin M.

P.21. The Switch-On Mechanism of the Current Emission

Spada E., De Lorenzi A., Lotto L., Pilan N., Spagnolo S., Zuin M.

P.22. Electrostatic Design of the MITICA Intermediate Electrostatic Shield

Patton T., Aprile D., Berton G., Chitarin G., Denizeau S., Pilan N., Tollin M., Trevisan L., Valente M.

49th European Conference on Plasma Physics- EPS2023- 3-7 July (Bordeaux - France)

P.23. Multi-devices edge transport analysis of positive and negative D-shape plasmas in high power tokamak scenario

P. Muscente, P. Innocente, A. Balestri, A. Mariani, J. Ball, L. Aucone, P. Mantica, TCV team, AUG Team

P.24. 3D calculations of RF inductive coupling in the drivers of SPIDER: comparison with experimental data

D. López-Bruna, S. Denizeau, P. Jain, A. La Rosa, I. Predebon

P.25. Evaluation of DTT NBI energetic particle confinement and prompt-losses through the constant of motion phase space

C. De Piccoli, T. Bolzonella, P. Vincenzi, M. Cecconello, M. Vallar

P.26. Plasma response modelling in JT-60SA Initial Research Phase I scenarios

L. Pigatto, T. Bolzonella, E. Tomasina, L. Garzotti, Y.Q. Liu

P.27. Investigating the role of plasma shaping in the evolution of high density H-mode SOL profiles and fluctuations in TCV

A. Stagni, N. Vianello, M. Agostini, C. Colandrea, S. Gorno, B. Labit, U. Sheikh, L. Simons, G. Sun, C.K. Tsui, M. Ugoletti, Y. Wang, C. Wüthrich, J.A. Boedo, H. Reimerdes, C. Theiler and the TCV team

P.28. ORBIT simulations of ripple and TAE induced fast ion losses in DTT

M. Gobbin, G. Spizzo, M.V. Falessi, V. Fusco, G. Vlad, F. Zonca

P.29. TRANSP-TGLF core predictive modelling of the JET D-T baseline scenario

F. Auriemma, D. Frigione, L. Garzotti, M. Gorelenkova, H.-T Kim., J. Lombardo, R. Lorenzini, A.Y. Pankin, F. Rimini, G.M. Staebler, Ž. Štancar, D. Van Eester, V.K. Zotta, J. Garcia, J. Hillesheim, P. Lomas, C. Lowry, and JET contributors

P.30. 3D Plasma-Wall Interaction during magnetic reconnection events in the RFX-mod device

P. Porcu, G. Spizzo, M. Veranda, M. Zuin, M. Agostini, L. Carraro, M. Gobbin, L. Marrelli, P. Scarin, D. Terranova, and the RFX-mod Team

P.31. Investigation of intrinsic error fields in MAST-U device

M. Gambrioli, L. Piron, G. Cunningham, D. Ryan, C. Vincent and MAST-U team

P.32. Plasma-wall self-organization in magnetic fusion

D.F. Escande, F. Sattin, P. Zanca, J.-X. Liu, P. Zhu, J.-L. Zhang, D.-H. Xia, Y.-H. Wang, J.-M. Wang, Q.-H. Yang, J.-G. Fang, L. Gao, Z.-F. Cheng, Z.-P. Chen, Z.-J. Yang, Z.-Y. Chen, Y.-H. Ding, Y. Pan and the J-TEXT team

SOFE 2023 30th Symposium on Fusion Engineering – 9-13 July 2023 (Oxford UK)
to be published in a special issue of IEEE Transactions on Plasma Science (TPS)

- P.33. Overview on the applicability of the ITER/NPP-like technologies to the DEMO Plant Electrical System**
FERRO ALBERTO T. Franke, E. Gaio, S. Bifaretti, F. Bignucolo, R. Biondi, P. Bravo Rodriguez, M.Caldora, Z. Chen, M. Dan, M. De Nardi, M. C. Falvo, D. Fasel, R. Iturbe Uriarte, A. Lampasi, F. Lunardon, K. Ma, A. Magnanimo, A. Maistrello, M. Manganelli *ORAL*
- P.34. Present status of SPIDER upgrades**
MARCUIZZI DIEGO, V. Toigo, C. Rotti, M. Singh, U. Fantz, and the contributing Staff of NBTF Team, IO, IPR, IPP and other entities *INVITED*
- P.35. Innovative concepts in the design of DTT Neutral Beam Injector**
AGOSTINETTI PIERO et al. *INVITED*
- P.36. Visible cameras as a tool to study electron-beam shape**
UGOLETTI MARGHERITA, M. Agostini, C. Ballage, T. Minea, G. Serianni
- P.37. Breakdown identification in MITICA test facility: progress towards power supply integration**
L. Zanotto, M. Boldrin, M. Dan, T. Patton, F. Santoro, V. Toigo, M. Murayama, S. Hatakeyama, E. Oshita, H. Tobar, M. Kashiwagi, H. Decamps
- P.38. Transient analysis to improve breakdown resilience in the SPIDER Ion Source Power Supply**
DAN Mattia, M. Bigi, R. Casagrande, A. Maistrello
- P.39. Structural design of an Electrostatic Shield at -600kV for the MITICA beam source**
DENIZEAU SYLVESTRE, D. Aprile, G. Berton, G. Chitarin, A. Rizzolo, M. Tollin, M. Valente
- P.40. Conceptual design of the DTT ECRH High voltage Power Supply system**
M. Recchia, M. De Nardi, E. Gaio, G. Granucci, S. Garavaglia, N. Rispoli, A. Romano
- P.41. MEST multi-coil system control and application study to a PILOT FFHR with a RFP fusion core**
LUNARDON FRANCESCO, E. Gaio, A. Maistrello, R. Piovan
- P.42. The Lemon Hyperlens concept and its application to the DTT Neutral Beam Injector**
VERONESE FABIO, P. Agostinetti, R. Dima, A. Murari, A. Pepato, M. Romanato
- P.43. DTT vacuum vessel, in-vessel coils, and out vessel systems: overview of design and procurement**
DALLA PALMA MAURO, T. Bolzonella, P. Innocente, A. Belpane, R. Cavazzana, S. Ciufo, M. Fadone, L. Pigatto, M. Zuin

Fusenet PhD Event 2023 - 23-25 August 2023 (Losanna - Svizzera)

- P.44. Investigation of Plasma Response and Magnetics-based Analysis in RFX-mod Tokamak Plasmas**
E. Tomasina, T. Bolzonella, L. Pigatto, D. Terranova, L. Marrelli, Y.Q. Liu
- P.45. Analysis of pedestal stability and impurity seeding in H-mode plasma in JET-ILW**

Yoana Nakeva, Nicola Vianello, Leonardo Pigatto

- P.46. Study on the layout of the MMC-based Acceleration Grid Power Supply for the Neutral Beam Injector of DTT**
F. Santoro
- P.47. The design and development Glow Discharge conditioning system for improved density control in the RFX-mod2 device**
S. Ciuffo, M. Zuin, R. Cavazzana, M. Fadone, A. Rizzolo, R. Milazzo, M. Fincato, G. Passalacqua
- P.48. Spatial, temporal, and energy resolved study of vacuum microdischarges through X-rays emitted at HVPTF**
F. Guiotto, A. Celora, F. Caruggi, A. Muraro, I. Mario, N. Pilan, G. Grosso, M.H. Kushoro, M. Tardocchi, G. Gorini, L. Lotto, A. De Lorenzi, G. Croci
- P.49. Investigating the role of plasma shaping in the evolution of high density H-mode SOL profiles and fluctuations in TCV**
A. Stagni, N. Vianello, M. Agostini, C. Colandrea, S. Gorno, B. Labit, U. Sheikh, L. Simons, G. Sun, C.K. Tsui, M. Ugoletti, J.A. Boedo, H. Reimerdes, C. Theiler and the TCV team
- P.50. Towards the characterization of fast ions generated by ICRH and NBI systems in ITER-relevant plasmas**
C. De Piccoli
- P.51. TRANSP-TGLF modelling and sensitivity analysis in the D JET baseline scenario**
J. Lombardo, F. Auriemma, R. Lorenzini, L. Garzotti, H.-T Kim
- P.52. The new visible cameras system for RFX-mod2**
M. La Matina, M. Agostini, A. Belpane, P. Franz
- P.53. Advancements in the Control and Data Acquisition System (CODAS) for the prototype of the ITER NBI**
A. Luchetta, G. Manduchi, C. Taliercio, N. Cruz, G. Martini, A. Rigoni, L. Trevisan, F. Paolucci, C. Labate
- P.54. RFX-mod2 CODAS: upgrading the Control and Data Acquisition System**
G. Manduchi, A. Luchetta, C. Taliercio, G. Martini, A. Rigoni, N. Ferron

FISMAT 2023 – 4-8 September 2023 (Milano)

- P.55. Status of the RFX-mod2 device and upgrades by the NRRP funded project NEFERTARI**
L. Marrelli
- P.56. Numerical verification of resistive-wall boundary conditions in the SPECYL and PIIXIE3D magneto-hydrodynamic codes for fusion plasmas**
L. Spinicci, D. Bonfiglio, L. Chacón, S. Cappello, A. Kryzhanovskyy, M. Veranda, N. Vivenzi

20th International Symposium on Laser-Aided Plasma Diagnostics (LAPD) – 10-14 September 2023

(Kyoto, Japan)

proceeding to the Journal of Instrumentation (JINST)

P.57. Analysis of Dual Laser Thomson scattering signals on W7-X

F. A. D'Isa, E. Pasch, M.N.A. Beurskens, K.J. Brunner, G. Fuchert, R. Pasqualotto, and L. Giudicotti

15th International Symposium on Fusion Nuclear Technology (ISFNT-15) – 10-15 September (Las

Palmas de Gran Canaria, Spain)

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

P.58. Experimental validation of the fluid solver for SPIDER (FSFS2D)

ZAGORSKI ROMAN, Daniel Lopez Bruna, Jain Palak, Emanuele Sartori, Gianluigi Serianni, Alastair Shepherd

P.59. Visible cameras as a tool to study electron-beam shape

UGOLETTI MARGHERITA, T. Minea, C. Ballage, G. Serianni, M. Agostini

P.60. Balance of Plant conceptual design of EU DEMO integrating different Breeding Blanket concepts

ZAUPA MATTEO, M. Dalla Palma, I. Moscato, L. Barucca

P.61. Corrosion Phenomena and Deposits in ITER Neutral Beam Test Facility Primary Cooling Circuits

Cavallini Caterina, M. Bigi, M. Boldrin, R. Casagrande, C. Gasparini, G. Passalacqua, M. Maniero, M. Zaupa

P.62. Modelling of NBI shine-through in ITER PFPO phase to limit heat fluxes on first wall

VINCENZI PIETRO. M. Schneider, P. Veltri

P.63. Technology challenges and integration of the plasma position reflectometer in RFX-mod2

DE MASI GIANLUCA, R. Cavazzana, G. Marchiori, M. Moresco, L. Cordaro, M. Bernardi, A. Tiso, S. Peruzzo

P.64. Assessment and recovery from the damage of SPIDER RF driver Faraday shield lateral wall

Alessandro La Rosa, Giovanni Berton, Sylvestre Denizeau, Mauro Pavei, Daniel Lopez Bruna, Enrico Miorin, Francesco Montagner, Valentina Zin

P.65. Simulation of neutral gas dynamics in a negative ion beam source with varying neutral gas throughput

SHEPHERD ALASTAIR, G. Di Giannatale, E. Sartori, G. Serianni

27th Joint EU-US Transport Task Force Meeting - 11-15 Sep 2023 Nancy (France)

P.66. Characterization of the edge turbulence and electron profiles in TCV tokamak with the Thermal Helium Beam diagnostic

M.Agostini, M.Ugoletti, M.La Matina, Y.Andrebe, B.P.Duval, N.Offeddu, C.Theiler, Y.Wang, C.Wüthrich, S.Coda, C.Piron

**IX International Plant Science Conference (IPSC), (118° Congresso della Società Botanica Italiana).
Pisa, 13-16 September 2023**

P.67. Modulatory effect of non-thermal plasma-activated water on arbuscular mycorrhizal symbiosis.

Nouri E, Cortese E, Binci F, Capparotto A, Settimi AG, Dabalà M, Cappellin L, Antoni V, Squartini A, Giovannetti M, Navazio L.

ICIS 2023 International Conference on Ion Sources (Victoria, BC, Canada)

P.68. The driver plasma experiment for the optimization of the ITER NBI ion source *short oral*
MARIO ISABELLA, G. Serianni, E. Sartori, A. Pimazzoni

P.69. Modelling of plasma discharge in a filament negative ion source
CANDELORO VALERIA, Emanuele Sartori, Gianluigi Serianni

P.70. A novel Plasma Source concept for negative ion generation in neutral beam Injectors for Fusion applications

CHITARIN GIUSEPPE, D. Abate, F. Elio, G. Spizzo, E. Sartori

P.71. Plasma Properties in Giant Negative ion sources for Fusion *Invited*

SARTORI EMANUELE, Serianni, Veltri, NBTf team

20th European Fusion Theory Conference (EFTC 2023) – 2-5 October 2023 (Padova, Italy)

To be published on special issue of the Journal of Plasma Physics (JPP)

P.72. NBI energetic particle confinement and orbit characterization for Divertor Tokamak Test plasma scenarios

Chiara De Piccoli, T. Bolzonella, P. Vincenzi

P.73. Viscosity profile studies in 3D non-linear MHD modeling of RFP fusion plasmas

Nicholas Vivenzi

P.74. 3D boundary flow impact in modelling free-boundary instabilities with resistive-shell-based boundary conditions in the nonlinear MHD code SPECYL

Luca Spinicci

P.75. The role of plasma flow on quasi-helical states in reversed-field pinches

Marco Veranda, Daniele Bonfiglio, Susanna Cappello, Nicholas Vivenzi

P.76. Reconnection processes in 3D MHD modeling of Reversed Field Pinch magnetic self-organization

Susanna Cappello, Daniele Bonfiglio, Susanna Cappello, Dominique ESCANDE, Artur Kryzhanovskyy, Italo Predebon, Fabio Sattin, Luca Spinicci, Marco Veranda, Nicholas Vivenzi

P.77. Description of magnetic field lines without arcana

Barbara Momo, D.F. Escande

P.78. Global Alfvénic modes excitation in Ohmic Tokamak PPplasmas following magnetic reconnection events

Artur Kryzhanovskyy (*Oral*)

P.79. Characterization of L-H transition density branches in JET D-T plasmas through a power balance analysis

P. Vincenzi, E. Solano, Pedro Carvalho, Ephrem Delabie, Domagoj Kos, Rennan Bianchetti Morales, Hongjuan Sun, Emmi Tholerus, Irina Voitsekhovitch

P.80. Conceptual Design of Halo Machine

Vadim Yanovski, Roberto Cavazzana, Emilio Martines, Barbara Momo, Ales Podolnik, David Tskhakaya, Fabio Villone, Matteo Zuin

ICALEPCS 2023 - 9-13 October (Cape Town - South Africa)

P.81. Control and Data Acquisition System upgrade in RFX-mod2

G. Martini, G. Manduchi, A. Luchetta, C. Taliercio, A. Rigoni, N. Ferron

P.82. Final design of the safety system of the prototype of the ITER negative-ion heating neutral injector prototype

A. Luchetta, M. Battistella, S. Dal Bello, L. Grando, M. Moressa, C. Labate, F. Paolucci

P.83. Final design of control and data acquisition system for the ITER heating neutral beam injector prototype

L. Trevisan, N. Cruz, A. Luchetta, G. Manduchi, G. Martini, A. Rigoni, C. Taliercio

P.84. A high resolution multichannel acquisition system for magnetic measurements of fusion experiments

R. Cavazzana, M. Brombin, G. Manduchi, F. Milan, A. Rigoni Garola, L. Trevisan

29th IAEA Fusion Energy Conference - FEC 2023 16-21 October 2023 (London, United Kingdom)

P.85. Experimental results and activities for the optimisation of the ITER Neutral Beam Injector Prototypes

V. Toigo, G. Serianni, D. Marcuzzi, M. Boldrin, G. Chitarin, S. Dal Bello, L. Grando, A. Luchetta, R. Pasqualotto, M. Pavei, L. Zanotto, R. Agnello, P. Agostinetti, M. Agostini, D. Aprile, M. Barbisan, M. Battistella, G. Berton, M. Bigi, M. Brombin, V. Candela, V. Candeloro, A. Canton, R. Casagrande, C. Cavallini, N. Cruz, M. Dan, A. De Lorenzi, R. Delogu, M. De Muri, M. De Nardi, S. Denizeau, M. Fadone, F. Fellin, A. Ferro, E. Gaio, C. Gasparrini, F. Guiotto, P. Jain, A. La Rosa, D. Lopez-Bruna, R. Lorenzini, A. Maistrello, G. Manduchi, S. Manfrin, N. Marconato, I. Mario, G. Martini, T. Patton, N. Pilan, A. Pimazzoni, C. Poggi, N. Pomaro, B. Pouradier-Duteil, M. Recchia, A. Rigoni Garola, D. Rizzetto, A. Rizzolo, F. Santoro, E. Sartori, B. Segalini, A. Shepherd, M. Siragusa, P. Sonato, A. Sottocornola, E. Spada, S. Spagnolo, G. Spizzo, M. Spolaore, C. Taliercio, P. Tinti, L. Trevisan, M. Ugoletti, M. Valente, M. Valisa, F. Veronese, M. Vignando, P. Zaccaria, R. Zagorski, B. Zaniol, M. Zaupa, M. Zuin

P.86. H-MODE SOL profiles and transport dependence on SEPARATRIX operational space

N. Vianello, A. Stagni, A. Redl, T. Eich, D. Brida, P. David, M. Faitsch, G. Grenfell, M. Griener, R. Ochoukov, C. Colandrea, S. Gorno, B. Labit, H. Reimerdes, C. Theiler, C. K Tsui, M. Dreval, M. Agostini, M. Ugoletti, G. Harrer, J. A. Boedo, the ASDEX Upgrade Team

P.87. RFX-MOD2 as a flexible device for reversed-field-pinch and low-field tokamak research

D. Terranova, D. Abate, M. Agostini, F. Auriemma, T. Bolzonella, D. Bonfiglio, M. Bonotto, S. Cappello, L. Carraro, R. Cavazzana, A. Fassina, P. Franz, M. Gobbin, R. Lorenzini, G. Marchiori, L.

Marrelli, R. Milazzo, S. Peruzzo, L. Pigatto, P. Porcu, I. Predebon, M.E. Puiatti, P. Scarin, G. Spizzo, M. Spolaore, E. Tomasina, M. Valisa, M. Veranda, F. Villone, P. Zanca, B. Zaniol, M. Zuin

P.88. RFX-MOD2 facility upgrades and diagnostic capability enhancements for the exploration of multi-magnetic-configurations

M. Zuin, L. Carraro, D. Abate, P. Agostinetti, M. Agostini, D. Aprile, M. Barbisan, A. Belpane, G. Berton, M. Bonotto, M. Brombin, R. Cavazzana, S. Ciuffo, G. Croci, L. Cordaro, S. Dal Bello, G. De Masi, M. Fadone, A. Fassina, D. Fiorucci, P. Franz, L. Grando, M. La Matina, G. Marchiori, N. Marconato, I. Mario, L. Marrelli, R. Milazzo, M. Moresco, A. Muraro, E. Perelli Cippo, S. Peruzzo, N. Pomaro, M.E. Puiatti, D. Rigamonti, A. Rigoni Garola, A. Rizzolo, P. Scarin, S. Spagnolo, M. Spolaore, C. Taliercio, M. Tardocchi, D. Terranova, M. Ugoletti, M. Valisa N. Vianello and B. Zaniol

P.89. Error field detection and correction studies towards ITER operation

L. Piron, C. Paz-Soldan, M. Bonotto, L. Pigatto, P. Zanca, O. Sauter, T. Putterich, P. Bettini, G. Cunningham, G. De Tommasi, P. De Vries, N. Ferron, M. Gambrioli, G. Graham, Y. Gribov, Q. Hu, K. Kirov, N.C. Logan, M. Lennholm, M. Mattei, M. Maraschek, T. Markovic, G. Manduchi, P. Martin, A. Pironti, A.R. Polevoi, T. Ravensbergen, D. Ryan, B. Sieglin, W. Suttrop, D. Terranova, W. Teschke, D. F. Valcarcel, C. Vincent And JET contributors and ASDEX Upgrade team and MAST-U team

P.90. Design of the divertor for the DTT facility optimized for power exhaust experiments

P. Innocente, R. Ambrosino, G. Calabro', F. Crisanti, S. Brezinsek, A. Castaldo, G. Dose, S. Roccella, G. Rubino, G. Vlad, C. Day, C. Tantos, G. Granucci, P. Mantica, P. Martin, R. Neu

P.91. Plasma-wall self-organization in magnetic fusion

D.F. Escande, F. Sattin, P. Zanca, J.-X.Liu, P. Zhu, J.-L. Zhang, D.-H. Xia, Y.-H. Wang, J.-M. Wang, Q.-H. Yang, J.-G. Fang, X.-Q. Zhang, L. Gao, Z.-F. Cheng, Z.-P. Chen, Z.-J. Yang, Z.-Y. Chen, Y.-H. Ding, Y. Pan, And The J-Text Team

P.92. EUROFUSION WORK Programme on Socio Economic Studies

C. Bustreo, Ben Ayed, N., Biberacher, M., Börcsök, E., Čadenović, R., Cardozo, N. J., Cok, V., Colucci, G., De Marchi, E., Dongiovanni, D. N., Ferencz, Z., Geysmans, R., Giacometti, A., Gracceva, F., Groma, V., Jones, C. R., Kembleton, R., Kenens, J., Lamut, U., Lechon, Y., Lerede, D., Meskens, G., Oltra, C., Orlando, M.T., Povh, J., Prades, A., Savoldi, L., Stankiewicz, P., Trotta, A., Turcanu, C., Vitiello, S., von Müller, A., Ward, S. H

P.93. Overview of thermonuclear fusion proliferation risks

P. Martin

Co-authors

P.94. Developments towards high-beta, long-pulse scenarios in TCV and MAST-U

S. Coda, C. Piron, I. Voitsekhovitch, G. Cunningham, F. Auriemma, M. Agostini, M. Baruzzo, A. Burckhart, J. Cazabonne, A. Chomiczewska, R. Dumont, S. Garavaglia, L. Garzotti, S. Gibson, A. Jardin, E. Joffrin, A.N. Karpushov, D. Keeling, O. Krutkin, U. Kumar, D. Mazon, A. Moro, S. Nowak, B. Patel, A. Pau, L. Piron, J.F. Rivero-Rodriguez, O. Sauter, M. Ugoletti, M. Vallar, L. Velarde, N. Wendler, V. Yanovskiy, The Eurofusion Tokamak Exploitation Team, The TCV Team And The MAST Upgrade Team

P.95. Development of high-current baseline scenario for deuterium-tritium high fusion performance at JET

L. Garzotti¹, D. Frigione², P. Lomas¹, F. Rimini¹, D. Van Eester³, S. Aleiferis¹, E. Alessi⁴, F. Auriemma⁵, R B Morales¹, I. S. Carvalho⁶, P. Carvalho¹, A. Chomiczewska⁷, E. De La Luna⁸, D. R. Ferreira⁶, A. Field¹, M. Fontana¹, L. Frassinetti⁹, S. Gabriellini¹⁰, E. Giovannozzi¹¹, C. Giroud¹, W. Gromelski⁷, I. Ivanova-Stanik⁷, V. Kiptily¹, K. Kirov¹, M. Lennholm¹, C. Lowry¹, C. F. Maggi¹, J. Mailloux¹, S. Menmuir¹, S. Nowak⁴, V. Parail¹, A. Pau¹², C. Perez von Thun⁷, L. Piron¹³, G. Pucella¹¹, C. Reux¹⁴, E. Solano⁸, O. Sauter¹², C. Sozzi⁴, Ž. Štancar¹, C. Stuart¹, H. Sun¹, G. Telesca⁷, D. Tskakaja¹⁵, M. Valovič¹, N. Wendler⁷, V. K. Zotta¹⁰ and JET Contributors

P.96. The JET hybrid scenario in D, T and D-T

J. Hobrik, ...F. Auriemma, ...L. Piron, ...M. Valisa et al

P.97. Tritium-rich scenario for high fusion power in JET DTE2

A. Chomiczewska, ... F. Auriemma, ... R. Lorenzini, et al

P.98. Analysis of fusion alphas interaction with rf waves in D-T plasma at JET

K. Kirov, ..., F. Auriemma et al

P.99. Detection of alpha heating in JET-ILW dt plasmas by a study of the electron temperature response to ICRH modulation

P. Mantica, ... F. Auriemma et al

P.100. Overview of interpretive modelling of fusion performance in JET DTE2 discharges with transp

Z. Stancar, ..., F. Auriemma, ..., R. Lorenzini et al

P.101. Prediction of transport in the JET DTE2 discharges with the TGLF and NEO models using the TGYRO transport code

N. Shi, E.A. Belli, F. Auriemma et al

P.102. Roles of ECH System in DTT plasma operations

G. Granucci, ..., F. Auriemma et al

P.103. Sawteeth dynamics in JET Baseline discharges with mixtures of isotopes

S. Nowak, ..., F. Auriemma et al

P.104. Negative triangularity scenarios: from TCV and AUG experiments to DTT predictions

A. Mariani, ..., L. Balbinot, ..., P. Innocente, ..., P. Muscente, ..., T. Bolzonella et al

P.105. Physics Basis For The Divertor Tokamak Test Facility

F. Crisanti, ... , P. Agostinetti, ..., F. Auriemma, ... , L. Balbinot, ..., T. Bolzonella, ..., C. De Piccoli, ... , M. Gobbin, ..., P. Innocente, ... , P. Martin, ... , A. Murari¹, P. Muscente, ..., L. Pigatto, C. Piron, ..., G. Spizzo, ... , N. Vianello, P. Vincenzi, G. Vlad

P.106. Progress of electrical and nuclear safety design of DC 1 MV power supply system for the ITER Neutral Beam Injector

M. Ichikawa, ..., M. Dan, ..., F. Santoro, G. Chitarin, ..., L. Zanotto, ..., M. Boldrin, ..., T. Patton, V. Toigo et al

P.107. Negative triangularity tokamak operation in TCV

O. Sauter, ..., C. Piron, ..., L. Pigatto, ..., T. Bolzonella et al

- P.108. Effects of electromagnetic transients on DTT in-vessel coils**
R. Ambrosino, ..., L. Pigatto, ..., M. Dalla Palma, P. Innocente, ..., T. Bolzonella et al
- P.109. Physics basis and technology development for the ITER disruption mitigation system**
M. Lehnen, ..., D. Bonfiglio et al
- P.110. Collisional-radiative simulation of impurity assimilation, radiation and MHD response after ITER Shattered Pellet Injection**
D. Hu, ..., D. Bonfiglio et al
- P.111. Non-linear MHD modelling of transients in tokamaks: Recent advances with the JOEUK code**
M. Hoelz, ..., D. Bonfiglio et al
- P.112. RFP-SSR Hybrid reactor model for actinides transmutation and tritium breeding studies**
S. Murgo, C. Bustreo, ..., R. Piovan
- P.113. 3D numerical evaluation of the DTT divertor pumping performance**
C. Tantos, ..., P. Innocente et al
- P.114. Upgrade of relax machine for studying both low aspect ratio circular tokamak and reversed-field pinch plasmas**
A. Sanpei, ..., I. Predebon, ..., R. Paccagnella et al
- P.115. Electron and ion scale gyrokinetic turbulent transport studies in JET-ILW H-mode pedestals**
B. Cahpman-Oplopoiou, ..., I. Predebon et al
- P.116. The stability of the H-mode entry in the ITER baseline scenario investigated in AUG and TCV**
T. Puetterich, ..., L. Piron et al
- P.117. Helium plasma operations on ASDEX Upgrade and JET in support of the non-nuclear phases of ITER**
A. Hakola, ..., N. Vianello et al
- P.118. Impact of H, D, T and D-T Hydrogenic Isotopes on Detachment in JET ITER-like Wall Low-Confinement Mode Plasmas**
M. Groth, ..., N. Vianello et al
- P.119. Experimental investigation of the physics & performance of the MAST-Upgrade Super-X divertor**
K. Verhaegh, ..., N. Vianello et al
- P.120. H-mode density limit studies with pellets vs gas in JET-ILW**
C. Perez von Thun, ..., N. Vianello et al
- P.121. Subjective scientific readiness levels (SSRL) for fusion research and their application to tokamak exploitation**
M. Wischmeier, ..., N. Vianello et al

65th Annual Meeting of the APS Division of Plasma Physics – 30 October-3 November 2023 (Boulder, CO, United States.)

P.122. Physics basis for the DTT facility

P. Martin et al

P.123. Electron temperature barriers as Lagrangian Coherent Structures

M. Veranda, S. Cappello, D. Bonfiglio, G. Di Giannatale, P. Franz, M. Gobbin, B. Momo, D.Terranova

AIV XXVI Conference (2023) – 7-10 November (Roma, Italy)

P.124. Technology challenges and integration of the plasma position reflectometer in RFX-mod2

G. De Masi, R. Cavazzana, F. Ruffini, G. Marchiori, M. Moresco, R. Agnello, L. Cordaro, M. Bernardi, E. Giroto, A. Tiso, S. Peruzzo

P.125. Assessment of the criteria and the compliant design of DTT vacuum pumping system

M. Romano, P. Innocente, M. Fincato, G. Rubino, A. Belpane, E. De Marchi

P.126. Status of the RFX-mod2 project and prospects with the NRRP/NEFERTARI project

S. Peruzzo

P.127. The Fusion to Hydrogen option in a carbon free energy system

U. Giuliani, M. Agostini, C. Bustreo, G. Zollino