

## Consorzio RFX publications list 2022

### Journals

- R.1 Scenario modelling for the Divertor Tokamak Test facility**  
Casiraghi, I; Mantica, P; Ambrosino, R; Aucone, L; Baiocchi, B; Balbinot, L; Castaldo, A; Citrin, J; Frassinetti, L; Innocente, P; Koechl, F; Mariani, A; Agostinetti, P; Ceccuzzi, S; Figini, L; Granucci, G; Valisa, M  
*Nuovo Cim. C-Colloq. Commun. Phys.* **45** – 6 (2022) <http://dx.doi.org/10.1393/ncc/i2022-22162-0>
- R.2 Advances in the DTT poloidal interferometer/polarimeter design**  
Fiorucci, D; Fassina, A; Filippi, F; Mazzotta, C; Rocchi, G; Rossi, R; Terranova, D; Tudisco, O; Andreoli, P; Cipriani, M; Consoli, F; Gaudio, P; Gelfusa, M; Giudicotti, L; Innocente, P; Belpane, A; Mauro, G; Mascali, D; Naselli, E; Orsitto, FP; Torrisi, G International Conference on Fusion Reactor Diagnostics - *J. Instrum.* **17** 2 (2022) <http://dx.doi.org/10.1088/1748-0221/17/02/C02023>
- R.3 MCOLD plasma and stem cells joined as a new tool in wound healing: a pilot study on large animals**  
Melotti, L; Martinello, T; Cordaro, L; Zuin, M; Perazzi, A; Martines, E; Iacopetti, I; Patruno, *Tissue Eng. Part A* **28** (2022)
- R.4 A systemic approach to classification for knowledge discovery with applications to the identification of boundary equations in complex systems**  
Murari, A., Gelfusa, M., Lungaroni, M., Gaudio, P., Peluso, E.  
*Artif Intell Rev* (2022) **55** (1), pp. 255-289. [DOI: 10.1007/s10462-021-10032-0](https://doi.org/10.1007/s10462-021-10032-0)
- R.5 FFT-PEEC: A Fast Tool from CAD to Power Electronics Simulations**  
Torchio, R., Lucchini, F., Schanen, J.-L., Chadebec, O., Meunier, G.  
*IEEE Trans Power Electron* (2022) **37** (1) 700-713 [DOI: 10.1109/TPEL.2021.3092431](https://doi.org/10.1109/TPEL.2021.3092431)
- R.6 Enhanced confinement in diverted negative-triangularity L-mode plasmas in TCV**  
Coda, S., Merle, A., Sauter, O., Porte, L., Bagnato, F., Boedo, J., Bolzonella, T., Février, O., Labit, B., Marinoni, A., Pau, A., Pigatto, L., Sheikh, U., Tsui, C., Vallar, M., Vu, T.  
*Plasma Phys and Cont Fus* (2022) **64** (1), art. no. 014004, [DOI: 10.1088/1361-6587/ac3fec](https://doi.org/10.1088/1361-6587/ac3fec)
- R.7 The dependence of confinement on the isotope mass in the core and the edge of AUG and JET-ILW H-mode plasmas**  
Schneider, P.A., Angioni, C., Frassinetti, L., Horvath, L., Maslov, M., Auriemma, F., Cavedon, M., Challis, C.D., Delabie, E., Dunne, M.G., Climent, J.M.F., Hobirk, J., Kappatou, A., Keeling, D.L., Kurzan, B., Lennholm, M., Lomanowski, B., Maggi, C.F., McDermott, R.M., Pütterich, T., Thorman, A., Willensdorfer, M.  
*Nucl Fusion* (2022) **62** (2), art. no. 026014, [DOI: 10.1088/1741-4326/ac3e82](https://doi.org/10.1088/1741-4326/ac3e82)

- R.8 Shattered pellet injection experiments at JET in support of the ITER disruption mitigation system design**  
Jachmich, S., Kruezi, U., Lehnen, M., Baruzzo, M., Baylor, L.R., Carnevale, D., Craven, D., Eidietis, N.W., Ficker, O., Gebhart, T.E., Gerasimov, S., Herfindal, J.L., Hollmann, E., Huber, A., Lomas, P., Lovell, J., Manzanares, A., Maslov, M., Mlynar, J., Pautasso, G., Paz-Soldan, C., Peacock, A., Piron, L., Plyusnin, V., Reinke, M., Reux, C., Rimini, F., Sheikh, U., Shiraki, D., Silburn, S., Sweeney, R., Wilson, J., Carvalho, P.  
*Nucl Fusion* (2022) **62** (2), art. no. 026012, [DOI: 10.1088/1741-4326/ac3c86](https://doi.org/10.1088/1741-4326/ac3c86)
- R.9 Plasma-wall self-organization in magnetic fusion**  
Escande, D.F., Sattin, F., Zanca, P.  
*Nucl Fusion* (2022) **62** (2), art. no. 026001, [DOI: 10.1088/1741-4326/ac3c87](https://doi.org/10.1088/1741-4326/ac3c87)
- R.10 Validation of edge turbulence codes in a magnetic X-point scenario in TORPEX**  
Galassi, D., Theiler, C., Body, T., Manke, F., Micheletti, P., Omotani, J., Wiesenberger, M., Baquero-Ruiz, M., Furno, I., Giacomini, M., Laribi, E., Militello, F., Ricci, P., Stegmeir, A., Tamain, P., Bufferand, H., Ciraolo, G., De Oliveira, H., Fasoli, A., Naulin, V., Newton, S.L., Offeddu, N., Oliveira, D.S., Serre, E., Vianello, N.  
*Phys. Plasmas* (2022) **29** (1), art. no. 012501, [DOI: 10.1063/5.0064522](https://doi.org/10.1063/5.0064522)
- R.11 Resistive MHD modes in hollow cathodes external plasma**  
Becatti, G., Burgalassi, F., Paganucci, F., Zuin, M., Goebel, D.M.  
*Plasma Sources Sci Technol* (2022) **31** (1), art. no. 015016, [DOI: 10.1088/1361-6595/ac43c4](https://doi.org/10.1088/1361-6595/ac43c4)
- R.12 Benchmarking 2D against 3D FDTD codes for the assessment of the measurement performance of a low field side plasma position reflectometer applicable to IDTT**  
Da Silva, F., Ricardo, E., Ferreira, J., Santos, J., Heurax, S., Silva, A., Ribeiro, T., De Masi, G., Tudisco, O., Cavazzana, R., D'Arcangelo, O.  
*J. Instrum.* (2022) **17** (1), art. no. C01017, [DOI: 10.1088/1748-0221/17/01/C01017](https://doi.org/10.1088/1748-0221/17/01/C01017)
- R.13 Design of a new reflectometric system for real time plasma position control on the RFX-mod2 device**  
De Masi, G., Cavazzana, R., Abate, D., Bernardi, M., Marchiori, G., Moresco, M., Tiso, A., Peruzzo, S.  
*J. Instrum.* (2022) **17** (1), art. no. C01071, [DOI: 10.1088/1748-0221/17/01/C01071](https://doi.org/10.1088/1748-0221/17/01/C01071)
- R.14 Characterization of vacuum HV microdischarges at HVPTF through X-ray bremsstrahlung spectroscopy**  
Kushoro, M.H., Croci, G., Mario, I., Muraro, A., Rigamonti, D., Cancelli, S., De Lorenzi, A., Fincato, M., Fontana, C., Gobbo, R., Grosso, G., Lotto, L., Mc Cormack, O., Putignano, O., Pino, F., Spada, E., Spagnolo, S., Tardocchi, M., Pilan, N.  
*J. Instrum.* (2022) **17** (1), art. no. C01054, [DOI: 10.1088/1748-0221/17/01/C01054](https://doi.org/10.1088/1748-0221/17/01/C01054)
- R.15 Design of the high field side antenna of the new reflectometric system for plasma position estimate in RFXmod2**  
Marchiori, G., Cavazzana, R., De Masi, G., Moresco, M.  
*J. Instrum.* (2022) **17** (1), art. no. C01002, [DOI: 10.1088/1748-0221/17/01/C01002](https://doi.org/10.1088/1748-0221/17/01/C01002)

- R.16 Dynamics of ultralow- q plasmas in the RFX-mod device**  
Zuin, M., Agostini, M., Auriemma, F., Bonfiglio, D., Cappello, S., Carraro, L., Cavazzana, R., Cordaro, L., Franz, P., Marrelli, L., Martines, E., Puiatti, M.E., Piovan, R., Spizzo, G., Terranova, D., Vianello, N., Zanca, P., Zaniol, B., Zanotto, L.  
*Nucl Fusion* (2022) **62** (6), art. no. 066029, [DOI: 10.1088/1741-4326/ac58a7](https://doi.org/10.1088/1741-4326/ac58a7)
- R.17 Pre-Breakdown Phenomena Between Vacuum Insulated Electrodes: The Role of Accumulation Points in the Onset of Microdischarges**  
Pilan, N., Cavenago, M., Chitarin, G., (...), Spagnolo, S., Zuin, M.  
*IEEE Trans Plasma Sci* **50** (9), 2695-2699 (2022) - [DOI: 10.1109/TPS.2022.3166351](https://doi.org/10.1109/TPS.2022.3166351)
- R.18 Strategy for Vacuum Insulation Tests of MITICA 1 MV Electrostatic Accelerator**  
Chitarin, G., Kojima, A., Boldrin, M., Luchetta, A., Marcuzzi, D., Zaccaria, P., Zanotto, L., Toigo, V., Aprile, D., Marconato, N., Patton, T., Pilan, N., Barbato, P., Berton, G., Breda, M., Dan, M., Fincato, M., Lotto, L., Rigoni-Garola, A., Sartori, E., Tollin, M., Valente, M., Grando, L., Pomaro, N., De Lorenzi, A., Hiratsuka, J., Ichikawa, M., Kasaki, M., Murayama, M., Saquilayan, G.M., Tobari, H., Umeda, N., Watanabe, K., Kashiwagi, M.  
*IEEE Trans Plasma Sci* **50** (9), 2755-2762 (2022) [DOI: 10.1109/TPS.2022.3168341](https://doi.org/10.1109/TPS.2022.3168341)
- R.19 Status of design and procurement activities in DTT tokamak project area**  
Polli, G.M., Cucchiario, A., Palma, M.D., Gabellieri, L., Lampasi, A., Ramogida, G., Reale, A., Roccella, S., Valisa, M.  
*IEEE Mediterr. Electrotech. Conf., Proc.* (2022) 477-482,  
[DOI:10.1109/MELECON53508.2022.9843123](https://doi.org/10.1109/MELECON53508.2022.9843123)
- R.20 Complexity: Frontiers in Data-Driven Methods for Understanding, Prediction, and Control of Complex Systems 2022 on the Development of Information Theoretic Model Selection Criteria for the Analysis of Experimental Data**  
Murari, A., Lungaroni, M., Rossi, R., Spolladore, L., Gelfusa, M.  
*Complexity* (2022) 2022, art. no. 9518303, [DOI: 10.1155/2022/9518303](https://doi.org/10.1155/2022/9518303)
- R.21 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., (...), Rossi, R., Gelfusa, M.  
*Neural Computing and Applications* (2022) <https://doi.org/10.1007/s00521-022-07768-3>
- R.22 Topology Optimization for Electromagnetics: A Survey**  
Lucchini, F., Torchio, R., Cirimele, V., Alotto, P., Bettini, P.  
*IEEE Access*, **10**, 98593-98611 (2022) [DOI: 10.1109/ACCESS.2022.3206368](https://doi.org/10.1109/ACCESS.2022.3206368)
- R.23 Detection of changes in the dynamics of thermonuclear plasmas to improve the prediction of disruptions**  
Craciunescu, T., Murari, A.  
*Nonlinear Dyn*, Oct (2022) <https://doi.org/10.1007/s11071-022-08009-x>
- R.24 Combining neural computation and genetic programming for observational causality detection and causal modelling**  
Murari, A., Rossi, R., Gelfusa, M.  
*Artif Intell Rev*, **11** (2022) <https://doi.org/10.1007/s10462-022-10320-3>

- R.25 On the influence of microstructure on the neutron irradiation response of HIPed SA508 steel for nuclear applications**  
Carter, M., Gasparrini, C., Douglas, J.O., Riddle, N., Edwards, L., Bagot, P.A.J., Hardie, C.D., Wenman, M.R., Moody, M.P.  
*J Nucl Mater* (2022) 559, art. no. 153435, [DOI: 10.1016/j.jnucmat.2021.153435](https://doi.org/10.1016/j.jnucmat.2021.153435)
- R.26 New Development of BIRD Model**  
Spada, E., de Lorenzi, A., Lotto, L., Pilan, N., Spagnolo, S., Zuin, M.  
*IEEE Trans Plasma Sci* **50** (2022) 2763 - 2768, [DOI: 10.1109/TPS.2022.3192596](https://doi.org/10.1109/TPS.2022.3192596)
- R.27 Water Chemistry in Fusion Cooling Systems: Borated Water for DTT Vacuum Vessel**  
Gasparrini, C., Badocco, D., Pace, L.D., Terranova, N., Pastore, P., Montagner, F., Mattarozzi, L., Villari, R., Martelli, E., Roccella, S., Scatigno, G.G., Rizzieri, R., Pedrazzini, S., Palma, M.D., Sonato, P.  
*IEEE Trans Plasma Sci* **50** issue 11 4287 - 4291 (2022) [DOI: 10.1109/TPS.2022.3161185](https://doi.org/10.1109/TPS.2022.3161185)
- R.28 Improved Conceptual Design of the Beamline for the DTT Neutral Beam Injector**  
Agostinetti, P., Benedetti, E., Bonifetto, R., Bonesso, M., Cavenago, M., Bello, S.D., Palma, M.D., D'Ambrosio, D., Dima, R., Favero, G., Ferro, A., Fincato, M., Giorgetti, F., Granucci, G., Lombroni, R., Marconato, N., Marsilio, R., Murari, A., Patton, T., Pavei, M., Pepato, A., Pilan, N., Raffaelli, F., Rebesan, P., Recchia, M., Ripani, M., Romano, A., Sartori, E., Tinti, P., Valente, M., Variale, V., Ventura, G., Veronese, F., Zanino, R., Zavarise, G.  
*IEEE Trans Plasma Sci* **50** issue 11 4027 - 4032 (2022) [DOI: 10.1109/TPS.2022.3162902](https://doi.org/10.1109/TPS.2022.3162902)
- R.29 Numerical Calculation of Pick-Up Coils Frequency Response as a Useful Tool for Local Magnetic Field Sensors Design**  
Marconato, N., Bonotto, M.  
*IEEE Trans Plasma Sci* **50** issue 11 3989 - 3994 (2022) [DOI: 10.1109/TPS.2022.3167854](https://doi.org/10.1109/TPS.2022.3167854)
- R.30 Upgrade of the Magnetic Fault Detection System of RFX-mod2**  
Bonotto, M., Brombin, M., Abate, D., Bettini, P., Cavazzana, R., Chitarin, G., Grandi, L., Peruzzo, S., Pomaro, N.  
*IEEE Trans Plasma Sci* **50** issue 11 4102 - 4107 (2022) [DOI: 10.1109/TPS.2022.3168387](https://doi.org/10.1109/TPS.2022.3168387)
- R.31 Numerical and Experimental Assessment of the New Magnetic Field Configuration in SPIDER**  
Marconato, N., Sartori, E., Serianni, G.  
*IEEE Trans Plasma Sci* **50** issue 11 3884 - 3889 (2022) [DOI: 10.1109/TPS.2022.3167859](https://doi.org/10.1109/TPS.2022.3167859)
- R.32 Development of a Triple Langmuir Probe for Plasma Characterization in SPIDER**  
Candeloro, V., Serianni, G., Fadone, M., Laterza, B., Sartori, E.  
*IEEE Trans Plasma Sci* **50** issue 11 3871 - 3876 (2022) [DOI: 10.1109/TPS.2022.3173885](https://doi.org/10.1109/TPS.2022.3173885)
- R.33 Optimization of Spider Grounded Grid Segment Design**  
Tomsic, P., Berton, G., Zaccaria, P., Agostinetti, P., Pavei, M., Marcuzzi, D.  
*IEEE Trans Plasma Sci* **50** issue 11 3952 - 3958 (2022) [DOI: 10.1109/TPS.2022.3172730](https://doi.org/10.1109/TPS.2022.3172730)

- R.34 Water Degradation in ITER Neutral Beam Test Facility Cooling Circuits**  
Gasparrini, C., Cavallini, C., Zaupa, M., Maniero, M., Zucchetti, S., Badocco, D., Zorzi, F., Palma, M.D., Fellin, F., Zaccaria, P.  
*IEEE Trans Plasma Sci* **50** issue 11 3947 - 3951 (2022) [DOI: 10.1109/TPS.2022.3173737](https://doi.org/10.1109/TPS.2022.3173737)
- R.35 Early Operational Experience and Improvements of SPIDER Ion Source Power Supplies at Beam Energies Exceeding 30 keV**  
Bigi, M., Agostini, M., Brombin, M., Casagrande, R., Dan, M., De Nardi, M., Jain, P., Lunardon, F., Maistrello, A., Recchia, M., Santoro, F., Zanotto, L.  
*IEEE Trans Plasma Sci* **50** issue 11 3928 - 3934 (2022) [DOI: 10.1109/TPS.2022.3173820](https://doi.org/10.1109/TPS.2022.3173820)
- R.36 Design and Analysis of Halo Current Diagnostic for RFX-mod2**  
Bonotto, M., Cavazzana, R., Abate, D., Aprile, D., Berton, G.  
*IEEE Trans Plasma Sci* **50** issue 11 4096 - 4101 (2022) [DOI: 10.1109/TPS.2022.3176021](https://doi.org/10.1109/TPS.2022.3176021)
- R.37 The Full-Voltage Operation of the Acceleration Grid Power Supply for SPIDER Experiment**  
Ferro, A., Boldrin, M., Bello, S.D., Casagrande, R., Dan, M., Maistrello, A., Taliercio, C., Vignando, M., Zanotto, L., Toigo, V., Dhola, H., Raval, B., Singh, N.P., Patel, A., Sharma, A.  
*IEEE Trans Plasma Sci* **50** issue 11 3941 - 3946 (2022) [DOI: 10.1109/TPS.2022.3170999](https://doi.org/10.1109/TPS.2022.3170999)
- R.38 Electron Scraping and Electron Temperature Reduction by Bias Electrode at the Extraction Region of a Large Negative Ion Source**  
Candeloro, V., Sartori, E., Serianni, G.  
*IEEE Trans Plasma Sci* **50** issue 11 3983 - 3988 (2022) [DOI: 10.1109/TPS.2022.3171731](https://doi.org/10.1109/TPS.2022.3171731)
- R.39 Performance Optimization of the Electrostatic Accelerator for DTT Neutral Beam Injector**  
Veronese, F., Agostinetti, P., Murari, A., Pepato, A.  
*IEEE Trans Plasma Sci* **50** issue 11 4033 - 4038 (2022) [DOI: 10.1109/TPS.2022.3169433](https://doi.org/10.1109/TPS.2022.3169433)
- R.40 Optical Diagnostics for High-Voltage Tests in MITICA**  
Aprile, D., Chitarin, G., Lotto, L., Fincato, M., Patton, T., Pilan, N., Valente, M.  
*IEEE Trans Plasma Sci* **50** issue 11 3922 - 3927 (2022) [DOI: 10.1109/TPS.2022.3177781](https://doi.org/10.1109/TPS.2022.3177781)
- R.41 2-D Fluid Model for Discharge Analysis of the RF-Driven Prototype Ion Source for ITER NBI (SPIDER)**  
Zagorski, R., Sartori, E., Serianni, G.  
*IEEE Trans Plasma Sci* **50** issue 11 4002 - 4008 (2022) [DOI: 10.1109/TPS.2022.3175527](https://doi.org/10.1109/TPS.2022.3175527)
- R.42 Radio Frequency Generators Based on Solid State Amplifiers for the NBTF and ITER Projects**  
Zanotto, L., Maistrello, A., Boldrin, M., Bigi, M., Casagrande, R., De Nardi, M., Gaio, E., Marcuzzi, D., Recchia, M., Toigo, V., Rotti, C., Decamps, H., Veltri, P., Zacks, J., Gutierrez, D., Simon, M.  
*IEEE Trans Plasma Sci* **50** issue 11 3970 - 3976 (2022) [DOI: 10.1109/TPS.2022.3176030](https://doi.org/10.1109/TPS.2022.3176030)
- R.43 Design of Routing of In-Vessel Diagnostic Signals for RFXmod2**  
Aprile, D., Cavazzana, R., Marconato, N., Tiso, A.  
*IEEE Trans Plasma Sci* **50** issue 11 4091 - 4095 (2022) [DOI: 10.1109/TPS.2022.3178766](https://doi.org/10.1109/TPS.2022.3178766)

- R.44 Langmuir Probes as a Tool to Investigate Plasma Uniformity in a Large Negative Ion Source**  
Poggi, C., Spolaore, M., Brombin, M., Cavazzana, R., Fadone, M., Pasqualotto, R., Pimazzoni, A., Pomaro, N., Sartori, E., Serianni, G., Taliercio, C.  
*IEEE Trans Plasma Sci* **50** issue 11 3890 - 3896 (2022) [DOI: 10.1109/TPS.2022.3181805](https://doi.org/10.1109/TPS.2022.3181805)
- R.45 RF Stray Currents in SPIDER Power Circuits: Model Assessment and Experimental Results**  
Nardi, M.D., Casagrande, R., Maistrello, A., Recchia, M., Bigi, M., Zanotto, L.  
*IEEE Trans Plasma Sci* **50** issue 11 3977 - 3982 (2022) [DOI: 10.1109/TPS.2022.3186291](https://doi.org/10.1109/TPS.2022.3186291)
- R.46 Studies on Alternative Schemes for the MMC-Based Acceleration Grid Power Supply of DEMO Neutral Beam Injector**  
Santoro, F., Ferro, A., Nardi, M.D., Gaio, E.  
*IEEE Trans Plasma Sci* **50** issue 11 4039 - 4046 (2022) [DOI: 10.1109/TPS.2022.3188946](https://doi.org/10.1109/TPS.2022.3188946)
- R.47 Study of Negative Ion Beamlets Produced in SPIDER by Beam Emission Spectroscopy**  
Agnello, R., Barbisan, M., Casati, G., Pasqualotto, R., Serianni, G., Zaniol, B.  
*IEEE Trans Plasma Sci* **50** issue 11 3865 - 3870 (2022) [DOI: 10.1109/TPS.2022.3180169](https://doi.org/10.1109/TPS.2022.3180169)
- R.48 A Temperature Programmed Desorption Diagnostic for SPIDER Cs Operations**  
Fadone, M., Duteil, B.P., Sartori, E., Laterza, B., Pasqualotto, R., Barbato, P., Brombin, M., Fincato, M., Cervaro, V., Tollin, M., Moro, G., Fasolo, D.  
*IEEE Trans Plasma Sci* **50** issue 11 3877 - 3883 (2022) [DOI: 10.1109/TPS.2022.3180837](https://doi.org/10.1109/TPS.2022.3180837)
- R.49 Development of a Collisional Radiative Model for Hydrogen-Cesium Plasmas and Its Application to SPIDER**  
Duteil, B.P., Sartori, E., Zaniol, B., Barbisan M., Poggi C., Spolaore, M., Serianni, G.  
*IEEE Trans Plasma Sci* **50** issue 11 3995 - 4001 (2022) [DOI: 10.1109/TPS.2022.3190561](https://doi.org/10.1109/TPS.2022.3190561)
- R.50 On the Effectiveness of SPIDER RF System Improvements**  
Maistrello, A., Dan, M., Casagrande, R., Jain P., Recchia M., Bigi M., Zanotto, L., Pavei, M.  
*IEEE Trans Plasma Sci* **50** issue 11 3964 - 3969 (2022) [DOI: 10.1109/TPS.2022.3179572](https://doi.org/10.1109/TPS.2022.3179572)
- R.51 Combined Capacitor&#x2013;Resistor Energy Transfer System to Increase Plasma Current in RFX-Mod2**  
Lunardon, F., Maistrello, A., Gaio, E., Piovan, R.  
*IEEE Trans Plasma Sci* **50** issue 11 4368 - 4374 (2022) [DOI: 10.1109/TPS.2022.3195538](https://doi.org/10.1109/TPS.2022.3195538)
- R.52 Corrosion and Metal Release of Copper and Stainless Steel Exposed to Ultrapure Water**  
Cavallini, C., Gasparrini, C., Zaupa, M., Agoastinetti, P., Palma, M.D., Rizzieri, R., Montagner, F., Zin, V., Miorin, E., Badocco, D., Pastore, P.  
*IEEE Trans Plasma Sci* **50** issue 11 4491 - 4495 (2022) [DOI: 10.1109/TPS.2022.3182804](https://doi.org/10.1109/TPS.2022.3182804)
- R.53 Initial Results From the SPIDER Beamlet Current Diagnostic**  
Shepherd, A., Pouradier-Duteil, B., Patton, T., Pimazzoni, A., Garola, A.R., Sartori, E., Serianni, G.  
*IEEE Trans Plasma Sci* **50** issue 11 3906 - 3912 (2022), [DOI: 10.1109/TPS.2022.3176757](https://doi.org/10.1109/TPS.2022.3176757)

- R.54 Draining of Primary Cooling Circuits in Actively Cooled Reactor Components: Modeling the Electrostatic Residual Ion Dump of the ITER Neutral Beam Test Facility**  
Zaupa, M., Favorido, F., Palma, M.D.  
*IEEE Trans Plasma Sci* **50** issue 11, 3959 – 3963 (2022) [DOI: 10.1109/TPS.2022.3201259](https://doi.org/10.1109/TPS.2022.3201259)
- R.55 Strategy and Initial Progress of Integrated Commissioning of Magnet Power Supply for Superconducting Tokamak JT-60SA**  
Hatakeyama, S., Shimada, K., Yamauchi, K., (...), Maistrello, A., Gaio, E.  
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- R.67 Advances in the DTT poloidal interferometer/polarimeter design**  
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- R.68 Considerations on Stellarator's Optimization from the Perspective of the Energy Confinement Time Scaling Laws**  
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- R.71 Status and challenges for the concept design development of the EU DEMO Plant Electrical System**  
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- R.73 Dealing with artefacts in JET iterative bolometric tomography using masks**  
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- R.78 Overview of the TJ-II stellarator research programme towards model validation in fusion plasmas**  
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- R.80 Preliminary parametric analysis of the first neutrons measured with a scintillator array at SPIDER**  
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- R.83 Evidences of accumulation points: Effect of high voltage DC conditioning on concave electrodes insulated by large vacuum gaps**  
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- R.85 The H multiaperture source NIO1: Gas conditioning and first cesiations**  
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- R.87 Cross-code comparison of the edge codes SOLPS-ITER, SOLEDGE2D and UEDGE in modelling a low-power scenario in the DTT**  
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- R.90 Maturation of critical technologies for the DEMO balance of plant systems**  
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- R.91 Development of a concept and basis for the DEMO diagnostic and control system**  
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- R.92 Experimental study on the role of the target electron temperature as a key parameter linking recycling to plasma performance in JET-ILW**  
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- R.93 Positive and negative triangularity in RFX-mod2: A comparative analysis**  
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- R.94 Negative ion density in the ion source SPIDER in Cs free conditions**  
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- R.95 Evidence on the effects of main-chamber neutrals on density shoulder broadening**  
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- R.96 Status and future development of Heating and Current Drive for the EU DEMO**

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- R.97 Recent progress in L-H transition studies at JET: Tritium, helium, hydrogen and deuterium**  
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- R.98 ARES: A fast and accurate tool for the identification of plasma stationary points and separatrix**  
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- R.99 Full conversion from ohmic to runaway electron driven current via massive gas injection in the TCV tokamak**  
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- R.100 High-frequency measurement of the interferometric phase, the Faraday rotation, and the Cotton-Mouton effect with a single detector in a far-infrared interferometer-polarimeter**  
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- R.101 Activated Corrosion Products Evaluations for Occupational Dose Mitigation in Nuclear Fusion Facilities**  
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- R.102 Enhanced performance in fusion plasmas through turbulence suppression by megaelectronvolt ions**  
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- R.103 Disruption prediction with artificial intelligence techniques in tokamak plasmas**  
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- R.104 Acceleration of an Algorithm Based on the Maximum Likelihood Bolometric Tomography for the Determination of Uncertainties in the Radiation Emission on JET Using Heterogeneous Platforms**  
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- R.105 Proposal of a testing procedure to qualify ITER window assemblies and absorbing coatings exposed to high microwave stray radiation**

Gelfusa, M., Donnini, R., Vila, R., Simonetto, A., Bruschi, A., Cucè, D., Lazzari, A., Maquet, P., Mirizzi, F., Murari, A., Nobili, M., Peluso, E., Romanelli, F., Sirinelli, A., Sozzi, C.  
*Fusion Eng Des* (2022) **181**, art. no. 113209, [DOI: 10.1016/j.fusengdes.2022.113209](https://doi.org/10.1016/j.fusengdes.2022.113209)

**R.106 Alfvén waves in reversed-field pinch and tokamak ohmic plasmas: Nonlinear 3D MHD modeling and comparison with RFX-mod**

Kryzhanovskyy, A., Bonfiglio, D., Cappello, S., Veranda, M., Zuin, M.  
*Nucl Fusion* (2022) **62** (8), art. no. 086019, [DOI: 10.1088/1741-4326/ac6ad3](https://doi.org/10.1088/1741-4326/ac6ad3)

**R.107 First operations with caesium of the negative ion source SPIDER**

Sartori, E., Agostini, M., Barbisan, M., Bigi, M., Boldrin, M., Brombin, M., Casagrande, R., Dal Bello, S., Dan, M., Duteil, B.P., Fadone, M., Grando, L., Maistrello, A., Pavei, M., Pimazzoni, A., Poggi, C., Rizzolo, A., Shepherd, A., Ugoletti, M., Veltri, P., Zaniol, B., Agnello, R., Agostinetti, P., Antoni, V., Aprile, D., Candeloro, V., Cavallini, C., Cavazzana, R., Cavenago, M., Chitarin, G., Cristofaro, S., Dalla Palma, M., Delogu, R., De Muri, M., Denizeau, S., Fellin, F., Ferro, A., Gasparini, C., Jain, P., Luchetta, A., Manduchi, G., Marconato, N., Marcuzzi, D., Mario, I., Milazzo, R., Pasqualotto, R., Patton, T., Pilan, N., Recchia, M., Rigoni-Garola, A., Segalini, B., Siragusa, M., Spolaore, M., Taliercio, C., Toigo, V., Zagorski, R., Zanotto, L., Zaupa, M., Zuin, M., Serianni, G.  
*Nucl Fusion* (2022) **62** (8), art. no. 086022, [DOI: 10.1088/1741-4326/ac715e](https://doi.org/10.1088/1741-4326/ac715e)

**R.108 Conditional recurrence plots for the investigation of sawteeth pacing with RF modulation**

Peluso, E., Murari, A., Craciunescu, T., Lerche, E., Gaudio, P., Gelfusa, M., Gallart, D., Taylor, D.  
*Plasma Phys and Cont Fus* (2022) **64** (8), art. no. 084002, [DOI: 10.1088/1361-6587/ac757c](https://doi.org/10.1088/1361-6587/ac757c)

**R.109 An IoT Measurement System Based on LoRaWAN for Additive Manufacturing**

Fedullo, T., Morato, A., Peserico, G., Trevisan, L., Tramarin, F., Vitturi, S., Rovati, L.  
*Sensors* (2022) **22** (15), art. no. 5466, [DOI: 10.3390/s22155466](https://doi.org/10.3390/s22155466)

**R.110 Overview of photo-neutralization techniques for negative ion-based neutral beam injectors in future fusion reactors**

Fiorucci, D., Fassina, A.  
*Eur. Phys. J. D* (2022) **76** (8), art. no. 141, [DOI: 10.1140/epjd/s10053-022-00457-9](https://doi.org/10.1140/epjd/s10053-022-00457-9)

**R.111 Study for a tangential dispersion interferometer/polarimeter for DTT**

Filippi, F., Fiorucci, D., Fassina, A., Giudicotti, L., Mazzotta, C., Rocchi, G., Rossi, R., Terranova, D., Tudisco, O., Andreoli, P., Cipriani, M., Consoli, F., Gaudio, P., Gelfusa, M., Innocente, P., Mauro, G., Mascali, D., Naselli, E., Orsitto, F., Torrisi, G.  
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**R.112 Spatially resolved diagnostics for optimization of large ion beam sources**

Serianni, G., Sartori, E., Agnello, R., Agostinetti, P., Agostini, M., Barbisan, M., Brombin, M., Candeloro, V., Dalla Palma, M., Delogu, R., De Muri, M., Fadone, M., Mario, I., Patton, T., Pimazzoni, A., Poggi, C., Pouradier-Duteil, B., Segalini, B., Shepherd, A., Spolaore, M., Taliercio, C., Ugoletti, M., Veltri, P., Zaniol, B., Pasqualotto, R.  
*Rev. Sci. Instrum.* (2022) **93** (8), art. no. 081101, [DOI: 10.1063/5.0084797](https://doi.org/10.1063/5.0084797)

- R.113 Validation of edge turbulence codes against the TCV-X21 diverted L-mode reference case**  
Oliveira, D.S., Body, T., Galassi, D., Theiler, C., Laribi, E., Tamain, P., Stegmeir, A., Giacomini, M., Zholobenko, W., Ricci, P., Bufferand, H., Boedo, J.A., Ciraolo, G., Colandrea, C., Coster, D., De Oliveira, H., Fourestey, G., Gorno, S., Imbeaux, F., Jenko, F., Naulin, V., Offeddu, N., Reimerdes, H., Serre, E., Tsui, C.K., Varini, N., Vianello, N., Wiesenberger, M., Wüthrich, C.  
*Nucl Fusion* (2022) **62** (9), art. no. 096001, [DOI: 10.1088/1741-4326/ac4cde](https://doi.org/10.1088/1741-4326/ac4cde)
- R.114 Sensitivity analysis of low-order plasma moments reconstruction for RFX-mod2 tokamak operations**  
Abate, D., Bonotto, M., Bettini, P.  
*Fusion Eng Des* (2022) **182**, art. no. 113243, [DOI: 10.1016/j.fusengdes.2022.113243](https://doi.org/10.1016/j.fusengdes.2022.113243)
- R.115 Dependence of scrape-off layer profiles and turbulence on gas fuelling in high density H-mode regimes in TCV**  
Stagni, A., Vianello, N., Tsui, C.K., Colandrea, C., Gorno, S., Bernert, M., Boedo, J.A., Brida, D., Falchetto, G., Hakola, A., Harrer, G., Reimerdes, H., Theiler, C., Tsitroni, E., Walkden, N.  
*Nucl Fusion* (2022) **62** (9), art. no. 096031, [DOI: 10.1088/1741-4326/ac8234](https://doi.org/10.1088/1741-4326/ac8234)
- R.116 Investigation of RF driver equivalent impedance in the inductively coupled SPIDER ion source**  
Jain, P., Recchia, M., Maistrello, A., Gaio, E.  
*Plasma Phys and Cont Fus* (2022) **64** (9), art. no. 095018, [DOI: 10.1088/1361-6587/ac8617](https://doi.org/10.1088/1361-6587/ac8617)
- R.117 Implementation and Review of the Axisymmetric Equilibrium System of RFX-Mod2 within the MARTe2 Framework**  
Ferron, N., Finotti, C., Manduchi, G., Marchiori, G., Bettini, P., Abate, D., Cavazzana, R.  
*Electronics* (Switzerland) (2022) **11** (17), art. no. 2751, [DOI: 10.3390/electronics11172751](https://doi.org/10.3390/electronics11172751)
- R.118 Efficient FEM-BEM Coupling Based on Argyris Element for Axi-Symmetric Open Boundary Magnetostatic Problems**  
Bonotto, M., Abate, D., Bettini, P.  
*IEEE Trans Magn* (2022) **58** (9), art. no. 8205104, [DOI: 10.1109/TMAG.2022.3162122](https://doi.org/10.1109/TMAG.2022.3162122)
- R.119 Using Python Modules in Real-Time Plasma Systems for Fusion**  
Ferron, N., Manduchi, G.  
*Sensors* (2022) **22** (18), art. no. 6847, [DOI: 10.3390/s22186847](https://doi.org/10.3390/s22186847)
- R.120 Bayesian inference applied to electron temperature data: computational performances and diagnostics integration**  
Fassina, A., Abate, D., Franz, P.  
*J. Instrum.* (2022) **17** (9), art. no. C09012, [DOI: 10.1088/1748-0221/17/09/C09012](https://doi.org/10.1088/1748-0221/17/09/C09012)

- R.121 Quantitative Analysis of Plant Cytosolic Calcium Signals in Response to Water Activated by Low-Power Non-Thermal Plasma**  
Cortese, E., Galenda, A., Famengo, A., Cappellin, L., Roverso, M., Settini, A.G., Dabalà, M., De Stefani, D., Fassina, A., Serianni, G., Antoni, V., Navazio, L.  
*Int. J. Mol. Sci.* (2022) **23** (18), art. no. 10752, [DOI: 10.3390/ijms231810752](https://doi.org/10.3390/ijms231810752)
- R.122 Vertical displacement events analysis using MAXFEA code in combination with ANSYS APDL in the final design stage of the DTT vacuum vessel**  
Giorgetti, F., Lombroni, R., Belardi, V.G., Calabrò, G., Dalla Palma, M., Fanelli, P., Fulici, M., Ramogida, G., Vivio, F.  
*Fusion Eng Des* (2022) **184**, art. no. 113273, [DOI: 10.1016/j.fusengdes.2022.113273](https://doi.org/10.1016/j.fusengdes.2022.113273)
- R.123 Guest Editorial Special Issue on Electrical Discharges in Vacuum**  
De Lorenzi A.  
*IEEE Trans on Plasma Sci*, **50** (9), pp. 2632-2633 (2022) [DOI 10.1109/TPS.2022.3203844](https://doi.org/10.1109/TPS.2022.3203844)
- R.124 Risk analysis of wall forces in high-current RFP plasma operations**  
Abate D.  
*Plasma Phys and Cont Fus* **64** (10), 105026 (2022) [DOI 10.1088/1361-6587/ac89b0](https://doi.org/10.1088/1361-6587/ac89b0)
- R.125 Design of a multi-configurations divertor for the DTT facility**  
Innocente, P., Ambrosino, R., Brezinsek, S., (...), Neu, R., Roccella, S.  
*Nucl Mater Energy*, **33**, 101276 (2022) <https://doi.org/10.1016/j.nme.2022.101276>
- R.126 Long term operation of the radiation-hard Hall probes system and the path toward a high performance hybrid magnetic field sensor**  
Quercia, A., Pironti, A., Bolshakova, I., (...), Duran, I., Murari, A.  
*Nucl Fusion*, **62** (10), 106032 (2022) [DOI 10.1088/1741-4326/ac8aad](https://doi.org/10.1088/1741-4326/ac8aad)
- R.127 Characterization of SPIDER beam optics in volume operations with visible cameras**  
Agostini, M., Ugoletti, M., Pimazzoni, A.  
*Physf Plasmas*, **29** (10), 103102 (2022) <https://doi.org/10.1063/5.0089843>
- R.128 Observation of non-thermal electrons outside the SOL in the Wendelstein 7-X stellarator**  
Killer, C., Aleynikov, P., Biedermann, C., M. Spolaore, (...), Tancetti, A., Thomsen, H.  
*Nucl Mater Energy*, **33**, 101274 (2022) <https://doi.org/10.1016/j.nme.2022.101274>
- R.129 A methodology for discriminating phase and amplitude effects on synchronization in tokamak pacing experiments**  
Craciunescu, T., Murari, A., Peluso, E., (...), Spolladore, L., Gelfusa, M.  
*Frontiers in Physics*, **10**, 985422 (2022) <https://doi.org/10.3389/fphy.2022.985422>
- R.130 Vertical displacement events analysis using MAXFEA code in combination with ANSYS APDL in the final design stage of the DTT vacuum vessel**  
Giorgetti, F., Lombroni, R., Belardi, V.G., Dalla Palma M. (...), Ramogida, G., Vivio, F.  
*Fusion Eng Des*, **184**, 113273 (2022) <https://doi.org/10.1016/j.fusengdes.2022.113273>

- R.131 Performance analysis of the centroid method predictor implemented in the JET real time network**  
Gadariya, D., Vega, J., Stuart, C., (...), Murari, A., Dormido-Canto, S.  
*Plasma Phys and Cont Fus*, **64** (11), 114003 (2022) [DOI 10.1088/1361-6587/ac963f](https://doi.org/10.1088/1361-6587/ac963f)
- R.132 Smoothing of the down-skin regions of copper components produced via Laser Powder Bed Fusion technology**  
Candela, V., Pozzi, M., Chyhyrynets, E., (...), Pepato, A., Sonato, P.  
*Int. J. Adv. Manuf. Technol*, **123** (9-10), pp. 3205-3221 (2022)  
<https://doi.org/10.1007/s00170-022-10408-8>
- R.133 Power balance analysis at the L-H transition in JET-ILW NBI-heated deuterium plasmas**  
Vincenzi, P., Solano, E.R., Delabie, E., (...), Menmuir, S., Parra, F.I.  
*Plasma Phys and Cont Fus*, **64** (12), 124004 (2022) [DOI 10.1088/1361-6587/ac97c0](https://doi.org/10.1088/1361-6587/ac97c0)
- R.134 Physics of tearing mode rotation and slow-down in the RFX-mod tokamak**  
Cordaro L., P. Zanca, M. Zuin, F. Auriemma, A. Fassina, E. Martines, B. Zaniol, R. Cavazzana, G. De Masi, G. Grenfell  
*Nucl. Fusion* **62** 12 6003 (2022) - [DOI 10.1088/1741-4326/ac8e83](https://doi.org/10.1088/1741-4326/ac8e83)
- R.135 Effective Area Measurements of Magnetic Pick-Up Coil Sensors for RFX-mod2**  
Abate D., Cavazzana R.  
*Sensors* **2022** (24), 9767 (2022); <https://doi.org/10.3390/s22249767>
- R.136 Physics of tearing mode rotation and slow-down in the RFX-mod tokamak**  
Cordaro, L., Zanca, P., Zuin, M., Auriemma, F., Fassina, A., Martines, E., Zaniol, B., Cavazzana, R., De Masi, G., Grenfell, G., Momo, B., Spagnolo, S., Spolaore, M. and Vianello, N.  
*Nuclear Fusion*, **62**(12), 126003. (2022) - [DOI 10.1088/1741-4326/ac8e83](https://doi.org/10.1088/1741-4326/ac8e83)
- R.137 Kinematic viscosity estimates in reversed-field pinch fusion plasmas**  
N Vivenzi, G Spizzo, M Veranda, D Bonfiglio, S Cappello and RFX-mod Team  
*Journal of Physics: Conference Series*, **2397** (2022) 012010, [DOI 10.1088/1742-6596/2397/1/012010](https://doi.org/10.1088/1742-6596/2397/1/012010)



## National and international conferences

**23rd Conference on the Computation of Electromagnetic Fields COMPUMAG 2021. 16- 20 January 2022. To be published in IEEE Trans. On Mag.**

- P.1 Efficient FEM-BEM Coupling Based on Argyris Element for Axi-Symmetric Open Boundary Magnetostatic Problems - oral**  
M. Bonotto, D. Abate and P. Bettini

**ISPlasma2023/IC-PLANTS2023, 14-18 March 2022, Nagoya, Japan**

- P.2 Study of the effect of plasma-activated water generated by different sources on Ca2**  
V. Antoni, E. Cortese, L. Cappellin, M. DabalÃ , A. Fassina , A. Famengo, A. Galenda, A.G. Settimi, L.Navazio,

**Technical Meeting on Synergies between Nuclear Fusion Technology Developments and Advanced Nuclear Fission Technologies, 6-10 June, Vienna, Austria**

- P.3 Fission and fusion water cooling circuits: chemistry, corrosion mitigation and materials - oral**  
C. Gasparini, A. Xu, O. Muránsky, N. Terranova, R. Villari, E. Lo Piccolo, R. Torella, M. Wenman, S. Pedrazzini, G.G. Scatigno, T.I. Martin, P. Sonato
- P.4 Pilot hybrid experiment with reversed field pinch as neutron source and double fission test beds: an innovative stage approach towards a full power fusion-fission hybrid reactor - oral**  
R. Piovan, P. Agostinetti, C. Bustreo, r. Cavazzana, A. Cemmi, M. Ciotti, N. Cherubini , D.E. Escande, E. Gaio, G. Lomonaco, F. Lunardon, A. Maistrello, L. Marrelli, S. Murgo, F.P. Orsitto, M. Osipenko, F. Panza, N. Pompeo, M.E. Puiatti, G. Ricco, M. Ripani, M. Valisa, G. Zollino, M. Zuin

**AIV Associazione Italiana di Scienza e Tecnologia XXV Conference, 10-12 May 2022, Napoli, Italy**

- P.5 The SPIDER Vacuum Enhancement: a NEG pump based project**  
M. Siragusa, G. Berton, C. Cavallini, S. Dal Bello, F. Fellin, L. Grando, D. Marcuzzi, D. Rizzetto, R. Pasqualotto, E. Sartori, G. Serianni, L. Trevisan, L. Zanotto, M. Zaupa, E. Maccallini, M. Mura, F. Siviero, V. Toigo
- P.6 Integrated Commissioning of PRIMA Cooling System for SPIDER and MITICA experiment.**  
R. Cavazzana, M. Breda, P. Simionato, M. Maniero, M. Zaupa and C. Taliercio
- P.7 Human Machine Interface for PRIMA Cooling System of SPIDER and MITICA experiment.**  
R. Cavazzana, P. Simionato, M. Zaupa, M.Breda, C. Taliercio
- P.8 Cooling Plant, for SPIDER and MITICA experiments**  
L. Grando, G. Passalacqua, M. Maniero, C. Cavallini, M. Zaupa, F. Fellin, M. Breda

- P.9 Metrology activities for the Installation and Test of the MITICA Beam Line Components Box and survey**  
L. Grando, F. Degli Agostini, A. Barzon, D. Fasolo, S. Manfrin, M. Tollin, F. Rossetto
- P.10 Mechanical design of the cavity ring down spectroscopy diagnostic for the negative ion source SPIDER**  
M. Valente, A. Tiso, M. Barbisan, R. Agnello, R. Pasqualotto, G. Serianni
- P.11 Vacuum system optimization for negative ion source NIO1**  
L. Grando, M. Maniero, G. Passalacqua, M. Barbisan, R.S. Delogu, A. Pimazzoni, M. Cavenago
- P.12 Virtualization environments in the Neutral Beam research activity for the ITER NBTF project**  
A. Rigoni, L. Migliorato, M. Tollin, G. Moro, P. Barbato, M. Carraro, S. Gitini
- P.13 A semantic approach to scientific logbook used in physics experiments**  
A. Rigoni, G. Moro, M. Carraro
- P.14 Experimental analysis in borated water for DTT vacuum vessel**  
P. Franz, R. Rizzieri, C. Gasparrini, D. Badocco, L. Di Pace, N. Terranova, P. Pastore, F. Montagner, L. Mattarozzi, R. Villari, E. Martelli, S. Roccella, G.G. Scatigno, S. Pedrazzini, M. Dalla Palma, P. Sonato
- P.15 Lessons learned after three years of SPIDER operation**  
D. Marcuzzi, NBTF Team
- P.16 Conceptual design of a cooling system for a new NEG vacuum pumps system of the SPIDER experiment**  
F. Fellin, G. Berton, C. Cavallini, S. Dal Bello, L. Grando, D. Rizzetto, A. Rizzolo, M. Siragusa, Luca Trevisan, M. Zaupa

**Technical Meeting on Synergies between Nuclear Fusion Technology Developments and Advanced Nuclear Fission Technologies, 6-10 June, Vienna, Austria**

- P.17 Fission and fusion water cooling circuits: chemistry, corrosion mitigation and materials - oral**  
C. Gasparrini, A. Xu, O. Muránsky, N. Terranova, R. Villari, E. Lo Piccolo, R. Torella, M. Wenman, S. Pedrazzini, G.G. Scatigno, T.I. Martin, P. Sonato
- P.18 Pilot hybrid experiment with reversed field pinch as neutron source and double fission test beds: an innovative stage approach towards a full power fusion-fission hybrid reactor - oral**  
R. Piovan, P. Agostinetti, C. Bustreo, r. Cavazzana, A. Cemmi, M. Ciotti, N. Cherubini, D.E. Escande, E. Gaio, G. Lomonaco, F. Lunardon, A. Maistrello, L. Marrelli, S. Murgo, F.P. Orsitto, M. Osipenko, F. Panza, N. Pompeo, M.E. Puiatti, G. Ricco, M. Ripani, M. Valisa, G. Zollino, M. Zuin

**25<sup>th</sup> International Conference on Plasma Surface Interaction in Controlled Fusion Devices(PSI-25), Jeju, Korea, f13-17 June, 2022**

- P.19 Present status of the design of the reflectometric system for DTT**  
G De Masi, R Cavazzana, M. Zerbini, O. Tudisco, L. Senni, A. Taschin, F. da Silva, J. Santos, J. Ferreira, A. Silva, S. Heurax - P090(I)
- P.20 Multi-code Estimation of DTT Edge Transport Parameters**  
L. Balbinot, G. Rubino, I. Casiraghi, C. Meineri , L. Frassinetti, P. Mantica, P. Innocente and JET contributors - P219(F)
- P.21 Design of a multi-configurations divertor for the DTT facility**  
P. Innocente, R. Ambrosino , F. Crisanti, S. Roccella - P234(F)
- P.22 Feasibility study of low-current snowflake plasmas in RFX-mod2 tokamak for SOL characterization and turbulence related studies**  
D. Abate, M. Bonotto, L. Cordaro, I. Predebon - P241(F)
- P.23 Current carrying ELM fine structures in the COMPASS tokamak Scrape-Off Layer**  
M. Spolaore, K. Kovaříka , G. Grenfell b , J. Stöckela , J. Adameka , R. Dejarnaca , M. Dimitrova , I. Ďurana , M. Hrona , M. Komma , T. Markovica , E. Martines, R. Paneka, J. Seidla , N. Vianello and the COMPASS team - P264(F)
- P.24 The role of alumina coating porosity on the electrical insulation in a weakly ionized plasma atmosphere**  
L. Cordaro, R. Cavazzana, L. Peruzzo, S. Peruzzo, M. Zuin - P288(A)
- P.25 Effect of Divertor Fuelling and Plasma Shaping on Scrape-Off Layer Profiles and Transport Properties in TCV H-mode Discharges**  
A. Stagni, N. Vianello, C. K. Tsui, C. Colandrea, S. Gorno, B. Labit, J. A. Boedo, D. Brida, M. Dunne, T. Eich, G. Falchetto, L. Frassinetti, R. J. Goldston, G. Harrer, H. Reimerdes, C. Theiler, N. Walkden, the TCV Team and the EUROfusion MST1 Team

**56th Annual Microwave Power Symposium (IMPI 56) 14-16 June, 2022, Georgia, USA**

- P.26 Operational experience with 1 MHz, 200 kW free running oscillators for ITER NBI RF plasma source**  
A. Maistrello, NBTf team

**16th KUDOWA SUMMER SCHOOL "TOWARD FUSION ENERGY" - Kudowa-Zdrój, Polonia 6-10 June 2022 <https://kudowaschool.ipplm.pl/>**

- P.27 Development of Homemade Solid-State Laser Source for Remote Cleaning of Optics and Window by Laser blow Off**  
R. Milazzo, A. Fassina, D. Fiorucci, L. Carraro

## 48<sup>th</sup> European Conference on Plasma Physics (2022) online meeting June 27 - July 1 2022

- P.28 Overview of SPIDER NBI source for ITER - invited**  
G. Serianni, E. Sartori, R. Pasqualotto, NBTF Team, P. Veltri
- P.29 Magnetic reconnection events in RFX-mod high current plasmas**  
M.Gobbin, F.Auriemma, L.Carraro, B.Momo, I.Predebon, D.Terranova, B.Zaniol, M.Zuin
- P.30 Physics based design of a multi-purpose non-axisymmetric active coil system for the Divertor Test Tokamak**  
T. Bolzonella, L. Pigatto, L. Piron, F. Villone, R. Albanese, M. Bonotto, A. G. Chiariello, A. Iaiunese, Y. Q. Liu, R. Martone, G. Ramogida, P. Zumbolo
- P.31 Global stability and MHD dynamics in TCV negative triangularity plasmas**  
L. Pigatto, T. Bolzonella, A. Piras, S. Coda, A. Merle, C. Piron, L. Porte, O. Sauter, M. Vallar and the TCV Team
- P.32 Validation of 3D MHD simulations of mixed Ne-D2 shattered pellet injection against H-mode experiments in JET**  
D, S. Silburn, B. Stein-Lubrano
- P.33 Formulation and numerical benchmark of improved magneto fluid-dynamics boundary conditions for 3D nonlinear MHD code SPECYL**  
L. Spinicci, D. Bonfiglio, S. Cappello, M. Veranda, L. Chacón
- P.34 Non-linear visco-resistive MHD modelling of reversed-field pinch fusion plasmas: viscosity coefficient studies**  
N. Vivenzi, M. Veranda, D. Bonfiglio, S. Cappello
- P.35 Predict-first scenario modelling in support of the design of the Divertor Tokamak Test facility**  
I. Casiraghi, P. Mantica, R. Ambrosino, L. Aucone, F. Auriemma, B. Baiocchi, L. Balbinot, T. Barberis, N. Bonanomi, A. Castaldo, J. Citrin, L. Frassinetti, P. Innocente, F. Koechl, A. Mariani, S. Nowak, P. Agostinetti, S. Ceccuzzi, L. Figini, G. Granucci, and M. Valisa
- P.36 Development of hybrid (high  $\beta$ ) plasmas for D-T operation in JET**  
C D Challis, J Hobirk, A Kappatou, E Lerche, F Auriemma, E Belonohy, F J Casson, I Coffey, J Eriksson, A R Field, M Fontana, J Garcia, A Ho, F Jaulmes, D Keeling, D King, K Kirov, M Lennholm, C Maggi, J Mailloux, M Maslov, S Menmuir, G Pucella, E Rachlew, F Rimini, A Sahlberg, A Sips, E R Solano, C Stuart
- P.37 Transport analysis of a DTT negative triangularity scenario**  
A. Mariani, A. Balestri, I. Casiraghi, P. Mantica, R. Ambrosino, A. Castaldo, L. Balbinot, S. Cipelli, L. Frassinetti, V. Fusco, P. Innocente, O. Sauter, G. Vlad
- P.38 SOL modelling of the JT-60SA tokamak initial operational scenario using SOLEDGE-EIRENE code**  
K. Gałazka, L. Balbinot, G. L. Falchetto, N. Rivals, P. Tamain, Y. Marandet, H. Bufferand, P. Innocente and G. Ciraolo

- P.39 Interpretative 3D MHD modelling of deuterium shattered pellet injection into a JET H-mode plasma**  
M. Kong, E. Nardon, M. Hoelzl, D. Bonfiglio, D. Hu, U. Sheikh, A. Boboc, P. Carvalho, T.C. Hender, S. Jachmich, K.D. Lawson, S. Silburn, Ž. Štancar, R. Sweeney, G. Szepesi, the JOEKE team and JET contributors

**FuseNET PhD Event, 4 - 6 July 2022, Orto Botanico, Padova – Italy**

- P.40 Analysis of edge transport in L-mode negative triangularity TCV discharges**  
P. Muscente, P. Innocente
- P.41 Development of Gas Insulated High Voltage Components for Neutral Beam Injectors (NBI)**  
F. Lucchini
- P.42 Enhancing the synchronization accuracy in the Neutral Beam Test Facility experiments**  
L. Trevisan
- P.43 Study, analyses and results on SPIDER source components after three years operations**  
V. Candela, C. Cavallini, B. Segalini, V. CXandeloro, C. Gasparrini, M. Pavei
- P.44 Formulation and numerical benchmark of improved magneto fluid-dynamics boundary conditions for 3D nonlinear MHD code SPECYL**  
L. Spinicci, D. Bonfiglio, S. Cappello, M. Veranda
- P.45 Beam physics via tomographic diagnostics**  
M. Ugoletti
- P.46 SCADA development for modern experiments: integration of MDSplus as a database for WinCC OA**  
G. Martini
- P.47 The role of Fusion in future decarbonized energy scenarios**  
U. Giuliani
- P.48 RF stray currents in SPIDER power circuits: model assessment and experimental results**  
M. De Nardi, R. Casagrande, A. Maistrello, M. Recchia, M. Bigi, L. Zanotto
- P.49 Design of mechanical and thermal measurement system of DTT vacuum vessel**  
S. Ciufo, P. Fanelli, M. Valisa, M. Spolaore
- P.50 Preliminary studies on a MMC-based Acceleration Grid Power Supply of DEMO Neutral Beam Injector**  
F. Santoro
- P.51 Decarbonizing energy systems: grid-constrained hourly energy scenarios**  
M. Agostini

- P.52 Dependence of scrape-off layer profiles and turbulence on gas fuelling in high density H-mode regimes in TCV**  
A. Stagni
- P.53 RF solid-state generators for the high-power ion sources of NBTF experiments and ITER HNB**  
R. Casagrande, M. Boldrin, L. Zanotto
- P.54 The MEST, a new magnetic energy storage and transfer system**  
F. Lunardon, E. Gaio, A. Maistrello, R. Piovan, S. Ciattaglia
- P.55 Uniformity optimisation of the negative ion beam source for the ITER neutral beam injector**  
B. Segalini, NBTF Team
- P.56 Conceptual design of DTT vacuum system**  
A. Belpane, P. Innocente, M. Fincato

**20th International Conference on Environmental Degradation of Materials in Nuclear Power Systems-Water Reactor, 17-21 July 2022, Snowmass, CO USA**

- P.57 Investigation on Vacuum Tight Threaded Junction (VTTJ) samples corrosion rates exposed to Ultrapure water**  
C. Cavallini, C. Gasparrini, P. Agostinetti, M. Dalla Palma, M. Zaupa, R. Rizzieri, P. Sonato, F. Montagner, V. Zin, E. Miorin, D. Badocco, P. Pastore

**23rd Virtual IEEE Real Time Conference, 1–5 Aug 2022**

- P.58 Assessment of IEEE 1588-based timing system of the ITER Neutral Beam Test Facility - Oral**  
L. Trevisan, A. Luchetta, G. Manduchi, C. Taliercio, A. Rigoni Garola, P. Barbato
- P.59 The SPIDER Pulse Plant Configuration Environment– Oral**  
N. Cruz, A. Luchetta, C. Taliercio, G. Manduchi, A. Rigoni Garola, N.S. Castelo Branco Da Cruz

**THEORY OF FUSION PLASMAS JOINT VARENNA - LAUSANNE INTERNATIONAL WORKSHOP Villa Monastero, Varenna, Italy September 12 – 16, 2022**

*To be published in the Journal of Physics Conference Series (JPCS)*

- P.60 Kinematic viscosity estimates in reversed-field pinch fusion plasmas**  
N Vivenzi, G Spizzo, M Veranda, D Bonfiglio, S Cappello and RFX-mod Team

**32nd Symposium on Fusion Technology (SOFT 2022), 18 - 23 September 2022**

*Proceedings to be published on Fus Eng. and Des.*

- P.61 Measurement of stripping losses in the negative ion source SPIDER**  
R. Agnello, M. Barbisan, R. Pasqualotto, G. Serianni

- P.62 Conceptual design of the Gas Injection and Vacuum System for DTT NBI**  
P. Agostinetti, S. Dal Bello, M. Fincato, L. Grando, A. Murari, E. Sartori, F. Verone
- P.63 Design of electrodes for high voltage tests in MITICA**  
D. Aprile, G. Berton, G. Chitarin, T. Patton, N. Pilan, M. Tollin, M. Valente
- P.64 Assessment of ECRH vacuum compatibility with DTT plasma operation**  
L. Balbinot, E. Sartori, A. Bruschi, F. Fanale, S. Garavaglia, G. Granucci, P. Innocente, A. Romano, E. Vassallo
- P.65 Characterization of cesium and H-/D- density in the negative ion source SPIDER**  
M. Barbisan, R. Agnello, L. Baldini, G. Casati, M. Fadone, R. Pasqualotto, A. Rizzolo, E. Sartori and G. Serianni
- P.66 Functional safety assessment process for MITICA safety system in the ITER neutral beam test facility**  
M. Battistella, L. Grando, S. Dal Bello, M. Moressa, S. Munari
- P.67 An update of the design of SPIDER Ion Source and Extraction Power Supplies after four years of operation**  
M. Bigi, R. Casagrande, M. Dan, A. Maistrello, A. Shepherd, L. Zanotto, H. Decamps
- P.68 PARTIAL DISCHARGES DETECTION IN 1MV POWER SUPPLIES IN MITICA EXPERIMENT, THE ITER HEATING NEUTRAL BEAM Injector prototype**  
M. Boldrin, P. Barbato, L. Baseggio, M. Carraro, M. Dan, R. Ghiraldelli, V. Toigo, L. Zanotto, E. Zerbetto, S. Malgarotti, G. Rizzi, A. Rizzi, H. Decamps, H. Tobar
- P.69 Custom thermocouple input module for sensors on the Grounded Grid of SPIDER**  
M. Brombin, B. Laterza, F. Molon, T. Patton, C. Poggi, R. Pasqualotto
- P.70 Design of a movable electrostatic diagnostic for the investigation of plasma properties in a large negative ion source**  
V. Candeloro, E. Sartori, G. Serianni, L. Calciolari, L. Trevisan, R. Pasqualotto
- P.71 Integration studies of RF solid-state generators in the electrical system of NBTF experiments and ITER HNB**  
R. Casagrande, A. Maistrello, M. Recchia, M. De Nardi, M. Bigi, L. Zanotto, M. Boldrin, H. Decamps
- P.72 Study, design and thermal-hydraulic simulations of Vacuum Enhancement Module cooling circuit**  
C. Cavallini, M. Zaupa, D. Rizzetto, M. Siragusa, G. Berton, F. Fellin
- P.73 Design of mechanical and thermal measurement system of DTT vacuum vessel**  
S. Ciuffo, M. Dalla Palma, A. Belpane, M. Caponero, G. Barone, R. Bonifetto, P. Fanelli, M. Fulci, L. Gabellieri, E. Martelli, M. Spolaore, D.M. Polli
- P.74 Modelling activity in support of MITICA High Voltage System protection**  
M. Dan, M. Boldrin, V. Toigo, F. Santoro, L. Zanotto, H. Tobar, E. Oshita, H. Decamps

- P.75 Special tests of the solid-state RF amplifiers prototype for the ITER HNB and the NBTF experiments**  
M. De Nardi, A. Maistrello, R. Casagrande, M. Recchia, M. Bigi, L. Zanotto, H. Decamps
- P.76 STRIKE beam characterization by means of machine learning techniques: application on experimental data**  
R.S. Delogu, A. Montisci, A. Pimazzoni, G. Serianni, G. Sias
- P.77 SPIDER real-time data visualization tool**  
R.S. Delogu, C. Poggi, E. Sartori, G. Serianni, A. Shepherd, G. Manduchi
- P.78 Design and characterization of the polychromators for JT-60SA Thomson scattering systems**  
F. D'Isa, S. Davis, A. Fassina, L. Giudicotti, M. Manfredi, G. Montagnani, A. Nigro, L. Palombi, S. Ricciarini, H. Tojo, M. Verrecchia, R. Pasqualotto
- P.79 First characterization of the SPIDER beam AC component with the Beamlet Current Monitor**  
B. P. Duteil, A. Shepherd, T. Patton, A. Rigoni
- P.80 Nuclear Fusion impact on the requirements of power infrastructure assets in a decarbonized electricity system**  
U. Giuliani, C. Bustreo, G. Zollino, M. Agostini
- P.81 As built design of the control system of the ITER full-size beam source SPIDER in the Neutral Beam Test Facility - A critical review**  
A. Luchetta, M. Battistella, S. Dal Bello, L. Grando, M. Moressa, F. Paolucci, C. Labate
- P.82 As built design, commissioning and integration of the SPIDER and NBTF central safety systems**  
A. Luchetta, C. Taliercio, A. Rigoni, N. Cruz, G. Martini, L. Trevisan
- P.83 Control strategy for the Magnetic Energy Storage and Transfer system (MEST)**  
F. Lunardon, A. Maistrello, E. Gaio, R. Piovan
- P.84 Beam uniformity studies based on neutrons measured with a scintillator array at SPIDER with Cs injection - oral**  
I. Mario, O. McCormack, M. Zuin, G. Croci, A. Muraro, L. Cordaro, G. Gorini, R. Pasqualotto, E. Perelli Cippo, G. Grosso, D. Rigamonti, M. Rebai and M. Tardocchi
- P.85 CODAS for long lasting experiments. The SPIDER experience**  
G. Manduchi, A. Luchetta, C. Taliercio, A. Rigoni, N. Cruz, G. Martini, L. Trevisan
- P.86 Integration of new sets of magnets for improved plasma confinement in the SPIDER experiment**  
N. Marconato, V. Candeloro, E. Sartori, B. Segalini, G. Serianni

- P.87 Flux symmetry and operational comparison of EJ276 and EJ309 scintillators for fusion**  
I. Mario, M. Zuin, L. Giacomelli, G. Croci, A. Muraro, L. Cordaro, G. Gorini, E. Perelli Cippo, G. Grosso, D. Rigamonti, M. Rebai, R. Pasqualotto and M. Tardocchi
- P.88 Improvement of SPIDER diagnostic systems**  
R. Pasqualotto, E. Sartori, R. Agnello, M. Brombin, V. Candeloro, M. Fadone, I. Mario, T. Patton, C. Poggi, B. Segalini, and G. Serianni
- P.89 Electrical diagnostics for high voltage tests in MITICA**  
T. Patton, D. Aprile, M. Boldrin, G. Chitarin, M. Dan, R. Gobbo, N. Pilan, N. Pomaro, A. Rigoni, M. Valente, L. Zanotto, P. Barbato, M. Fincato, R. Giraldeoli, L. Lotto, F. Molon, M. Tollin
- P.90 Heat loads on the accelerator grids of the ITER HNB prototype**  
A. Pimazzoni, P. Agostinetti, D. Aprile, E. Sartori, F. Veronese, G. Serianni
- P.91 Radiation Control in Deuterium, Tritium and Deuterium-Tritium JET baseline plasmas**  
L. Piron, D. Van Eester, D. Frigione, L. Garzotti, P.J. Lomas, M. Lennholm, F. Rimini, F. Auriemma, M. Baruzzo, P. J. Carvalho, D.R. Ferreira, A. R. Field, K. Kirov, Z. Stancar, C.I. Stuart, D. Valcarcel and the JET Contributors
- P.92 Improvement in the electrical design of the SPIDER beam source**  
M. Recchia, A. Maistrello, M. Dan, T. Patton, R. Casagrande, N. Marconato and M. Pavei
- P.93 Studies on high voltage dc cable connection to supply the acceleration grids of the Neutral Beam Injector**  
F. Santoro, A. Ferro, A. Murari, G. Granucci, R. Romano
- P.94 Study of positive ion transport to the plasma electrode in giant RF negative ion sources**  
B. Segalini, C. Poggi, M. Fadone, G. Serianni, E. Sartori
- P.95 Influence of plasma grid-masking on the results of early spider operation**  
G. Serianni, E. Sartori, V. Candeloro, M. Fadone, A. Pimazzoni
- P.96 Characterization of SPIDER beam homogeneity in caesium using a direct measure of the beamlet current**  
A. Shepherd, B. Pouradier Duteil, T. Patton, A. Rigoni Garola, A. Pimazzoni
- P.97 Development of the tomographic reconstruction technique of SPIDER negative ion beam**  
M. Ugoletti, M. Agostini
- P.98 Functional Optimization for a Beam Driven Plasma Neutralizer in DEMO Neutral Beam Injector**  
F. Veronese, P. Agostinetti, C. Hopf, G. Starnella
- P.99 Interaction of high-energy neutral beams with Divertor Tokamak Test plasma**  
P. Vincenzi, P. Agostinetti, R. Ambrosino, T. Bolzonella, I. Casiraghi, A. Castaldo, G. Granucci, P. Mantica, L. Pigatto, A. Snicker, M. Vallar

- P.100 2D simulations of inductive RF heating in the drivers of the SPIDER device**  
R. Zagorski, E. Sartori, D. Lopez-Bruna, G. Serianni
- P.101 A strategy to identify breakdown location in MITICA test facility: results of high voltage test campaign**  
L. Zanutto, M. Boldrin, M. Dan, T. Patton, Fr. Santoro, V. Toigo, H. Tobar, A. Kojima, H. Decamps
- P.102 Design and testing of ceramic breaks for the electrostatic residual ion dump of the ITER neutral beam test facility**  
M. Zaupa, M. Dalla Palma, P. Tinti, P. Zaccaria, J. Graceffa, E. Bragulat, A. Lopez, G. Montava, A. Sampedro, X. Arrillaga, X. Azpiroz, J. M. Carmona, M. Iriarte, C. Jimenez Aguinaga
- P.103 The integration of fusion power in future decarbonized power systems - oral**  
C. Bustreo, F. Gracceva
- P.104 Design of DTT Vacuum Vessel and Interfaced Mechanical Systems - oral**  
M. Dalla Palma, G.A. Barone, A. Cucchiaro, P. Fanelli, M. Fulci, P. Innocente, G.M. Polli, R. Ambrosino, R. Albanese, V. Belardi, A. Belpane, To. Bolzonella, L. Boncagni, R. Bonifetto, G. Calabrò, M.A. Caponero, S. Ciuffo, M. Cocca, C. Thomas, F. Crisanti, C. Day, S. Desiderati, G. Di Gironimo, M. Di Prinzio, M. Fadone, N. Franceschi, L. Gabellieri, C. Gasparrini, L. Giorgi, F. Giorgetti, V. Imbriani, D. Indrigo, A. Lampasi, F.G. Lanzotti, M. Lazzaretti, R. Lombroni, F. Lucca, A. Marin, E. Martelli, R. Martone, D. Marzullo, M. Micheletti, R. Neu, L. Pigatto, A. Pizzuto, V. Prandelli, G. Ramogida, A. Reale, S. Roccella, M. Spolaore, N. Terranova, S. Trupiano, M. Valisa, F. Viganò, F. Villone, F. Vivio, R. Zanino
- P.105 Status of the SPIDER source after 3.5 years operation - oral**  
C. Gasparrini, M. Pavei, G. Berton, M. Agostini, V. Candela, V. Candeloro, C. Cavallini, M. Dan, S. Denizeau, M. Fadone, A. La Rosa, N. Marconato, D. Marcuzzi, A. Rizzolo, E. Sartori, B. Segalini, C. Poggi, G. Serianni
- P.106 Overview on electrical issues faced during the SPIDER experimental campaigns - invited**  
A. Maistrello, M. Agostini, M. Bigi, M. Brombin, M. Dan, R. Casagrande, M. De Nardi, A. Ferro, E. Gaio, P. Jain, F. Lunardon, N. Marconato, D. Marcuzzi, M. Recchia, T. Patton, M. Pavei, F. Santoro, V. Toigo, L. Zanutto, M. Barbisan, L. Baseggio, M. Bernardi, G. Berton, M. Boldrin, S. Dal Bello, D. Fasolo, L. Franchin, L. Grandi, R. Milazzo, A. Pimazzoni, A. Rigoni, E. Sartori, G. Serianni, A. Shepherd, M. Ugoletti, B. Zaniol, D. Zella, E. Zerbetto, H. Decamps, C. Rotti, P. Veltri
- P.107 Lessons learned after three years of SPIDER operation and first MITICA integrated tests - invited**  
D. Marcuzzi, V. Toigo, S. Dal Bello, G. Serianni, D. Boilson, C. Rotti, M. Simon, M. Kashiwagi, H. Tobar, M. Singh
- P.108 The new vessel complex for the RFX-mod2 experiment: an effective synergy between fusion research and technological development - invited**  
S. Peruzzo, D. Aprile, M. Dalla Palma, M. Pavei, D. Rizzetto, A. Rizzolo, D. Abate, P. Agostinetti, M. Agostini, R. Andreani, F. Anselmi, F. Battistin, M. Bernardi, A. Bernardi, G.

Berton, P. Bettini, M. Bigi, M. Bonotto, M. Brombin, A. Canton, L. Carraro, R. Cavazzana, L. Cordaro, G. Corniani, S. Dal Bello, A. De Lorenzi, G. De Masi, F. Degli Agostini, L. Franchin, P. Franz, G. Gambetta, F. Gnesotto, L. Grando, P. Innocente, B. Laterza, L. Lotto, S. Manfrin, G. Marchiori, N. Marconato, D. Marcuzzi, L. Marrelli, E. Martines, M. Moresco, A. Novella, R. Piovan, N. Pomaro, F. Rossetto, M. Siragusa, P. Sonato, S. Spagnolo, M. Spolaore, C. Taliercio, D. Terranova, A. Tiso, L. Trevisan, M. Valente, M. Valisa, M. Zaupa, M. Zuin

**P.109 Physics basis behind the DTT engineering design - invited**

P. Martin, the whole DTT Scientific Community

**P.110 Conceptual Design of In-Vessel Divertor Coils in DTT**

R. Albanese, E. Acampora, R. Ambrosino, A. Castaldo, P. Innocente, C.P. Loschiavo

**P.111 Error Field and Correction Coils in DTT: a preliminary analysis**

R. Albanese, T. Bolzonella, A.G. Chiariello, A. Cucchiario, A. Iaiunese, A. Lampasi, R. Martone, L. Piron, P. Zumbolo

**P.112 Thermo-structural coupled analyses and verifications of the DTT Vacuum Vessel**

M. Fulici, M. Dalla Palma, P. Fanelli, F. Giorgetti

**P.113 Thermal analysis of Vacuum Vessel and Ports in DTT**

G. Barone, P. Fanelli, S. Roccella, M. Dalla Palma

**P.114 Plasma disruptions simulation and EM loads evaluation in the design of DTT**

G. Ramogida, F. Crisanti, A. Cucchiario, M. Dalla Palma, P. Fanelli, F. Giorgetti, R. Lombroni, F. Lucca, A. Marin, R. Neu, A. Pizzuto, G.M. Polli, M. Roccella, S. Turetta, F. Villone

**P.115 Conceptual design of a divertor visible spectroscopy diagnostic for DTT**

A. Belpane, L. Carraro, M. Cavedon, L. Senni

**P.116 Conceptual Design and related R&D on the DTT Neutral Beam Injector insulating rings**

E. Benedetti, F. Raffaelli, P. Agostinetti, A. Murari, A. Pepato

**P.117 Thermal-hydraulic and mechanical analysis of the Beam Line Components for the DTT Neutral Beam Injector**

R. Bonifetto, P. Agostinetti, M. Corrado, D. D'Ambrosio, S. Invernizzi, R. Marsilio, A. Murari, F. Schito, G. Ventura, R. Zanino, A. Zappatore, G. Zavarise

**P.118 Implementation of the metal additive manufacturing (MAM) technology for the production of the DTT NBI beamline parts**

M. Bonesso, P. Agostinetti, S. Candela, V. Candela, R. Dima, G. Favero, S. Mancin, A. Pepato, P. Rebesan, F. Veronese

**P.119 Design of additively manufactured extraction grid cooling channels for the DTT neutral beam injector**

G. Favero, P. Agostinetti, M. Bonesso, S. Candela, V. Candela, R. Dima, S. Mancin, A. Pepato, Pietro Rebesan, F. Veronese

- P.120 Virtualization of accelerators in embedded systems for mixed-criticality: RPU exploitation for fusion diagnostics and control**  
D. Ottaviano, M. Cinque, G. Manduchi, S. Dubbioso
- P.121 Development of a fast low-resolution inversion method for the detection and classification of anomalous radiation patterns and disruption prediction**  
I. Wyss, L. Spolladore, A. Murari, E. Peluso, M. Gelfusa, P. Gaudio, R. Rossi, JET Contributors
- P.122 On the detection of MARFE with visible cameras for disruption prevention**  
L. Spolladore, R. Rossi, I. Wyss, P. Gaudio, A. Murari, M. Gelfusa, JET Contributors
- P.123 Scaling of the mode  $n=1$  slowing down detection in Tokamaks for disruption prediction and instability control**  
R. Rossi, E. Peluso, L. Spolladore, I. Wyss, P. Gaudio, A. Murari, M. Gelfusa, JET Contributors
- P.124 The beam source of the MITICA experiment: strategy adopted, manufacturing design, engineering and fabrication of the main components**  
A. Masiello, L. Bailly-Maitre, R. Moron Ballester, P. Readman, D. Marcuzzi, F. Geli
- P.125 Studies on EU-DEMO 3D coils requirements and conceptual design for error field correction and plasma control**  
F. Maviglia, C. Bachmann, P. Bruzzone, B. Drumm, C. Luongo, L. Pigatto, M. Porton, M. Siccinio, F. Villone, S. Wiesen, H. Zohm
- P.126 First order correction of local gas puffing effects on Bolometric Maximum Likelihood Tomography on JET**  
E. Peluso, A. Murari, T. Craciunescu, P. Gaudio, P. Carvalho, M. Gelfusa, P. Mantica, K. Kirov, E. Lerche, C. Maggi, J. Garcia, P. Siren, JET Contributors
- P.127 Experimental characterisation of a NEG pump of novel size – a major step to its application in the DEMO neutral beam injectors**  
S. Hanke, C. Day, T. Giegerich, X. Luo, F. Siviero, M. Mura, E. Maccallini, P. Manini, E. Sartori, M. Siragusa, P. Sonato
- P.128 Identification of physics events for the characterization of disruptions in JET**  
G. Rattá, J. Vega, A. Murari, D. Gadariya, JET Contributors
- P.129 Study for high reliable 1MV high voltage power supply of the ITER HNB**  
S. Hatakeyama, E. Ooshita, M. Murayama, A. Kojima, H. Tobar, M. Kashiwagi, M. Dan, M. Boldrin, V. Toigo, F. Santoro, L. Zanotto, H. Decamps
- P.130 Progress of R&D for 1MV high voltage power supply for ITER NBI - oral**  
A. Kojima, H. Tobar, T. Maejima, Y. Yamashita, E. Ooshita, N. Shibata, M. Ichikawa, S. Hatakeyama, M. Murayama, M. Kashiwagi, M. Dan, T. Patton, M. Boldrin, F. Santoro, L. Zanotto, Y. Tanaka, Hans Decamps
- P.131 Activated corrosion products assessment and minimization strategies investigated in the EUROfusion safety research program - invited**

N. Terranova, L. Di Pace, G. Mariano, S. Breidokaité, F. Broutin, G. Caruso, A. Colangeli, F. Dacquait, M. Dalla Palma, M. D'Onorio, C. Gasparrini, T. Kaliatka, E. Lo Piccolo, M. Molinari, M.T. Porfiri, R. Torella, R. Villari

**P.132 Design of the First Divertor in the DTT Facility - oral**

S. Roccella, P. Innocente, R. Albanese, R. Ambrosino, M. Angelucci, A. Cardella, A. Castaldo, F. Crisanti, M. Dalla Palma, C. Day, G. Dose, F. Giorgetti, R. Iervolino, M. Iafrati, V. Imbriani, E. Martelli, D. Marzullo, A. Pizzuto, G.M. Polli, G. Ramogida, A. Reale, R. Neu

**10<sup>th</sup> International Workshop on the Mechanisms of Vacuum Arcs (Hybrid MeVArc 2022), 18 - 22 September 2022, Chania, Crete**

**P.133 X-RAY measurements reveal the fine dynamics of current micro-discharges in a vacuum high voltage experiment**

S. Spagnolo, N. Pilan, A. De Lorenzi, C. Fontana, F. Pino, L. Cordaro, G. Croci, M.F. Incato, L. Lotto, I. Mario, E. Martines, O. McCormack, A. Muraro, T. Patton, D. Rigamonti, E. Spada, M. Tardocchi, M. Zuin - *Oral*

**P.134 The role of alumina coating porosity on the electrical insulation in a weakly ionized plasma atmosphere**

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

**P.135 HV Discharges Monitoring at HVPTF: Perspectives from X-ray Spectroscopy**

M.K. Kushoro, A. Muraro, D. Rigamonti, G. Croci, I. Mario, L. Lotto, N. Pilan, O. McCormack, O. Putignano, S. Spagnolo, S. Cancelli - *Oral*

**P.136 High Voltage Conditioning in high vacuum on concave electrodes. Developments and possible applications associated to accumulation points on electrode surfaces**

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*Proceedings to be published on JINST*

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**P.167 Plasma-wall self-organization in magnetic fusion**

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**64<sup>th</sup> Annual Meeting of the APS Division of Plasma, October 17-21, 2022 Spokane, WA**

**P.168 MHD origin of the density limit - invited**

G. Spizzo, M. Veranda, N. Vivenzi, M. Agostini, D. Bonfiglio, S. Cappello, L. Carraro, M.E. Puiatti, P. Scarin, D. Terranova, M. Valisa, M. Zuin  
Bulletin of the American Physical Society, WA, UO03.00001

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A. Kappatou, F. Auriemma et al  
Bulletin of the American Physical Society, BI01.00002

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M. Maslov, F. Auriemma, R. Lorenzini et al.  
Bulletin of the American Physical Society, BI01.00003

**P.171 Evidence on the Role of Main-Chamber Neutrals on Density Shoulder Broadening**

T.Cedric, N. Vianello et al.,  
Bulletin of the American Physical Society, JO05.00010

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Damian B King, M. Baruzzo et al.,  
Bulletin of the American Physical Society, NO07.00007

**P.173 Kinetic and magnetic control of fusion power fluctuations in EU-DEMO**

Mattia Siccino, P. Vincenzi et al.,  
Bulletin of the American Physical Society, PO03.00011

**P.174 Interpretive modelling of fusion performance in JET DTE2 discharges with TRANSP**

Žiga Štancar, F. Auriemma, R. Lorenzini et al.,  
Bulletin of the American Physical Society, PO03.00012

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Branka Vanovac, T. Bolzonella et al.,  
Bulletin of the American Physical Society, PO05.00015

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Bartosz Lomanowski, N. Vianello et al.,  
Bulletin of the American Physical Society, UM10.00003

**P.177 Non-axisymmetric Radiation Modeling of JET SPI Discharges Using Emis3D**

Benjamin Stein-Lubrano, D. Bonfiglio et al.,  
Bulletin of the American Physical Society, YO03.00003

**6th International Conference Frontiers in Diagnostic Technologies, (ENEA – Centro Ricerche Frascati), 19-21 October 2022**

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A. Fassina, M. Alonso, F. Filippi, D. Fiorucci

**P.179 Present status of the design of the reflectometric system for DTT**

G. De Masi, R. Cavazzana, O. Tudisco, G. Rocchi, D. Mascali, G. Torrasi, A. Galatá, R. Agnello, F. da Silva, J. Santos, J. Ferreira, A. Silva, S. Heuraux

**P.180 Plasma position reflectometer in RFX-mod2: system overview, technical issues and bench tests**

G. De Masi, R. Cavazzana, G. Marchiori, M. Moresco, D. Abate, M. Bernardi, L. Cordaro, A. Tiso, S. Peruzzo

**20th International Congress on Plasma Physics (ICPP 2022), in Gyeongju, Korea, from November 27th to December 2nd, 2022A.**

**P.181 Structures in Reversed Field Pinch Magnetic Self-Organization, Insights and Prospects from 3D MHD- *invited***

S. Cappello, D. Bonfiglio, D.F. Escande, M. Veranda, Kryzhanovskyy, L. Spinicci, N. Vivenci

**4th Technical Meeting on Divertor Concepts, Vienna International Centre (VIC) where the IAEA's Headquarters, 7-11 November 2022**

**P.182 Design of the divertor and power exhaust scenarios development for DTT - *oral***

P. Innocente, R. Ambrosino, S. Brezinsek, G. Calabrà, A. Castaldo, F. Crisanti, G. Dose, R. Neu, S. Roccella, G. Rubino, A. Uccello