

## CONSORZIO RFX PUBLICATIONS 2017

### **NATIONAL AND INTERNATIONAL JOURNALS**

#### **NUCLEAR MATERIALS AND ENERGY**

1. Garcia-Carrasco, P. Petersson, T. Schwarz-Selinger, T. Wauters, D. Douai, V. Bobkov, R. Cavazzana, K. Krieger, A. Lysoivan, S. Möller, M. Spolaore, V. Rohde, M. Rubel, the EUROfusion MST1 Team, **“Investigation of probe surfaces after ion cyclotron wall conditioning in ASDEX upgrade”** ASDEX Upgrade Team, Nuclear Materials and Energy **12** (2017) 733–735
2. C. Mazzotta, G. Spizzo, G. Pucella, E. Giovannozzi, O. Tudisco, G. Apruzzese, W. Bin, B. Esposito, the FTU team **“Dynamic and frequency behavior of the MARFE instability on FTU”** Nuclear Materials and Energy **12** (2017) 808-812
3. M. Spolaore, K. Kovařík, J. Stöckel, J. Adamek, R. Dejarnac, I. Ďuran, M. Komm, T. Markovic, E. Martines, R. Panek, J. Seidl, N. Vianello, the COMPASS team **“Electromagnetic ELM and inter-ELM filaments detected in the COMPASS Scrape-Off Layer”** Nuclear Materials and Energy **12** (2017) 844-851
4. P. Scarin, M. Agostini, L. Carraro, G. Spizzo, M. Spolaore, N. Vianello **“Boundary plasma response in RFX-mod to 3D magnetic field perturbations”** Nuclear Materials and Energy **12** (2017) 913-917
5. H. Reimerdes, S. Alberti, P. Blanchard, P. Bruzzone, R. Chavan, S. Coda, B.P. Duval, A. Fasoli, B. Labit, B. Lipschultz, T. Lunt, Y. Martin, J.-M. Moret, U. Sheikh, B. Sudki, D. Testa, C. Theiler, M. Toussaint, D. Uglietti, N. Vianello, M. Wischmeier **“TCV divertor upgrade for alternative magnetic configurations”** Nuclear Materials and Energy **12** (2017) 1106-1111
6. K. Verhaegh, B. Lipschultz, B.P. Duval, J.R. Harrison, H. Reimerdes, C. Theiler, B. Labit, R. Maurizio, C. Marini, F. Nespoli, U. Sheikh, C.K. Tsui, N. Vianello, W.A.J. Vijvers, the TCV team and the EUROfusion MST1 team **“Spectroscopic investigations of divertor detachment in TCV”** Nuclear Materials and Energy **12** (2017) 1112-1117
7. D. Carralero, J. Madsen, S.A. Artene, M. Bernert, G. Birkenmeier, T. Eich, G. Fuchert, F. Laggner, V. Naulin, P. Manz, N. Vianello, E. Wolfrum, the EUROfusion MST1 team, the ASDEX Upgrade Team **“A study on the density shoulder formation in the SOL of H-mode plasmas”** Nuclear Materials and Energy **12** (2017) 1189-1193
8. P. Innocente, H. Bufferand, A. Canton, G. Ciraolo, N. Visonà **“Heat flux measurements and modelling in the RFX-mod experiment”** Nuclear Materials and Energy **12** (2017) 1199–1204
9. F. Crisanti, R. Albanese, G. Granucci, R. Martone, P. Sonato, DTT project proposal contributors **“The Divertor Tokamak Test facility proposal: Physical requirements and reference design”** Nuclear Materials and Energy **12** (2017) 1330-1335

#### **AIP CONFERENCE PROCEEDINGS 1869 Issue 1 FIFTH INTERNATIONAL SYMPOSIUM ON NEGATIVE IONS, BEAMS AND SOURCES (NIBS 2016)**

10. M. Cavenago, G. Serianni, M. De Muri, P. Veltri, V. Antoni, C. Baltador, M. Barbisan, M. Brombin, A. Galatá, N. Ippolito, T. Kulevoy, R. Pasqualotto, S. Petrenko, A. Pimazzoni, M. Recchia, E. Sartori, F. Taccogna, V. Variale, B. Zaniol, P. Barbato, L. Baseggio, V. Cervaro, D. Fasolo, L. Franchin, R. Ghiraldelli, B. Laterza, M. Maniero, D. Martini, L. Migliorato, A. Minarello, F. Molon, G. Moro, T. Patton, D. Ravarotto, R. Rizzieri,

- A.Rizzolo, M. Sattin, F. Stivanello, and S. Zucchetti **“Improvements of the versatile multiaperture negative ion source NIO1”**, AIP Conference Proceedings **1869** 030007 (2017)
11. R. Pasqualotto, M. Agostini, M. Barbisan, M. Bernardi, M. Brombin, R. Cavazzana, G. Croci, M. Dalla Palma, R. S. Delogu, G. Gorini, L. Lotto, A. Muraro, S. Peruzzo, A. Pimazzoni, N. Pomaro, A. Rizzolo, G. Serianni, M. Spolaore, M. Tardocchi, B. Zaniol, and M. Zaupa **“Progress on development of SPIDER diagnostics”**, AIP Conference Proceedings **1869**, 030020 (2017)
  12. M. Ichikawa, A. Kojima, G. Chitarin, P. Agostinetti, D. Aprile, C. Baltador, M. Barbisan, R. Delogu, J. Hiratsuka, N. Marconato, R. Nishikiori, A. Pimazzoni, E. Sartori, G. Serianni, H. Tobar, N. Umeda, P. Veltri, K. Watanabe, M. Yoshida, V. Antoni and M. Kashiwagi **“Benchmark of single beamlet analysis to predict operational parameter for ITER in Japan - Italy joint experiments”** , AIP Conference Proceedings **1869**, 030024 (2017)
  13. G. Chitarin, A. Kojima, P. Agostinetti, D. Aprile, C. Baltador, J. Hiratsuka, M. Ichikawa, N. Marconato, E. Sartori, G. Serianni, P. Veltri, M. Yoshida, M. Kashiwagi, M. Hanada, V. Antoni **“Experimental validation of an innovative deflection compensation method in a multi-beamlet negative-ion accelerator”**, AIP Conference Proceedings **1869**, 030026 (2017)
  14. P. Veltri, E. Sartori, M. Cavenago, G. Serianni, M. Barbisan, and B. Zaniol **“Study of electron transport across the magnetic filter of NIO1 negative ion source”** AIP Conference Proceedings **1869**, 030027 (2017)
  15. A. Pimazzoni, M. Cavenago, V. Cervaro, D. Fasolo, G. Serianni, M. Tollin, and P. Veltri **“A first characterization of the NIO1 particle beam by means of a diagnostic calorimeter”** AIP Conference Proceedings **1869**, 030028 (2017)
  16. C. Baltador, M. Cavenago, P. Veltri, and G. Serianni **“Finite elements numerical codes as primary tool to improve beam optics in NIO1”** AIP Conference Proceedings **1869**, 030029 (2017)
  17. M. Barbisan, U. Fantz, and D. Wunderlich **“Influence of the magnetic filter field topology on the beam divergence at the ELISE test facility”** AIP Conference Proceedings **1869**, 030030 (2017)
  18. M. Barbisan, B. Zaniol, M. Cavenago, R. Pasqualotto, G. Serianni, and M. Zanini **“Electron density and temperature in NIO1 RF source operated in oxygen and argon”** AIP Conference Proceedings **1869**, 030031 (2017)
  19. V. Variale, M. Cavenago, C. Baltador, G. Serianni, P. Veltri, E. Sartori, and P. Agostinetti **“Energy recovery from mixed H-/H<sup>0</sup>/H<sup>+</sup> beams and collector simulations”** AIP Conference Proceedings **1869**, 030033 (2017)
  20. N. D. Ippolito, F. Taccogna, P. Minelli, M. Cavenago, and P. Veltri **“Particle model of a cylindrical inductively coupled ion source”** AIP Conference Proceedings **1869**, 030040 (2017)
  21. G. Serianni, A. Pimazzoni, A. Canton, M. Dalla Palma, R. Delogu, D. Fasolo, L. Franchin, R. Pasqualotto, and M. Tollin **“Test of 1D carbon-carbon composite prototype tiles for the SPIDER diagnostic calorimeter”** AIP Conference Proceedings **1869**, 060007 (2017)
  22. E. Sartori, G. Carozzi, P. Veltri<sup>1</sup>, M. Spolaore, R. Cavazzana, V. Antoni, and G. Serianni **“Development of an energy analyzer as diagnostic of beam-generated plasma in negative ion beam systems”** AIP Conference Proceedings **1869**, 060005 (2017)

## PLASMA PHYS. CONTROL. FUSION

23. P Piovesan, V Igochine, F Turco, D A Ryan, M R Cianciosa, Y Q Liu, L Marrelli, D Terranova, R S Wilcox, A Wingen, C Angioni, A Bock, C Chrystal, I Classen, M Dunne, N M Ferraro, R Fischer, A Gude, C T Holcomb, A Lebschy, T C Luce, M Maraschek, R McDermott, T Odstrčil, C Paz-Soldan, M Reich, M Sertoli, W Suttrop, N Z Taylor, M Weiland, M Willensdorfer, The ASDEX Upgrade Team, The DIII-D Team and The EUROfusion MST1 Team **"Impact of ideal MHD stability limits on high-beta hybrid operation"** Plasma Phys. Control. Fusion **59** (2017) 014027 (13pp)
24. D Bonfiglio, M Veranda, S Cappello, L Chacón and D F Escande **"Sawtooth mitigation in 3D MHD tokamak modelling with applied magnetic perturbations"** Plasma Phys. Control. Fusion **59** (2017) 014032 (10pp)
25. B Esposito, L Boncagni, P Buratti, D Carnevale, F Causa, M Gospodarczyk, JR Martin-Solis, Z Popovic, M Agostini, G Apruzzese, W Bin, C Cianfarani, R De Angelis, G Granucci, A Grosso, G Maddaluno, D Marocco, V Piergotti, A Pensa, S Podda, G Pucella, G Ramogida, G Rocchi, M Riva, A Sibio, C Sozzi, B Tilia, O Tudisco, M Valisa and FTU Team **"Runaway electron generation and control"** Plasma Phys. Control. Fusion **59** (2017) 014044 (12pp)
26. D A Ryan, Y Q Liu, L Li, A Kirk, M Dunne, B Dudson, P Piovesan, W Suttrop, M Willensdorfer, the ASDEX Upgrade team and the EUROfusion MST1 team **"Numerically derived parametrisation of optimal RMP coil phase as a guide to experiments on ASDEX Upgrade"** Plasma Phys. Control. Fusion **59** (2017) 024005 (14pp)
27. P Innocente, R Lorenzini, D Terranova and P Zanca **"FLiT: a field line trace code for magnetic confinement devices"** Plasma Phys. Control. Fusion **59** (2017) 045014 (14pp)
28. M Goniche, R J Dumont, V Bobkov, P Buratti, S Brezinsek, C Challis, L Colas, A Czarnecka, P Drewelow, N Fedorczak, J Garcia, C Giroud, M Graham, J P Graves, J Hobirk, P Jacquet, E Lerche, P Mantica, I Monakhov, P Monier-Garbet, M F F Nave, C Noble, I Nunes, T Pütterich, F Rimini, M Sertoli, M Valisa, D Van Eester and JET Contributors **"Ion cyclotron resonance heating for tungsten control in various JET H-mode scenarios"** Plasma Phys. Control. Fusion **59** (2017) 055001 (16pp)
29. M Gobbin, L Carraro, M E Puiatti, M Valisa, P Franz, B Momo and D Terranova **"Effect of a helical core topology on impurity behavior in RFX-mod plasmas"** Plasma Phys. Control. Fusion **59** (2017) 055011 (10pp)
30. M Barbisan, F Bonomo, U Fantz and D Wunderlich **"Beam characterization by means of emission spectroscopy in the ELISE test facility"** Plasma Phys. Control. Fusion **59** (2017) 055017 (11pp)
31. O. McCormack, L Giudicotti, A Fassina and R Pasqualotto **"Dual-laser, self-calibrating Thomson scattering measurements in RFX-mod"** Plasma Phys. Control. Fusion **59** (2017) 055021 (7pp)
32. G Pucella, O D'Arcangelo, O Tudisco, F Belli, W Bin, A Botrugno, P Buratti, G Calabrò, B Esposito, E Giovannozzi, D Marocco, G Ramogida, F Sattin, G Spizzo, P Zanca and M Zuin **"Analytical relation between peripheral and central density limit on FTU"** Plasma Phys. Control. Fusion **59** (2017) 085011 (7pp)
33. Y Zhang, F Auriemma, A Fassina, R Lorenzini, D Terranova, B Momo and E Martines **"Thermal properties of three sub-states of quasi-single helicity states on RFX-mod"** Plasma Phys. Control. Fusion **59** (2017) 125002 (9pp)

## JOURNAL OF INSTRUMENTATIONS

34. L. Giudicotti "Polarimetric Thomson scattering for high Te fusion plasmas", JINST **12** C11002 (2017)
35. Fassina A. and P. Franz "Thomson scattering upgrade in RFX-mod: alternative designs for injection and collection optics" JINST **12** C11021 (2017)
36. R. Scannell, M. Maslov, G. Naylor, T. O'Gorman, M. Kempenaars, M. Carr, P. Bilkova, P. Bohm, L. Giudicotti, R. Pasqualotto, M. Bassan, G. Vayakis, M. Walsh and R. Huxford "Design advances of the Core Plasma Thomson Scattering diagnostic for ITER" JINST **12** C11010 (2017)
37. R. Pasqualotto, M. Agostini, M. Barbisan, M. Brombin, R. Cavazzana, G. Croci, M. Dalla Palma, R.S. Delogu, M. De Muri, A. Muraro, S. Peruzzo, A. Pimazzoni, N. Pomaro, M. Rebai, A. Rizzolo, E. Sartori, G. Serianni, S. Spagnolo, M. Spolaore, M. Tardocchi, B. Zaniol and M. Zaupa "A suite of diagnostics to validate and optimize the prototype ITER neutral beam injector" 2017 JINST **12** C10009
38. D. Rigamonti, M. Nocente, L. Giacomelli, M. Tardocchi, M. Angelone, A. Broslawski, C. Cazzaniga, J. Figueiredo, G. Gorini, V. Kiptily, S. Korolczuk, A. Murari, M. Pillon, R. Pilotti, I. Zychor and JET Contributors "Characterization of a compact LaBr<sub>3</sub>(Ce) detector with Silicon photomultipliers at high 14 MeV neutron fluxes" 2017 JINST **12** C10007
39. J.F. Ciparisse, A. Malizia, L.A. Poggi, F. Tieri, M. Gelfusa, A. Murari, C. Del Papa, I. Giovannangeli and P. Gaudio "3D numerical simulations of a LOVA reproduction inside the new facility STARDUST-UPGRADE" 2017 JINST **12** C02001
40. P. Gaudio, A. Malizia, M. Gelfusa, A. Murari, S. Parracino, L.A. Poggi, M. Lungaroni, J.F. Ciparisse, D. Di Giovanni, O. Cenciarelli, M. Caresti, E. Peluso, V. Gabbarini, S. Talebzadeh and C. Bellecci "Lidar and Dial application for detection and identification: a proposal to improve safety and security" 2017 JINST **12** C01054
41. M. Rebai, G. Croci, G. Grosso, A. Muraro, E. Perelli Cippo, M. Tardocchi, M. Dalla Palma, R. Pasqualotto, M. Tollin, F. Murtas, M. Cavenago and G. Gorini "Conceptual design of a neutron diagnostic for 2-D deuterium power density map reconstruction in MITICA" 2017 JINST **12** C01007

## NEW JOURNAL OF PHYSICS

42. V Toigo, R Piovan, S Dal Bello, E Gaio, A Luchetta, R Pasqualotto, P Zaccaria, M Bigi, G Chitarin, D Marcuzzi, N Pomaro, G Serianni, P Agostinetti, M Agostini, V Antoni, D Aprile, C Baltador, M Barbisan, M Battistella, M Boldrin, M Brombin, M Dalla Palma, A De Lorenzi, R Delogu, M De Muri, F Fellin, A Ferro A Fiorentin, G Gambetta, F Gnesotto, L Grando, P Jain, A Maistrello, G Manduchi, N Marconato, M Moresco, E Ocello, M Pavei, S Peruzzo, N Pilan, A Pimazzoni, M Recchia, A Rizzolo, G Rostagni, E Sartori, M Siragusa, P Sonato, A Sottocornola, E Spada, S Spagnolo, M Spolaore, C Taliercio, M Valente, P Veltri, A Zamengo, B Zaniol, L Zanutto, M Zaupa et al. "The PRIMA Test Facility: SPIDER and MITICA test-beds for ITER neutral beam injectors" New J. Phys. **19** (2017) 085004
43. G Serianni, P Agostinetti, M Agostini, V Antoni, D Aprile, C Baltador, M Barbisan, M Brombin, M Cavenago, G Chitarin, M Dalla Palma, R Delogu, F Fellin, N Fonnesu, N Marconato, R Pasqualotto, A Pimazzoni, E Sartori, S Spagnolo, M Spolaore, P Veltri, B Zaniol and M Zaupa "Neutralisation and transport of negative ion beams: physics and diagnostics" New J. Phys. **19** (2017) 045003
44. R S Hemsworth, D Boilson, P Blatchford, M Dalla Palma, G Chitarin, H P L de Esch, F Geli, M Dremel, J Graceffa, D Marcuzzi, G Serianni, D Shah, M Singh, M Urbani and P Zaccaria "Overview of the design of the ITER heating neutral beam injectors" New J. Phys. **19** (2017) 02500

## NUCLEAR FUSION

45. A. Albanese, ... P. Agostinetti, T. Bolzonella, L. Carraro, A. Fassina, P. Franz, E. Gaio, F. Gnesotto, P. Innocente, A. Luchetta, G. Manduchi, L. Marrelli, P. Martin, S. Peruzzo, R. Piovan, M. E. Puiatti, G. Spizzo, P. Scarin, P. Sonato, M. Spolaore, V. Toigo, M. Valisa, L. Zanotto...et al **“DTT: a divertor tokamak test facility for the study of the power exhaust issues in view of DEMO”** Nucl. Fusion **57** (2017) 016010 (13 pp)
46. R. Wenninger, R. Kembleton, C. Bachmann, W. Biel, T. Bolzonella, S. Ciattaglia, F. Cismondi, M. Coleman, A.J.H. Donn , T. Eich, E. Fable, G. Federici, T. Franke, H. Lux, F. Maviglia, B. Meszaros, T. P tterich, S. Saarelma, A. Snickers, F. Villone, P. Vincenzi, D. Wolff and H. Zohm **“The physics and technology basis entering European system code studies for DEMO”** Nucl. Fusion **57** (2017) 016011 (11pp)
47. M. Gobbin, M. Valisa, R.B. White, D. Cester, L. Marrelli, M. Nocente, P. Piovesan, L. Stevanato, M.E. Puiatti and M. Zuin **“Runaway electron mitigation by applied magnetic perturbations in RFX-mod tokamak plasmas”** Nucl. Fusion **57** (2017) 016014 (16pp)
48. A. Murari, E. Peluso, J. Vega, M. Gelfusa, M. Lungaroni, P. Gaudio, F. J. Mart nez and JET Contributors **“Determining the prediction limits of models and classifiers with applications for disruption prediction in JET”** Nucl. Fusion **57** (2017) 016024 (11pp)
49. P. Veltri, E. Sartori, P. Agostinetti, D. Aprile, M. Brombin, G. Chitarin, N. Fonnesu, K. Ikeda, M. Kasaki, H. Nakano, A. Pimazzoni, K. Tsumori and G. Serianni **“Ion beam transport: modelling and experimental measurements on a large negative ion source in view of the ITER heating neutral beam”** Nucl. Fusion **57** (2017) 016025 (14pp)
50. M. Okabayashi, P. Zanca, E.J. Strait, A.M. Garofalo, J.M. Hanson, Y. In, R.J. La Haye, L. Marrelli, P. Martin, R. Paccagnella, C. Paz-Soldan, P. Piovesan, C. Piron, L. Piron, D. Shiraki, F.A. Volpe and The DIII-D and RFX-mod Teams **“Avoidance of tearing mode locking with electro-magnetic torque introduced by feedback-based mode rotation control in DIII-D and RFX-mod “** Nucl. Fusion **57** (2017) 016035 (13pp)
51. C. Angioni, R. Bilato, F.J. Casson, E. Fable, P. Mantica, T. Odstrcil, M. Valisa, ASDEX Upgrade Team and JET Contributors **“Gyrokinetic study of turbulent convection of heavy impurities in tokamak plasmas at comparable ion and electron heat fluxes”** Nucl. Fusion **57** (2017) 022009 (11pp)
52. E. Lerche, M. Lennholm, I.S. Carvalho, P. Dumortier, F. Durodie, D. Van Eester, J. Graves, P. Jacquet, A. Murari and JET Contributors **“Sawtooth pacing with on-axis ICRH modulation in JET-ILW”** Nucl. Fusion **57** (2017) 036027 (12pp)
53. P. Zanca, F. Sattin, D.F. Escande, G. Pucella and O. Tudisco **“A unified model of density limit in fusion plasmas”** Nucl. Fusion **57** (2017) 056010 (18pp)
54. P. Sonato, P. Agostinetti, T. Bolzonella, F. Cismondi, U. Fantz, A. Fassina, T. Franke, I. Furno, C. Hopf, I. Jenkins, E. Sartori, M.Q. Tran, J. Varje, P. Vincenzi and L. Zanotto **“Conceptual design of the DEMO neutral beam injectors: main developments and R&D achievements”** Nucl. Fusion **57** (2017) 056026 (9pp)
55. L. Piron, B. Zaniol, D. Bonfiglio, L. Carraro, A. Kirk, L. Marrelli, R. Martin, C. Piron, P. Piovesan and M. Zuin **“Helical flow in RFX-mod tokamak plasmas”** Nucl. Fusion **57** (2017) 056033 (13pp)
56. D. Carralero, M. Siccinio, M. Komm, S.A. Artene, F.A. D'Isa, J. Adamek, L. Aho-Mantila, G. Birkenmeier, M. Brix, G. Fuchert, M. Groth, T. Lunt, P. Manz, J. Madsen, S. Marsen, H.W. M ller, U. Stroth, H.J. Sun, N. Vianello, M. Wischmeier, E. Wolfrum, ASDEX Upgrade Team, COMPASS Team, JET Contributors and The

EUROfusion MST Team **“Recent progress towards a quantitative description of filamentary SOL transport”** Nucl. Fusion **57** (2017) 056044 (14pp)

57. Theiler, B. Lipschultz, J. Harrison, B. Labit, H. Reimerdes, C. Tsui, W.A.J. Vijvers, J. A. Boedo, B.P. Duval, S. Elmore, P. Innocente, U. Kruezi, T. Lunt, R. Maurizio, F. Nespoli, U. Sheikh, A.J. Thornton, S.H.M. van Limpt, K. Verhaegh, N. Vianello and the TCV team and the EUROfusion MST1 team **“Results from recent detachment experiments in alternative divertor configurations on TCV”** Nucl. Fusion **57** (2017) 072008 (16pp)
58. O. Ficker, J. Mlynar, M. Vlainic, J. Cerovsky, J. Urban, P. Vondracek, V. Weinzettl, E. Macusova, J. Decker, M. Gospodarczyk, P. Martin, E. Nardon, G. Papp, V.V. Plyusnin, C. Reux, F. Saint-Laurent, C. Sommariva, J. Cavalier, J. Havlicek, A. Havranek, O. Hronova, M. Imrisek, T. Markovic, J. Varju, R. Paprok, R. Panek, M. Hron and The COMPASS Team **“Losses of runaway electrons in MHD-active plasmas of the COMPASS tokamak”** Nucl. Fusion **57** (2017) 076002 (10pp)
59. P. Piovesan, D. Bonfiglio, M. Cianciosa, T.C. Luce, N.Z. Taylor, D. Terranova, F. Turco, R.S. Wilcox, A. Wingen, S. Cappello, C. Chrystal, D.F. Escande, C.T. Holcomb, L. Marrelli, C. Paz-Soldan, L. Piron, I. Predebon, B. Zaniol, The DIII-D and RFX-Mod Teams **“Role of a continuous MHD dynamo in the formation of 3D equilibria in fusion plasmas”** Nucl. Fusion **57** (2017) 076014 (9pp)
60. M. Cianciosa, A. Wingen, S.P. Hirshman, S.K. Seal, E.A. Unterberg, R.S. Wilcox, P. Piovesan, L. Lao and F. Turco **“Helical core reconstruction of a DIII-D hybrid scenario tokamak discharge”** Nucl. Fusion **57** (2017) 076015 (11pp)
61. M. Agostini, P. Scarin, G. Spizzo, F. Auriemma, S. Cappello, L. Carraro, L. Marrelli, S. Spagnolo, M. Spolaore, M. Veranda, N. Vianello, M. Zuin and RFX-mod Team **“Edge plasma properties with 3D magnetic perturbations in RFX-mod”** Nucl. Fusion **57** (2017) 076033 (13pp)
62. G. Giruzzi, ... P. Bettini, ... T. Bolzonella, ...P. Innocente, ...G. Marchiori, ...L. Pigatto, ...D. Terranova, et al **“Physics and operation oriented activities in preparation of the JT-60SA tokamak exploitation”** Nucl. Fusion **57** (2017) 085001 (21pp)
63. V. Toigo, S. Dal Bello, E. Gaio, A. Luchetta, R. Pasqualotto, P. Zaccaria, M. Bigi, G. Chitarin, D. Marcuzzi, N. Pomaro, G. Serianni, P. Agostinetti, M. Agostini, V. Antoni, D. Aprile, C. Baltador, M. Barbisan, M. Battistella, M. Boldrin, M. Brombin, M. Dalla Palma, A. De Lorenzi, R. Delogu, M. De Muri, F. Fellin, A. Ferro, G. Gambetta, L. Grando, P. Jain, A. Maistrello, G. Manduchi, N. Marconato, M. Pavei, S. Peruzzo, N. Pilan, A. Pimazzoni, R. Piovan, M. Recchia, A. Rizzolo, E. Sartori, M. Siragusa, E. Spada, S. Spagnolo, M. Spolaore, C. Taliercio, M. Valente, P. Veltri, A. Zamengo, B. Zaniol, L. Zanutto, M. Zaupa, D. Boilson, J. Graceffa, L. Svensson, B. Schunke, H. Decamps, M. Urbani, M. Kushwah, J. Chareyre, M. Singh, T. Bonicelli, G. Agarici, A. Garbuglia, A. Masiello, F. Paolucci, M. Simon, L. Bailly-Maitre, E. Bragulat, G. Gomez, D. Gutierrez, G. Mico, J.-F. Moreno, V. Pilard, A. Chakraborty, U. Baruah, C. Rotti, H. Patel, M.V. Nagaraju, N.P. Singh, A. Patel, H. Dhola, B. Raval, U. Fantz, M. Frösche, B. Heinemann, W. Kraus, R. Nocentini, R. Riedl, L. Schiesko, C. Wimmer, D. Wunderlich, M. Cavenago, G. Croci, G. Gorini, M. Rebai, A. Muraro, M. Tardocchi and R. Hemsworth **“The ITER Neutral Beam Test Facility towards SPIDER operation”** Nucl. Fusion **57** (2017) 086027 (9pp)
64. X. Litaudon, ... F. Auriemma, ... T. Bolzonella, ... M. Brombin, ... L. Carraro, ... R. Cavazzana, ... G. Chitarin, ... P. Innocente, ... R. Lorenzini, ... A. Murari, ... R. Paccagnella, ... R. Pasqualotto, ... S. Peruzzo, ... P. Piovesan, ... N. Pomaro, ... M.E. Puiatti, ... P. Sonato, ... S. Spagnolo, ... C. Taliercio, ... D. Terranova, ... P. Vincenzi, ... E. Zilli, et al and JET Contributors **“Overview of the JET results in support to ITER”** Nucl. Fusion **57** (2017) 102001

65. H. Shirai P. Barabaschi, Y. Kamada and the JT-60SA Team,... P. Bettini, T. Bolzonella, A. Canton, A. Ferro, E. Gaio, L. Giudicotti, S.C. Guo, P. Inocente, A. Maistrello, R. Pasqualotto, D. Terranova, X.Y. Xu,... **"Recent progress of the JT-60SA project"**, Nucl. Fusion **57** (2017) 102002
66. S. Coda, ... T. Bolzonella, ... G. De Masi, ... M. Gobbin, ... P. Innocente, ... O. Kudlacek, ... P. Martin, ... P. Piovesan, C. Piron, ... M. Spolaore, ...N. Vianello, ...M. Zuin and the EUROfusion MST1 team **"Overview of the TCV tokamak program: scientific progress and facility upgrades"** Nucl. Fusion **57** (2017) 102011
67. M. Zuin, S. Dal Bello, L. Marrelli, M.E. Puiatti, P. Agostinetti, M. Agostini, V. Antoni, F. Auriemma, M. Barbisan, T. Barbui, M. Baruzzo, F. Belli, P. Bettini, M. Bigi, R. Bilel, M. Boldrin, T. Bolzonella, D. Bonfiglio, M. Brombin, A. Buffa, C. Bustreo, A. Canton, S. Cappello, L. Carraro, R. Cavazzana, D. Cester, L. Chacon, G. Chitarin, W.A. Cooper, L. Cordaro, M. Dalla Palma, S. Deambrosis, R. Delogu, A. De Lorenzi, G. De Masi, J.Q. Dong, D.F. Escande, A. Fassina, F. Felici, A. Ferro, C. Finotti, P. Franz, L. Frassinetti, E. Gaio, F. Ghezzi, L. Giudicotti, F. Gnesotto, M. Gobbin, W.A. Gonzalez, L. Grando, S.C. Guo, J.D. Hanson, S.P. Hirshman, P. Innocente, J.L. Jackson, S. Kiyama, M. Komm, O. Kudlacek, L. Laguardia, C. Li, B. Liu, S.F. Liu, Y.Q. Liu, D. López- Bruna, R. Lorenzini, T.C. Luce, A. Luchetta, A. Maistrello, G. Manduchi, D.K. Mansfield, G. Marchiori, N. Marconato, D. Marcuzzi, P. Martin, E. Martines, S. Martini, G. Mazzitelli, O. McCormack, E. Miorin, B. Momo, M. Moresco, Y. Narushima, M. Okabayashi, R. Paccagnella, N. Patel, M. Pavei, S. Peruzzo, N. Pilan, L. Pigatto, R. Piovan, P. Piovesan, C. Piron, L. Piron, I. Predebon, G. Pucella, C. Rea, M. Recchia, A. Rizzolo, G. Rostagni, C. Ruset, L. Sajò-Bohus, H. Sakakita, R. Sanchez, J.S. Sarff, F. Sattin, P. Scarin, O. Schmitz, W. Schneider, M. Siragusa, P. Sonato, E. Spada, S. Spagnolo, M. Spolaore, D.A. Spong, G. Spizzo, L. Stevanato, Y. Suzuki, C. Taliercio, D. Terranova, O. Tudisco, G. Urso, M. Valente, M. Valisa, M. Vallar, M. Veranda, N. Vianello, F. Villone, P. Vincenzi, N. Visonà, R.B. White, P. Xanthopoulos, X.Y. Xu, V. Yanovskiy, A. Zamengo, P. Zanca, B. Zaniol, L. Zanotto, Y. Zhang and E. Zilli **"Overview of the RFX-mod fusion science activity"** Nucl. Fusion **57** (2017) 102012 (14pp)
68. H. Meyer, ... P. Martin, ... M. Agostini, ... P. Bettini, ... T. Bolzonella, ... A. Canton, ... R. Cavazzana, ... G. De Masi, ... R.S. Delogu, ... M. Furno Palumbo, ... M. Gobbin, ...P. Innocente, ...O. Kudlacek, ...N. Marconato, ... L. Marrelli, ... R. Paccagnella, ... P. Piovesan, C. Piron, ...I. Predebon, ... M.E. Puiatti, ...S. Spagnolo, G. Spizzo, M. Spolaore, ... D. Terranova, ... N. Vianello, ... P. Zanca, ... M. Zuin and the ASDEX Upgrade, MAST and TCV Teams **"Overview of progress in European medium sized tokamaks towards an integrated plasma-edge/wall solution"** , Nucl. Fusion **57** (2017) 102014
69. Kallenbach for the ASDEX Upgrade Team and the EUROfusion MST1 Team... T. Bolzonella, P. Martin, P. Piovesan, C. Piron, G. Trevisan, N. Vianello, ... **"Overview of ASDEX Upgrade results"** Nucl. Fusion **57** (2017) 102015
70. R.C. Wolf, ... T. Barbui, ... L. Carraro, ... M.E. Puiatti, ...N. Vianello, ... M. Zuin **"Major results from the first plasma campaign of the Wendelstein 7-X stellarator"** Nucl. Fusion **57** (2017) 102020 (13pp)
71. F. Castejón, ... B. Momo...et al **"3D effects on transport and plasma control in the TJ-II stellarator"** Nucl. Fusion **57** (2017) 102022 (11pp)
72. M. Spolaore, R. Cavazzana, L. Marrelli, L. Carraro, P. Franz, S. Spagnolo, B. Zaniol, M. Zuin, L. Cordaro, S. Dal Bello, G. De Masi, A. Ferro, C. Finotti, L. Grando, G. Grenfell, P. Innocente, O. Kudlacek, G. Marchiori, E. Martines, B. Momo, R. Paccagnella, P. Piovesan, C. Piron, M.E. Puiatti, M. Recchia, P. Scarin, C. Taliercio, N. Vianello and L. Zanotto **"H-mode achievement and edge features in RFX-mod tokamak operation"** Nucl. Fusion **57** 116039
73. M. Romanelli, P. Aresta-Belo, G. Corrigan, L. Garzotti, D. Harting, F. Koechl, S. Saarelma, S. Wiesen, M. Wischmeier, R. Zagorski, T. Bolzonella, L. Pigatto, J. Garcia, P. Maget, N. Hayashi, T. Nakano, S. Ide, M. Yoshida and H. Urano **"Investigation of sustainable high- $\beta$  scenarios in the JT-60SA C-wall"** Nucl. Fusion **57** (2017) 116010 (8pp)

74. N. Vianello, C. Tsui, C. Theiler, S. Allan, J. Boedo, B. Labit, H. Reimerdes, K. Verhaegh, W.A.J. Vijvers, N. Walkden, S. Costea, J. Kovacic, C. Ionita, V. Naulin, A.H. Nielsen, J. Juul Rasmussen, B. Schneider, R. Schrittwieser, M. Spolaore, D. Carralero, J. Madsen, B. Lipschultz, F. Militello, The TCV Team and The EUROfusion MST1 Team **“Modification of SOL profiles and fluctuations with line-average density and divertor flux expansion in TCV”** Nucl. Fusion **57** (2017) 116014 (13pp)
75. V. Igochine, P. Piovesan, I.G.J. Classen, M. Dunne, A. Gude, P. Lauber, Y. Liu, M. Maraschek, L. Marrelli, R. Mc Dermott, M. Reich, D. Ryan, M. Schneller, E. Strumberger, W. Suttrop, G. Tardini, H. Zohm and The ASDEX Upgrade Team and The EUROfusion MST1 Team **“MHD limits and plasma response in high-beta hybrid operations in ASDEX Upgrade”** Nucl. Fusion **57** (2017) 116027 (9pp)
76. M. Veranda, D. Bonfiglio, S. Cappello, D.F. Escande, F. Auriemma, D. Borgogno, L. Chacón, A. Fassina, P. Franz, M. Gobbin, D. Grasso and M. E. Puiatti **“Magnetohydrodynamics modelling successfully predicts new helical states in reversed-field pinch fusion plasmas”** Nucl. Fusion **57** (2017) 116029 (7pp)
77. H. Reimerdes, B.P. Duval, J.R. Harrison, B. Labit, B. Lipschultz, T. Lunt, C. Theiler, C.K. Tsui, K. Verhaegh, W.A.J. Vijvers, J.A. Boedo, G. Calabro, F. Crisanti, P. Innocente, R. Maurizio, V. Pericoli, U. Sheikh, M. Spolaore, N. Vianello, the TCV team and the EUROfusion MST1 team **“TCV experiments towards the development of a plasma exhaust solution”** Nucl. Fusion **57** (2017) 126007 (9pp)
78. M. Yokoyama, R. Seki, C. Suzuki, M. Sato, M. Emoto, S. Murakami, M. Osakabe, T.I. Tsujimura, Y. Yoshimura, T. Ido, K. Ogawa, S. Satake, Y. Suzuki, T. Goto, K. Ida, N. Pablant, D. Gates, F. Warmer, P. Vincenzi, Numerical Simulation Reactor Research Project and LHD Experiment Group **“Extended capability of the integrated transport analysis suite, TASK3D-a, for LHD experiment”** Nucl. Fusion **57** (2017) 126016 (7pp)
79. A. Murari, G. Peluso, P. Gaudio, M. Gelfusa **“Robust scaling laws for energy confinement time, including radiated fraction, in Tokamaks”** Nucl. Fusion **57** (2017) 126017 (14pp)
80. G. Spizzo, M. Agostini, P. Scarin, R.B. White, O. Schmitz, M. Spolaore, D. Terranova, M. Veranda and N. Vianello **“Toroidal coupling in the kinetic response to edge magnetic perturbations”** Nucl. Fusion **57** (2017) 126055 (12pp)
81. A. Murari, T. Craciunescu, E. Peluso, E. Lerche, M. Gelfusa and JET Contributors **“On efficiency and interpretation of sawteeth pacing with on-axis ICRH modulation in JET”** Nucl. Fusion **57** (2017) 126057 (9pp)

#### PHYSICS OF PLASMAS

82. M. J. Lanctot, J.-K. Park, P. Piovesan, Y. Sun, R. J. Buttery, L. Frassinetti, B. A. Grierson, J. M. Hanson, S. R. Haskey, Y. In, Y. M. Jeon, R. J. La Haye, N. C. Logan, L. Marrelli, D. M. Orlov, C. Paz-Soldan, H. H. Wang, E. J. Strait, and JET Contributors **“Impact of toroidal and poloidal mode spectra on the control of non-axisymmetric fields in tokamaks”** Phys. Plasmas **24**, 056117 (2017)
83. H. Strauss, E. Joffrin, V. Riccardo, J. Breslau, R. Paccagnella, and JET Contributors **“Comparison of JET AVDE disruption data with M3D simulations and implications for ITER”** Phys. Plasmas **24**, 102512 (2017)

#### JOURNAL OF PHYSICS

84. G Castro, M Mazzaglia, D Nicolosi, D Mascali, R Reitano, B Zaniol, L Celona, O Leonardi, F Leone, E Naselli, L Neri, G Torrisi, S Gammino **“Application of optical emission spectroscopy to high current proton sources”** J. Phys.: Conf. Ser. 874 012033 (2017)



## ENERGY STRATEGY REVIEWS

85. H. Cabal, Y. Lechon, C. Bustreo, F. Gracceva, M. Biberacher, D. Ward, D. Dongiovanni, P.E. Grohnheit **“Fusion power in a future low carbon global electricity system”** Energy Strategy Reviews **15** (2017) 1-8

## IEEE TRANSACTIONS ON MAGNETICS

86. Piergiorgio Alotto, Paolo Bettini, Oriano Bottauscio, Mario Chiampì, Luca Zilberti **“H-Matrix Sparsification Applied to Bioelectromagnetic Analysis of Large Scale Human Models”** **53** Issue: 6 7203504 (2017)
87. P. Bettini, M. Passarotto, R. Specogna **“A Volume Integral Formulation for Solving Eddy Current Problems on Polyhedral Meshes”** IEEE Trans. Mag. **53** Issue: 6 7204904 (2017)
88. P. Bettini, R. Benato, S. Dambone Sessa, R. Specogna **“T-Omega Formulation for Eddy-Current Problems with Periodic Boundary Conditions”** IEEE Trans. Mag. **53** Issue: 6 7201604 (2017)
89. R. Tochio, P. Bettini, P. Alotto **“PEEC-Based Analysis of Complex Fusion Magnets During Fast Voltage Transients With H-Matrix Compression”** IEEE Trans. Mag. **53** Issue: 6 7200904 (2017)

## IEEE TRANSACTIONS ON NUCLEAR SCIENCE

90. A. Luchetta **“Real Time Conference 2016 Overview”** IEEE Trans. Nucl. Sci. **64**, 6 (2017) 1177
91. L. Pigatto, M. Baruzzo, P. Bettini, T. Bolzonella, G. Manduchi, G. Marchiori, F. Villone **“Control System Optimization Techniques for Real-Time Applications in Fusion Plasmas: The RFX-mod Experience”** IEEE Trans. Nucl. Sci. **64**, 6 (2017) 1420
92. T. Maceina, G. Manduchi **“Assessment of General Purpose GPU Systems in Real-Time Control”** IEEE Trans. Nucl. Sci. **64**, 6 (2017) 1455
93. T. Maceina, P. Bettini, G. Manduchi, M. Passarotto **“Fast and Efficient Algorithms for Computational Electromagnetics on GPU Architecture”** IEEE Trans. Nucl. Sci. **64**, 7 (2017) 1983
94. C. Taliercio, A. Luchetta, G. Manduchi, A. Rigoni **“Distributed Continuous Event-Based Data Acquisition Using the IEEE 1588 Synchronization and FlexRIO FPGA”** IEEE Trans. Nucl. Sci. **64**, 7 (2017) 1970

## FUSION ENGINEERING AND DESIGN

Proceedings of the 29th Symposium on Fusion Technology (SOFT-29) Prague

95. V. Toigo, R. Piovan, S. Dal Bello, E. Gaio, A. Luchetta, R. Pasqualotto, P. Zaccaria, M. Bigi, G. Chitarin, D. Marcuzzi, N. Pomaro, G. Serianni, P. Agostinetti, M. Agostini, V. Antoni, D. Aprile, C. Baltador, M. Barbisan, M. Battistella, M. Boldrin, M. Brombin, M. Dalla Palma, A. De Lorenzi, R. Delogu, M. De Muri, F. Fellin, A. Ferro, C. Finotti, A. Fiorentin, G. Gambetta, F. Gnesotto, L. Grando, P. Jain, A. Maistrello, G. Manduchi, N. Marconato, M. Moresco, E. Ocello, M. Pavei, S. Peruzzo, N. Pilan, A. Pimazzoni, M. Recchia, A. Rizzolo, G. Rostagni, E. Sartori, M. Siragusa, P. Sonato, A. Sottocornola, E. Spada, S. Spagnolo, M. Spolaore, C. Taliercio, M. Valente, P. Veltri, A. Zamengo, B. Zaniol, L. Zanotto, M. Zaupa et al. **“A substantial step forward in the realization of the ITER HNB system: The ITER NBI Test Facility”** Fus Eng and Design **123** (2017) 32–39
96. S. Peruzzo, M. Agostini, P. Agostinetti, M. Bernardi, P. Bettini, T. Bolzonella, A. Canton, L. Carraro, R. Cavazzana, S. Dal Bello, M. Dalla Palma, G. De Masi, R. Delogu, A. Fassina, L. Grando, P. Innocente, G. Marchiori, N. Marconato, L. Marrelli, N. Patel, M.E. Puiatti, P. Scarin, M. Siragusa, P. Sonato, M. Spolaore, L.

- Trevisan, M. Valisa, M. Vallar, P. Vincenzi, A. Zamengo, P. Zanca, L. Zanotto **“Design concepts of machine upgrades for the RFX-mod experiment”** Fus Eng and Design **123** (2017) 59-62
97. Marco Boldrin, Vanni Toigo, Daniel Gutierrez, Muriel Simon, Giovanni Faoro, Edoardo Maggiora, Diego Pedron, Andrea Guion, Hans Decamps **“The Transmission Line for the SPIDER Experiment: From design to installation”** Fus Eng and Design **123** (2017) 247-252
98. R.S.Delogu, A.Pimazzoni, G.Serianni **“Applicability of inverse heat flux evaluation to thermographic measurements in SPIDER”** Fus Eng and Design **123** (2017) 268-275
99. Stefan Hanke, Volker Hauer, Christian Day, Mauro Dalla Palma, Emanuele Sartori, Samuele Dal Bello, Pierluigi Zaccaria, Mingxing Zhang **“Experimental characterization of the gas injection nozzle for the ITER Neutral Beam Test Facility neutralizer”** Fus Eng and Design **123** (2017) 276-280
100. G. Gambetta, P. Agostinetti, P. Sonato **“Multi-design innovative cooling research & optimization (MICRO): A novel proposal for enhanced heat transfer in DEMO”** Fus Eng and Design **123** (2017) 345-348
101. M. Vallar, J.F. Artaud, T. Bolzonella, H. Sakakita, M. Valisa, P. Vincenzi **“Requirements and modelling of fast particle injection in RFX-mod tokamak plasmas”** Fus Eng and Design **123** (2017) 349-352
102. N. Pilan, L. Grando, A. De Lorenzi, A. Masiello, C. Lievin **“SPIDER high voltage bushings: Design, development and first experimental tests”** Fus Eng and Design **123** (2017) 362-365
103. Loris Zanotto, Elena Gaio, Daniel Gutiérrez, Muriel Simon, Hans Decamps, Mauro Perna, Filippo Guarda, Claudio Panizza, Alessandro Premoli, Claudio Finotti, Claudio Brocca **“Final design of the acceleration grid power supply conversion system of the MITICA Neutral Beam Injector”** Fus Eng and Design **123** (2017) 376-380
104. Marco Boldrin, Tullio Bonicelli, Hans Decamps, Claudio Finotti, Elena Gaio, Gerard Escudero Gomez, Michael Krohn, Edgar Sachs, Muriel Simon, Vanni Toigo **“Final design of the High Voltage Deck 1 and Bushing for MITICA: The ITER Heating Neutral Beam Injector prototype”** Fus Eng and Design **123** (2017) 395-399
105. Daniele Aprile, P. Agostinetti, C. Baltador, J. Hiratsuka, M. Ichikawa, M. Kashiwagi, A. Kojima, N. Marconato, E. Sartori, G. Serianni, P. Veltri, M. Yoshida, G. Chitarin **“Realization of a Magnetically Compensated Extraction Grid for performance improvement of next generation NBI”** Fus Eng and Design **123** (2017) 400-405
106. Giuseppe Chitarin, D. Aprile, M. Brombin, N. Marconato, L. Svensson **“Feasibility study of a flux-gate magnetic field sensor suitable for ITER neutral beam injectors”** Fus Eng and Design **123** (2017) 412-416
107. Francesco Fellin, Marco Bigi, Mauro Breda, Gabriele Lazzaro, Adriano Luchetta, Moreno Maniero, Nicola Pilan, Pierluigi Zaccaria, Matteo Zaupa, Gilbert Agarici, Vincent Pilard, Gabriele Cenedella, Michele Tamagnone, Nicola Granzotto, Andrea Turetta **“Manufacturing and assembly of the cooling plant for SPIDER experiment”** Fus Eng and Design **123** (2017) 463-467
108. P. Vincenzi, R. Ambrosino, J.F. Artaud, T. Bolzonella, L. Garzotti, G. Giruzzi, G. Granucci, F. Köchl, M. Mattei, M.Q. Tran, R. Wenninger **“EU DEMO transient phases: Main constraints and heating mix studies for ramp-up and ramp-down”** Fus Eng and Design **123** (2017) 473-476
109. T. Franke, P. Agostinetti, K. Avramidis, A. Bader, Ch. Bachmann, W. Biel, T. Bolzonella, S. Ciattaglia, M. Coleman, F. Cismondi, G. Granucci, G. Grossetti, J. Jelonnek, I. Jenkins, M. Kalsey, R. Kembleton, N. Mantel, J.-M. Noterdaeme, N. Rispoli, A. Simonin, P. Sonato, M.Q. Tran, P. Vincenzi, R. Wenninger **“Heating &**

- current drive efficiencies, TBR and RAMI considerations for DEMO**" Fus Eng and Design **123** (2017) 495-499
110. Paolo Bettini, Claudio Finotti, Luca Grando, Giuseppe Marchiori, Ruben Specogna **"Modeling of the magnetic field errors of RFX-mod upgrade"** Fus Eng and Design **123** (2017) 518-521
111. Paolo Bettini, Andrea Gaetano Chiariello, Alessandro Formisano, Francesco Ledda, Giuseppe Marchiori, Raffaele Martone, Francesco Pizzo, David Terranova **"3D magnetic surfaces reconstruction in RFX-mod"** Fus Eng and Design **123** (2017) 546-550
112. Paolo Bettini, Piergiorgio Alotto, Tommaso Bolzonella, Roberto Cavazzana, Luca Grando, Giuseppe Marchiori, Lionello Marrelli, Leonardo Pigatto, Ruben Specogna, Paolo Zanca **"3D electromagnetic analysis of the MHD control system in RFX-mod upgrade"** Fus Eng and Design **123** (2017) 612-615
113. Chiara Piron, Gabriele Manduchi, Paolo Bettini, Federico Felici, Claudio Finotti, Paolo Franz, Ondrej Kudlacek, Giuseppe Marchiori, Lionello Marrelli, J.-M. Moret, Paolo Piovesan, Olivier Sauter, Cesare Taliercio, the EUROfusion MST1 Team **"Integration of the state observer RAPTOR in the real-time MARTE framework at RFX-mod"** Fus Eng and Design **123** (2017) 616-619
114. A. Rizzolo, M. Tollin, M. Brombin, V. Cervaro, M. Dalla Palma, M. De Muri, D. Fasolo, L. Franchin, S. Peruzzo, A. Pimazzoni, R. Pasqualotto, G. Serianni **"Final design of the diagnostic calorimeter for the negative ion source SPIDER"** Fus Eng and Design **123** (2017) 768-772
115. D.E. Aguiam, A. Silva, V. Bobkov, P.J. Carvalho, P.F. Carvalho, R. Cavazzana, G.D. Conway, O. D.Arcangelo, L. Fattorini, H. Faugel, A. Fernandes, H. Funfgelder, B. Goncalves, L. Guimaraes, G. De Masi, L. Meneses, J.M. Noterdaeme, R.C. Pereira, G. Rocchi, J.M. Santos, A.A. Tuccillo, O. Tudisco, ASDEX upgrade Team **"X-mode raw data analysis of the new AUG ICRF antenna edge density profile reflectometer"** Fus Eng and Design **123** (2017) 816-819
116. M. Nocente, S. Feng, D. Wunderlich, F. Bonomo, G. Croci, U. Fantz, B. Heinemann, W. Kraus, I. Mario, R. Pasqualotto, M. Tardocchi, G. Gorini **"Experimental investigation of beam-target neutron emission at the ELISE neutral beam test facility"** Fus Eng and Design **123** (2017) 843-846
117. C. Brandt, T. Broszat, H. Thomsen, R. Laube, M. Marquardt, P. Franz, M. Schülke, T. Sieber, S. Weißflog, The W7-X Team **"Installation of the soft X-ray multi-camera tomography system (XMCTS) in the Wendelstein 7-X stellarator"** Fus Eng and Design **123** (2017) 887-891
118. G. Marchiori, R. Cavazzana, P. Bettini, L. Grando, S. Peruzzo **"Upgraded electromagnetic measurement system for RFX-mod"** Fus Eng and Design **123** (2017) 892-896
119. Adriano Luchetta, Nicola Pomaro, Cesare Taliercio, Modesto Moressa, Lennart Svensson, Francesco Paolucci, Filippo Sartori, Carmelenzo Labate, Paolo Paronetto, Gianluca Agnoletto **"Implementation of the SPIDER central interlock"** Fus Eng and Design **123** (2017) 990-994
120. Alberto Ferro, Elena Gaio, Luca Sita, Luigi Rinaldi, Giovanni Corbucci, Giuseppe Taddia, Daniel Gutierrez, Muriel Simon, Hans Decamps **"The design of the residual ion dump power supply for ITER neutral beam injector"** Fus Eng and Design **124** (2017) 69-72
121. P. Agostinetti, F. Degli Agostini, P. Sonato **"Application of the novel VTTJ technique (Vacuum Tight Threaded Junction) to fusion reactor relevant geometry and materials"** Fus Eng and Design **124** (2017) 659-663

122. Chiara Bustreo, Daniele Maggio, Fulvio Auriemma, Giuseppe Zollino **“Economic assessment of different operational reactor cycle structures in a pulsed DEMO-like power plant”** *Fus Eng and Design* **124** (2017) 1219-1222
123. G. Granucci, S.Ceccuzzi, G.Giruzzi, P.Sonato, P.Agostinetti, T.Bolzonella, A.Bruschi, A.Cardinali, L.Figini, S.Garavaglia, R.Maggiora, D.Milanesio, F.Mirizzi, S.Nowak, G.L.Ravera, C.Sozzi, A.A.Tuccillo, P.Vincenzi **“The DTT device: system for heating”** *Fus Eng and Design* **124** (2017)

#### REVIEW OF SCIENTIFIC INSTRUMENTS

124. K. Kovarik, I. Duran, J. Stockel, J. Seidl, J. Adamek, M. Spolaore, N. Vianello, P. Hacek, M. Hron, and R. Panek **“Filamentary probe on the COMPASS tokamak”** *Rev Sci Instrum* **88**, 035106 (2017)

#### MATERIALS SCIENCE FORUM

125. Malizia, A. Murari et al., **“A Novel Facility to Investigate Dust Mobilization in Confined Environments with Applications to the Security of the Pharmaceutical Industry”**, *Materials Science Forum*, **879**, 1213-1219, 2017

#### ENTROPY

126. Andrea Murari, Teddy Craciunescu, Emmanuele Peluso, Michela Gelfusa and JET Contributors **“Detection of Causal Relations in Time Series Affected by Noise in Tokamaks Using Geodesic Distance on Gaussian Manifolds”** *Entropy* **2017**, *19* (10), 569

#### In press

#### IEEE TRANSACTIONS ON PLASMA SCIENCE

127. N. Pilan, A. Kojima, R. Nishikiori, M. Ichikawa, J. Hiratsuka, R. Specogna, A. De Lorenzi, M. Bernardi, L. Lotto, P. Bettini, and M. Kashiwagi **“Numerical–Experimental Benchmarking of a Probabilistic Code for Prediction of Voltage Holding in High Vacuum”** *IEEE Trans. Plasma. Sci.* **PP**, 99 (2017)
128. Bettini P., De Lorenzi A., Marconato N., Pilan N., Specogna R., **Goal-Oriented Adaptivity for Voltage Breakdown Prediction**, *IEEE Transactions on Magnetics*, 2017, Volume: PP, Issue: 99
129. R. Albanese, A. Pizzuto, WPDTT2 Team1, DTT project proposal contributors2, **“The DTT proposal. A tokamak facility to address exhaust challenges for DEMO: Introduction and executive summary”**, **Fusion Engineering and Design**, Available online 7 January 2017 In Press, Corrected Proof,
130. R. Albanese, R. Ambrosino, M. Ariola, G. De Tommasi, A. Pironti, M. Cavinato, A. Neto, F. Piccolo, F. Sartori, R. Ranz, L. Carraro, A. Canton, R. Cavazzana, A. Fassina, P. Franz, P. Innocente, A. Luchetta, G. Manduchi, L. Marrelli, E. Martines, S. Peruzzo, M.E. Puiatti, P. Scarin, G. Spizzo, M. Spolaore, M. Valisa, G. Gorini, M. Nocente, C. Sozzi, M.L. Apicella, L. Gabellieri, G. Maddaluno, G. Ramogida, **“Diagnostics, data acquisition and control of the divertor test tokamak experiment”**, **Fusion Engineering and Design**, Available online 11 August 2017, In Press, Corrected Proof

## COMMUNICATIONS TO WORKSHOPS AND CONFERENCES

### CONFERENCE PARTICIPATIONS

#### CONFERENCE PROCEEDINGS

#### **18<sup>th</sup> International RFP Workshop, Kyoto Japan, March 27-29, 2017**

M.E. Puiatti "Status of RFX-mod and RFX-mod2"

S. Cappello "Magnetic chaos healing in 3D MHD modeling of helical regimes, achievements and open issues"

R. Paccagnella "Aspect Ratio scaling and relaxation models for single helical reversed field pinch plasmas"

Predebon "MHD spectra and coordinate transformations in toroidal system"

M. Zuin "Characterization of fast ion dynamics and neutron production in RFX-mod"

P.Franz "Atomic radiation effects in SXR tomography on MST"

B.Zaniol "Flow measurements in RFX-mod"

M. Zuin "The locking-unlocking phenomenon of tearing modes in the presence of feedback control in RFX-mod"

M. Agostini "Turbulence and transport in the edge of RFX-mod"

L. Carraro "Impurity transport studies in RFX-mod RFP"

R. Piovan "The RFP as neutron source for Fusion-Fission Hybrid systems: strengths and issues"

P. Martin "Remarks or comments for the final discussion"

#### **AIV XXIII Conference, Firenze, Italy, 5-7 April, 2017**

C. Bustreo, D. Maggio, G. Zollino "Long term scenarios for power generation in Italy" (oral invited)

Vanni Toigo "The PRIMA ITER Neutral Beam Test Facility: status, issues and future plans" (oral)

Nicola Pilan "DC Voltage Holding in high Vacuum: design issues and experimental results of the High Voltage Padova Test Facility" (oral)

Alberto Maistrello "RF in vacuum boundaries: issues and test bed/experimental results" (oral)

Sandro Polato "Soluzione ed implementazione della remotizzazione grafica 3D al Consorzio RFX" (poster)

Gianluca Moro "CARS: Control and Acquisition on RaspberryPi Systems - an overview with application examples" (poster)

Bruno Laterza "Electrical plants and fast protection systems for the Negative Ion Source NIO1" (poster)

Federico Rossetto "High Voltage Radio Frequency Test Facility for the voltage holding of drivers used in Neutral Beam Injector ion sources" (poster)

Marco Bernardi “R&D for modification of RFX-mod fusion toroidal complex” (poster)

Mauro Breda “PRIMA Gas & Vacuum System Plant for SPIDER and MITICA experiments” (poster)

**ECPD 2017 – 2<sup>nd</sup> European Conference on Plasma Diagnostics, Bordeaux, France, 18-21 April 2017**

R. Pasqualotto “A suite of diagnostics to validate and optimize the prototype ITER neutral beam injector” (invited)

A. Murari “Operating Diagnostics in JET with a Metal Wall and Different Fuel Mixtures in Preparation for the Next Step Devices”

D. Rigamonti, M. Nocente, M. Tardocchi, M. Angelone, A. Broslawski, C. Cazzaniga, J. Figueiredo, G. Gorini, V. Kiptily, S. Korolczuk, A. Murari, M. Pillon, I. Zychor, Jet Contributors “Characterization of a compact LaBr<sub>3</sub> detector with Silicon photomultipliers at high 14 MeV neutron fluxes”

V. Weinzettl, J. Adamek, M. Berta, P. Bilkova, O. Bogar, P. Bohm, J. Cavalier, R. Dejarnac, M. Dimitrova, O. Ficker, D. Fridrich, O. Grover, P. Hacek, J. Havlicek, A. Havranek, J. Horacek, M. Hron, M. Imrisek, M. Komm, K. Kovarik, J. Krbec, T. Markovic, E. Matveeva, K. Mitosinkova, J. Mlynar, D. Naydenkova, R. Panek, R. Paprok, M. Peterka, A. Podolnik, J. Seidl, M. Sos, J. Stockel, M. Tomes, M. Varavin, J. Varju, M. Vlainic, P. Vondracek, J. Zajac, F. Zacek, M. Stano, G. Anda, D. Dunai, T. Krizsanoczi, D. Refy, S. Zoletnik, A. Silva, R. Gomes, T. Pereira, T. Popov, D. Sarychev, G. Ermak, J. Zebrowski, M. Jakubowski, M. Rabinski, K. Malinowski, S. Nanobashvili, M. Spolaore, N. Vianello, E. Gauthier, J. Gunn, A. Devitre “Progress in diagnostics of the COMPASS tokamak”

**11<sup>th</sup> IAEA Technical Meeting on Control, Data Acquisition, and Remote Participation for Fusion Research Greifswald, Germany, 8 -12 May 2017 - to be published on Fus. Eng. and Des.**

G. Manduchi, “A Portable Control And Data Acquisition Solution”

A. Luchetta, “Instrumentation and Control for the Neutral Beam Test Facility”

G. Manduchi, “A Framework for the integration of Linux FPGA SoC device”

G. Manduchi “Assessing Remote Data Access feasibility for the ITER Remote Experimentation Centre”

**IPAC 2017 8<sup>th</sup> International Particle Accelerator Conference Copenhagen, Denmark, 14-19 May 2017 Conference Proceedings J.Phys.Conf.Ser. 874 (2017)**

B. Zaniol, G. Castro, M. Mazzaglia, D. Nicolosi, D. Mascali, R. Reitano, L. Celona, O. Leonardi, F. Leone, E. Naselli, L. Neri, G. Torrisi, S. Gammino “application of optical emission spectroscopy to high current proton sources”

**ICOPS 2017 44<sup>th</sup> IEEE International Conference on Plasma Science Atlantic City, New Jersey, (USA), 21-25 May, 2017, refereed issue of IEEE Transactions on Plasma Science**

Jain Palak, M. Recchia, A. Maistrello, E. Gaio, W. Kraus, U. Fantz “Evaluation of power absorption for inductively coupled radio-frequency ion source: case study for the Elise Source”

**643<sup>rd</sup> Wilhelm and Else Heraeus Seminar Impact of 3D magnetic fields on hot plasmas Physikzentrum Bad Honnef, Germany, 22-24 May 2017**

G. Spizzo, M. Agostini, P. Scarin, N. Vianello, R. B. White, O. Schmitz, M. Spolaore, D. Terranova, and M. Veranda "On transport in edge islands" (invited)

22nd topical conference on Radiofrequency power in plasmas, 30 May – 2 June 2017 Centre de Congrès in Aix-en-Provence, France

Jain Palak, M. Recchia, A. Maistrello, E. Gaio, W. Kraus, U. Fantz "Evaluation of power absorption for inductively coupled radio-frequency ion source: case study for the Elise Source"

**27<sup>th</sup> SOFE IEEE Symposium On Fusion Engineering** Shanghai, China, 4 -8 June 2017 to be published in *IEEE Trans. Plasma Sci.*

P. Agostinetti, P. Sonato "Optics and thermo-mechanical analysis of the accelerator for the DEMO neutral beam injector"

Zamengo, M. Bigi, S. Carrozza, G. Corbucci, E. Gaio, A. Luchetta, M. Moressa, L. Rinaldi, M. Simon, L. Sita, G. Taddia, H. Decamps, P. Sionato, C. Taliercio, D. Zella and V. Toigo "Final acceptance test of the Ion Source and Extraction Power Supplies for the SPIDER experiment"

P. Agostinetti, M. Spolaore, M. Brombin, V. Cervaro, L. Franchin, O. Grulke, E. Martines, M. Moresco, S. Peruzzo, N. Vianello, M. Visentin "Design of a high resolution probe (HRP) head for electromagnetic turbulence investigations in W7-X"

A. Maistrello, A. Ferro, E. Gaio, V. Corato, K. Sedlak "Studies on DEMO Toroidal Field Circuit"

A. Maistrello, P. Jain, M. Recchia, M. Bigi, E. Gaio and V. Toigo "Design and setup of the High Voltage Radio Frequency Test Facility for the characterization of the dielectric strength in vacuum of RF drivers for Neutral Beam Injectors Ion Sources"

G. Marchiori, G. De Masi, R. Cavazzana, A. Cenedese, N. Marconato, WPDC contributors "Study of a plasma boundary reconstruction method based on reflectometric measurements for control purposes"

L. Zanotto, M. Boldrin<sup>1</sup>, F. Paolucci<sup>2</sup>, E. Bragulat<sup>2</sup>, A. Meglioli<sup>3</sup>, L. Svensson "The SF6 Gas Handling and Storage Plant of the MITICA test facility"

D. Aprile, G. Chitarin, M. Marconato "NBImag: a useful tool in the design of magnetic systems for the ITER Neutral Beam Injectors"

S. Dal Bello, M. Da Rienzo, Sandro Sandri, Angela Coniglio, M. Battistella, S. Dal Bello, L. Grandi, F. Fellin "Air Activation at the ITER Neutral Beam Test Facility"

N. Pilan, A. Kojima, R. Nishikiori, M. Ichikawa, J. Hiratsuka, R. Speconia, A. De Lorenzi, P. Bettini and M. Kashiwagi "Numerical-experimental benchmarking of a probabilistic code for prediction of Voltage Holding in High Vacuum"

G. Gambetta, P. Agostinetti, P. Sonato "Multi-design Innovative Cooling Research & Optimization (MICRO)"

E. Gaio, M. Bigi, M. Boldrin, A. Ferro, A. Luchetta, M. Recchia, V. Toigo, A. Zamengo, T. Bonicelli, M. Simon, D. Gutierrez, U.K. Baruah, N.P. Singh, H. Decamps, M. Kushwah "The Power Supply System of Spider"

A. Ferro, F. Gasparini, E. Gaio, M. Tomasini, P. Milani, E. Massarelli, L. Novello, M. Matsukawa, S. Hatakeyama, K. Shimada "Design and manufacturing of the SiC-based power supply system for Resistive-Wall-Mode control in JT-6" oral

T. Franke, P. Vincenzi et al., "New H&CD designs and impact of the configurations on the performances for a DEMO fusion power plant reactor"

**17<sup>th</sup> International Conference on Environment and Electrical Engineering, Milano, Italy, 6-9 June 2017 IEEE Conference Record**

M. Bigi, G. Lazzaro, A. Maistrello, A. De Lorenzi "Power Distribution for the SPIDER and MITICA Experiments at the ITER Neutral Beam Test Facility: A System Description and Analyses"

2017 Computing and Electromagnetics International Workshop, June 21-24, 2017, Barcelona, Spain

Ventre, S., Villone, F., Chiariello, A., Carpentieri, B., Rubinacci, G., Abate, D., "Efficient inclusion of magnetic materials in self-consistent nonlinear plasma evolution" CEM 2017 - 2017 Computing and Electromagnetics International Workshop 7991866, pp. 19-20

**Compumag 2017 Daejeon, Korea, 18-22 June 2017 to be published in IEEE Transaction on Magnetics**

N. Marconato, P. Bettini, N. Pilan, N. Specogna "Goal-oriented adaptivity in complementary geometric formulations for electrostatics"

**Energia 2.0: dalle reti agli edifici - 34 conv. naz. Aicarr, Padova, Italy, 22 June 2017**

F. Fellin, Adriana Bernardi, Michele De Carli, Luc Pockele, Antonio Galgaro, Giulia Mezzasalma, Mirko Marchesin, Giulia Alessio "Diagnosi energetica e proposte di intervento per l'efficientamento della rete di teleriscaldamento e teleraffrescamento dell'area CNR di Padova"

**EPS 2017 - 44<sup>th</sup> Conference on Plasma Physics Belfast, Northern Ireland, 26-30 June 2017**

M. Gobbin, P.J.McCarthy, L.Li,Y.Liu, L.Marrelli, M.Nocente,G.Papp, G.Pautasso, P.Piovesan, W.Suttrop, M.Valisa "Mitigation of runaway electrons by 3D fields in ASDEX Upgrade" (invited)

G. Grenfell, M. Spolaore, R. Cavazzana, L. Marrelli, L. Carraro, P. Franz, S. Spagnolo, B. Zaniol, M. Zuin, L. Cordaro, S. Dal Bello, G. De Masi, A. Ferro, C. Finotti, L. Grandi, P. Innocente, O. Kudlacek, G. Marchiori, E. Martines, B. Momo, R. Paccagnella, P. Piovesan, C. Piron, M. E. Puiatti, M. Recchia, P. Scarin, C. Talierno, N. Vianello, L. Zanotto "Electromagnetic filaments and edge modifications induced by electrode biasing in the RFX-mod tokamak" P2.170

G. De Masi, I. Predebon, S. Spagnolo, I. Lupelli, J. C. Hillesheim, L. Meneses, E. Delabie, C. Maggi and JET Contributors "Density and magnetic fluctuations at JET: experimental observation and numerical characterization" P5.172

M. Valisa, C. Angioni, L. Carraro, F. J. Casson, I. Coffey, E. De la Luna, P. Devynk, P. Drewelow, L. Frassinetti, C. Giroud, F. Koechl, M. Leyland, A. Loarte, I. Lupelli, S. Menmuir, M. O.™Mullane, V. Parail, A. Patel, M. E. Puiatti, E. Rachl "The role of ELMs and inter-ELM phases in the transport of impurities in JET" P4.174

D. Abate, G. Marchiori, F. Villone "Modelling of RFX-mod Shaped Tokamak plasmas: from low- $\beta^2$  plasmas towards H-mode regime" P4.137

P. Vincenzi, P. Agostinetti, J.F. Artaud, T. Bolzonella, T. Kurki-Suonio, P. Sonato, J. Varje "Comparison of Neutral Beam Injection options for EU DEMO pulsed scenario" P4.146

M. Vallar, T. Bolzonella, R. Coelho, J. Garcia, T. Kurki-Suonio, L. Pigatto, K. Sarkimaki, J. Varje, M. Romanelli "Neutral beam injection modelling in JT-60SA axisymmetric equilibria" P1.149



C. Piron, O. Sauter, S.Coda, A. Merle, A. Karpushov, the TCV team and the EUROfusion MST1 Team  
"Validation of RAPTOR predictive simulations on the first NBI-heated L-mode TCV plasmas with Internal Transport barriers" P1.153

D. Carnevale, M. Gobbin et al. "Active control for current dissipation of runaway electrons in TCV" P1.152

J.C. Hillesheim, E. Delabie, E.R. Solano, I.S. Carvalho, A. Drenik, C. Giroud, A. Huber, E. Lerche, B. Lomanowski, M. Mantsinen, I. Nunes, F. Rimini, P. Vincenzi, E. Belonohy, C. Challis, M. Gelfusa, J. Hobirk, H.T. Kim, C.F. Maggi, S. Menmuir, S.L. Newton, E. Peluso, M. Stamp and Geert Verdoolaege "L-H transition studies in hydrogen and mixed ion species plasmas in JET" P5.162

J. Varje, P. Agostinetti, T. Kurki-Suonio, A. Snicker, P. Sonato, K. Särkimäki, F. Villone, P. Vincenzi "Effect of 3D magnetic perturbations on fast ion confinement in the European DEMO" P2.147

R. Lorenzini, F. Auriemma, A. Fassina, D. Terranova, Y. Zhang "The influence of magnetic turbulence on Internal Transport Barriers of Reversed Field Pinch" P1.165

V. Igochine, P. Piovesan, A. Bock, L. Giannone, A. Gude, O. Kudlacek, M. Maraschek, L. Marrelli, R. McDermott, M. Reich, W. Suttrop, H. Zohm, the ASDEX Upgrade Team And the EUROfusion MST1 Team  
"MHD activity in high beta discharges in ASDEX Upgrade" P4.132

Costanza F Magg, Henri Weisen, Jon Hillesheim, Alex Chankin, Ephrem Delabie, László Horváth, Fulvio Auriemma, Ivo Carvalho, Gerard Corrigan, Joanne Flanagan, Luca Garzotti, David Keeling, Damian King, Ernesto Lerche, Rita Lorenzini, Mikhail Maslov, Sheena Menmuir, Samuli Saarelma, George Sips, Emilia R Solano, Eva Belonohy, Francis Casson, Clive Challis, Carine Giroud, Vassili Parail, Carlos G Silva and Marco Valisa "Isotope effects on L-H threshold and confinement in tokamak plasmas" (invited)

S. Breton, F.J. Casson, C. Bourdelle, J. Citrin, Y. Baranov, C. Challis, J. Garcia, G. Corrigan, L. Garzotti, S. Henderson, F. Koechl, E. Militello Asp, M. O'Mullane, T. Pütterich, M. Sertoli, M. Valisa "Integrated modelling of multi channel transport including Tungsten in JET" (Oral)

**CEEC-TAC4 Chisinau/Kishinev, Republic of Moldova, August 28- 31 2017**

M. Dalla Palma, Davide GAULE, Antonio PIMAZZONI, Roberto PASQUALOTTO, Gianluigi SERIANNI, Bernd BÄ-SWIRTH, Henri GREUNER "Thermal analysis & testing of unidirectional carbon-carbon composite for thermal imaging diagnostic"

**12<sup>th</sup> International Workshop on Electric Probes in Magnetized Plasmas 2017 (IWEP 2017) Naklo, Slovenia 4-7 September 2017 Conference Proceedings**

M. Spolaore, M. Brombin, R. Cavazzana, G. Serianni, R. Pasqualotto, N. Pomaro, G. Taliercio "Design and Status of the Electrostatic Probe System for the SPIDER Experiment"

**ECCTD 2017 23<sup>rd</sup> European Conference on Circuit Theory and Design, Catania, Italy, 4-6 September 2017 Conference Proceedings**

A. Luchetta, G. Manduchi, T. Taliercio, A. Rigoni, N. Pomaro, M. Moressa, S. Dal Bello, L. Grando, Battistella, Paolucci, Labate "Overview of instrumentation and control in the neutral beam test facility" Proc.

C. Corradino, A. Buscarino, L. Fortuna, A. Murari "Modeling spatiotemporal complexity during plasma instabilities" Proc.

IAEA Technical Meeting on energetic particles *Princeton, September 5-8 2017*

T. Kurki-Suonio, J. Varje, A. Snicker and P. Vincenzi, "The Effect of Ferritic Inserts on Fast Ions in DEMO"

**EPE'17 ECCE Europe**, *Warsaw, Poland, 11-14 September 2017*

*To be published on IEEE Proc*

A. Ferro, F. Gasparini "A transient model for electric devices not representable with rational transfer functions"

Max-Planck/Princeton Research Center on Plasma Physics Workshop in *Greifswald 19-22 September 2017*

S. Cappello "Taylor theory predictions in comparison with RFP experiments" (Invited talk)

**1<sup>st</sup> Asia-Pacific Conference on plasma physics**, *Chengdu, China, 18-22 September 2017*

M. Zuin "The Reversed Field Pinch Physics: the Low Field Alternative to Fusion"

M. Veranda, Daniele Bonfiglio, Susanna Cappello, Giovanni Di Giannatale, Fulvio Auriemma, Alessandro Fassina, Paolo Franz, Marco Gobbin, Maria Ester Puiatti, Dominique Franck Escande, Dario Borgogno, Luis Chacon, Daniela Grasso "Reversed-field pinch pursuit of magnetic order exploiting helical states with transport barriers"

F. Auriemma, D. Lopez-Bruna, R. Lorenzini, B. Momo, Y. Narushima, I. Predebon, F. Sattin, Y. Suzuki, D. Terranova, Y. Zhang "A novel approach to the study of transport properties in plasma with magnetic islands"

**XXIII Convegno AIPT**, *Torino, Italy, 22 September 2017*

M. Dalla Palma, D. Gaule, R. Pasqualotto, A. Pimazzoni, G. Serianni, P. Sonato, "Analysis and thermal testing to predict operational limits of a unidirectional carbon-carbon composite for thermal imaging diagnostic of high energy particle beams"

**LAPD18 Symposium**, *Prague, Czech Republic, 24-28 September 2017*

proceedings to be published in a special issue of the Journal of Instrumentation (JINST)

Oisín McCormack L. Giudicotti, M. Kempnaars, J. Flanagan and R. Pasqualotto "Measurement of the depolarized Thomson scattering radiation in JET"

Alessandro Fassina, P. Franz "Thomson scattering upgrade in RFX-mod: Alternative designs for Injection and Collection Optics"

L. Giudicotti "Polarimetric Thomson scattering for high Te fusion plasmas" (Invited)

**13<sup>th</sup> International Symposium on Fusion Nuclear Technology (ISFNT)**, *Kyoto, Japan, 25-29 September 2017*

*Proceedings to be published in a special edition of "Fusion Engineering and Design"*

M. Dalla Palma, Nicola Pomaro, Etienne Delmas, Lennart Svensson, Gonzalo Micò Montava, Roberto Pasqualotto "Design of remote handling, nuclear and vacuum compatible connectors for mineral insulated thermocouples of ITER neutral beam injectors"

S. Peruzzo "Detailed Design of the RFX-mod2 Machine Load Assembly"

M. Zaupa, Julien Chareyre, Samuele Dal Bello, Mauro Dalla Palma, Andrea Garbuglia, Roberto Pasqualotto, Hitesh Patel Chandramouli Rotti, Emanuele Sartori, Beatrix Schunke, Pierluigi Zaccaria  
"Solutions to fix the shine-through at the hypervaportrons of SPIDER beam dump"

R. Cavazzana and RFX-mod Team "Design constraints on new vacuum components of RFX-mod2 upgrade using electrical modeling of Reversed Field Pinch plasma"

Roberto Piovan "A continuously pulsed Reversed Field Pinch core for an ohmically heated hybrid reactor"

**Fisimat 2017, Trieste Italy, 1-5 October 2017**

Gianluigi Serianni, V. Antoni, M. Cavenago, G. Chitarin, N. A. Ferron, R. Pasqualotto, E. Sartori, S. Suweis, P. Veltri "Mechanisms behind generation and acceleration of negative ions as an example of complex network"

V. Antoni, P. Agostinetti, D. Aprile, C. Baltador, M. Barbisan, M. Cavenago, G. Chitarin, A. De Lorenzi, M. Fadone, N. Fonnesu, S. Longo, N. Marconato, A. Pimazzoni, N. Pilan, E. Sartori, S. Suweis, F. Taccogna, G. Serianni, E. Spada, P. Veltri "Generation and acceleration of negative ions in neutral beam injectors for fusion research: status, perspectives and interdisciplinarity" (oral)

P. Scarin, M. Agostini, G. Spizzo, L. Carraro, M. Spolaore, N. Vianello "Edge plasma perturbations in toroidal magnetic confinement devices"

R. Paccagnella, Sadao, Akio Sanpei "Relaxation models for single helical reversed field pinch plasmas at low aspect ratio"

F. Satin "Diffusive and evolutionary dynamics from the Master Equation"

L. Marrelli and RFX-mod Team "Upgrades of the RFX-mod experiment" (oral)

P. Vincenzi, A. Fassina, L. Giudicotti, R. Pasqualotto "Layout and first measurements of the RING optical cavity for laser NBI photoneutralization"

E. Martines "Interaction of a low-temperature plasma with pathogens and eukaryotic cells" (oral)

M. Vallar, Tommaso Bolzonella, Rui Coelho, Jeronimo Garcia, Taina Kurki-Suonio, Leonardo Pigatto, Konsta Sarkimaki, Jari Varje, Michele Romanelli "Neutral beam deposition profiles in JT-60 SA at various plasma composition and different injection energies"

V. Antoni, F. Taccogna, M. Fadone, G. Chitarin, A. Fassina, G. Serianni, E. Sartori, P. Veltri, M. Cavenago, P. Minelli "Preliminary study for an alternative new concept of an efficient negative ion source"

**21<sup>st</sup> International Stellarator-Heliotron Workshop (ISHW2017) Kyoto, Japan, 2-6 October 2017,**

I. Predebon, RFT-mod Team "Geometrical implications of 3D fields in the reversed field pinch" (invited)

I. Predebon, B. Momo, Y. Suzuki "Calculation of flux coordinates from discretized field maps in magnetic islands"

**EFTC Athens, 9-12 October 2017**

T. Kurki-Suonio, ..., P. Vincenzi et al., "Clearing the road for high-fidelity fast ion simulations in full 3D", invited

**ICIS 2017 17<sup>th</sup> International Conference on Ion Sources, CERN Geneva, 15-20 October, 2017**

M. Brombin, R. Cavazzana, B. Laterza, G. Moro, R. Pasqualotto, A. Pimazzoni, E. Sartori, P. Veltri, G. Serianni "System for voltage control and for data acquisition of Retarding Field Energy Analyzer"

P. Veltri "Langmuir probe characterization of the NIO1 ion source plasma"

G. Chitarin, P. Agostinetti, D. Aprile, C. Baltador, J. Hiratsuka, M. Ichikawa, A. Kojima, M. Kashiwagi, N. Marconato, E. Sartori, G. Serianni, N. Umeda, P. Veltri "Benchmark of 3D multi-beamlet numerical models for the optics design of negative ion accelerators"

G. Serianni, P. Agostinetti, V. Antoni, C. Baltador, M. Barbisan, M. Bigi, M. Brombin, Cavenago, G. Chitarin, M. Dalla Palma, R. Delogu, F. Fellin, N. Marconato, D. Marcuzzi, R. Pasqualotto, E. Sartori, V. Toigo, P. Veltri, P. Zaccaria, B. Zaniol, M. Zaupa "Numerical investigation of the early operational phase of the negative ion test facility SPIDER: beam features and diagnostics"

M. Barbisan, B. Zaniol, M. Cavenago, G. Serianni and R. Pasqualotto "Beam characterization by means of emission spectroscopy in the NIO1 experiment"

A. Pimazzoni, M. Cavenago, G. Serianni, P. Veltri "Modeling of beam acceleration for the negative ion source NIO1"

G. Serianni, C. Baltador, M. Cavenago, P. Sonato, F. Spinazzo, P. Veltri, M. Zanin "Child-Langmuir-limited current in the negative ion source NIO1"

R. Delogu, A. Pimazzoni, G. Serianni "Inverse Heat Flux evaluation of diagnostic calorimeter data by neural networks"

P. Jain, M. Recchia, A. Maistrello, E. Gaio and P. Veltri "Power transfer efficiency in inductively coupled radio-frequency ion source: case study for the NIO1"

M. Cavenago, G. Serianni, P. Veltri, M. De Muri, M. Agostini, V. Antoni, C. Baltador, P. Barbato, M. Barbisan, A. Barzon, L. Baseggio, M. Bigi, M. Brombin, L. Buonincontri, V. Cervaro, F. Degli Agostini, E. Fagotti, L. Franchin, N. Ippolito, K. Timur, B. Laterza, L. Lotto, A. Ludovici, G. Maero, M. Maniero, L. Migliorato, A. Minarello, P. Minelli, F. Molon, G. Moro, R. Pasqualotto, T. Patton, S. Petrenko, A. Pimazzoni, D. Ravarotto, M. Recchia, L. Romanato, M. Romé, F. Rossetto, E. Sartori, M. Sattin, F. Spinazzè, F. Stivanello, F. Taccogna, M. Tollin, L. Trevisan, V. Variale, M. Zanini, B. Zaniol, S. Zucchetti, P. Sonato "Extraction of Many H-Beamlets from Uncesiated Ion Source NIO1"

E. Sartori, H. Nakano, P. Veltri, M. Kasaki, A. Pimazzoni, M. Brombin, V. Antoni, K. Ikeda, K. Tsumori and G. Serianni "First measurements of beam plasma in NIFS test stand"

F. Bonomo, M. Barbisan, U. Fantz, D. Wunderlich, A. Hurlbatt and I. Mario, "Overview of the Beam Physics Investigation at the ELISE Test Facility"

V. Antoni, F. Taccogna, M. Fadone, G. Chitarin, A. Fassina, G. Serianni, E. Sartori, P. Veltri, M. Cavenago, P. Minelli "Alternative Concept Of An Efficient Negative Ion Source For Neutral Beams"

**59<sup>th</sup> Annual Meeting of the APS Division of Plasma Physics, Milwaukee, Wisconsin USA, 23 - 27 October, 2017** *Bulletin of the American Physical Society Vol. 62, N. 12 2017*

P. Piovesan, V. Igochine, L. Marrelli, A.F. Martitsch, L. Pigatto, M. Sertoli, D. Terranova, C. Angioni, A. Bock, T. Bolzonella, A. Gude, S.V. Kasilov, Y.Q. Liu, M. Maraschek, R. McDermott, W. Suttrop "Effects of external 3D fields on the core of high-beta hybrid tokamak plasmas" UP11.00075

L. Cordaro, P. Zanca, M. Zuin, F. Auriemma, E. Martines, B. Zaniol, G. Pucella, R. Cavazzana, G. De Masi, A. Fassina, B. Momo, S. Spagnolo, M. Spolaore, N. Vianello "Tearing modes dynamics in the RFX-mod tokamak" CP11.00120

L. Marrelli, P. Bettini, L. Giannone, V. Igochine, Y. Q. Liu, M. Maraschek, P. Piovesan, D. Ryan, D. Terranova "Poloidal structure of the plasma response to  $n=1$  Resonant Magnetic Perturbations in ASDEX-Upgrade" CP11.00115

P. Vanmeter, L. Reusch, P. Franz, J. Sarff, J. Goetz, L. Delgado-Aparicio, D. Den Hartog "Soft X-ray studies on MST: Measuring the effects of toroidicity on tearing mode phase and installation of a multi-energy camera" JP11.00120

M. Bernert, T. Bolzonella, S. Coda, A. Hakola, H. Meyer "Overview of the EUROfusion Medium Size Tokamak scientific program" UP11.00070

N. Lauersdorf, L. M. Reusch, D. J. Den Hartog, J. A. Goetz, P. Franz, P. VanMeter "Ross filter development for absolute measurement of Al line radiation on MST" JP11.00039

ER Solano, E Delabie, J Hillesheim, C Maggi, N Vianello, I Carvalho, A Huber, E Lerche "L-H transition studies in JET-ILW" UP11.00073

**22<sup>nd</sup> Workshop on MHD Stability Control**, *Madison WS – USA, 30 Oct – 1 Nov 2017*

L. Pigatto, T. Bolzonella, G. Marchiori, S. Mastrostefano, F. Villone and the EUROfusion WPSA group "Modeling disruptive instabilities and feedback control in JT-60SA high betaN scenarios"

**The 33<sup>rd</sup> International CAE Conference And Exhibition** *Vicenza, Italy, 6 -7 November 2017*

M. Valente, S. Donà, M. Pavei, M. Siragusa "MITICA Beam Source Vessel welding assessment"

**2<sup>nd</sup> Technical Meeting on Divertor Concepts**, Suzhou, China, 13 - 16 November 2017

P. Innocente, G. Rubino, G. Calabrò, F. Crisanti, V. Pericoli, B. Viola and ENEA-DTT team "Exploration of DTT conventional and advanced divertor configurations by means of edge simulation codes"

**Citizen science**, *Roma 23-25 November 2017*

MT. Orlando, R. Piovan, F. Auriemma, M. Dalla Palma, MG. Romanelli "High school students having the chance to be authors of scientific presentations on nuclear fusion"

**26<sup>th</sup> International TOKI Conference** *Toki, Gifu, JAPAN, 5-8 December 2017*  
to be submitted to Plasma and Fusion Research (PFR)

V. Antoni, E. Sartori, M. Cavenago, G. Chitarin, R. Pasqualotto, E. Sartori, G. Serianni, S. Suweis, P. Veltri "Particle beams as controllable complex systems: application of the network theory"

E. Sartori, M. Zaupa, G. Serianni, R. Pasqualotto "Study of emittance measurements in a high-current multibeamlet beam"

L. Cordaro, A. Fassina, R. Cavazzana, E. Martines, B. Zaniol, M. Zuin, P. Brun, K. Jaeho, H. Yamada, H. Sakakita, Y. Ikehara, C. Gareri, G. Marinaro, S. De Rosa, C. Indolfi, G. De Masi "A novel Plasma Medicine tool for accelerated haemostasis"

**12<sup>th</sup> IEEE International Conference on Power Electronics and Drive Systems (PEDS 2017) Hawaii, USA 12-15 December 2017**

To be submitted to the office of IEEEExplore Digital Library and EI Compendex

L. Zanotto, M. Dan, E. Gaio, H. Decamps, D. Gutierrez, M. Perna "Protection from internal faults in a special high power switching conversion system"