Lidia Piron

Personal information

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Short narrative of main achievements

I am Lidia Piron, associate professor of Experimental Physics at the Physics and Astronomy Department of the University of Padova, Italy.

I am a researcher on plasma physics and on nuclear fusion science in magnetic confinement devices. My expertise is focused on Magneto-Hydro-Dynamic (MHD) plasma stability and on the control of instabilities and of spurious magnetic fields, named error fields, in magnetic fusion experiments. I have worked in this field since the beginning of my carrier, carrying out studies in the reversed-field pinch device RFX-mod, Padova, Italy, and in the DIII-D tokamak, General Atomics, California, USA. The results obtained in my research allowed me to win the 2013 European Plasma Physics Society prize for the best PhD thesis in plasma physics and the 11st EFDA fusion researcher fellowship.

From 2014 to 2018, I worked as a permanent staff scientist of United Kingdom Atomic Energy Authority, CCFE, Culham Science Centre, Abingdon, OX14 3DB, United Kingdom. In this international environment, I have played a major role in the physics design of MAST-U, which is the upgrade of the MAST tokamak experiment. For this project, I have worked on the identification of error fields and the development of techniques for error field minimization. In this position, I have also covered roles of coordination for various real-time machine protection systems for JET and MAST-U tokamak devices, such as the JET vessel-temperature map and error field correction coil systems and the MAST-U magnetics system.

Thanks to my expertise, I am involved in various international projects, supported by EUROfusion (the Consortium, which coordinates fusion research in Europe) and by the International Tokamak Physics Activity (ITPA, the science initiative in support to ITER), dedicated in solving open issues towards the realization of magnetic fusion. I have presented my research attending 21 international conferences, I have given 4 invited talks and I am author and co-author of more than 110 papers in international journals.

Over the years, I have acquired competence on international team management. I was appointed as scientific coordinator of five research topics supported by HORIZON2020 and HORIZON EUROPE, coordinating more than 80 international researchers. The objective of these research topics is the development of plasma scenarios and real-time controllers for improving plasma performance in several international tokamaks, such as AUG, located at IPP Max Planck Institut für Plasmaphysik, Germany, JET and MAST-U, at CCFE Culham Science Centre, United Kingdom, TCV, at École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, and WEST, at CEA sur la Fusion, Cadarache, France. In this context, it is worth mentioning my participation to JET, the largest tokamak in the world and the only one presently able to operate in the deuterium and tritium fuel mixture. Especially for this plasma operation, I have designed an innovative tool, which has been exploited for the optimization of consumption of tritium and neutron budgets during deuterium-tritium

operations in JET, and I develop the fuel mixture controller that can guarantee the right deuterium-tritium concentration to maximize the fusion reactions. During JET experimental campaign, I have also been responsible of the development of real-time controllers that guarantee good performance, while avoiding plasma disruptions.
Since 2019 I am also the project manager of Task1.3 Error Field Control, which aims at developing Error Field controllers within the ITER plasma control system.

My expertise on MHD instabilities and error field control is established and recognized in the fusion community with my active participation to international group meetings, conference attendance and scientific production. The quality of my research and my expertise allowed me to be selected as an expert member of the MHD International Tokamak Physics Activity (ITPA) working group and to be part of the scientific committee of 47th European Physical Society conference.

In addition to my research activity, since 2018 I have been responsible of the Physics course for the degree in Tecniche e Gestione dell'Edilizia e del Territorio, at Department of Civil, Environmental and Architectural Engineering, while since 2021 I am responsible of Physics of Nuclear Fusion and Plasma Application at Department of Physics and Astronomy and Metodi Matematici e Principi Fisici per l'Edilizia e il Territorio at Department of Civil, Environmental and Architectural Engineering.

I am keen on adopting an active-teaching approach in my course, which translates in applying novel teaching methods, such as problem-based learning and peer assessment. I am proud of my teaching performance, which has been recognized as good by the assessment questionnaires, and I frequently attend courses and webinars in order to improve my teaching skills.

Work Experience

- From 19/10/2024 up to now. **Associate Professor at Università degli Studi di Padova**, Padova, via 8 Febbraio 1842, 351222, Italia. Research title: Advanced control of MHD instabilities and Error Fields in magnetic fusion devices.

- From 18/10/2021 up to 18/11/2024. **Assistant Professor at Università degli Studi di Padova (RTDB)**, Padova, via 8 Febbraio 1842, 351222, Italia. Research title: Advanced control of MHD instabilities and Error Fields in magnetic fusion devices.

- Since 01/06/2018 to 17/10/2021. **Assistant Professor at Università degli Studi di Padova (RTDA)**, Padova, via 8 Febbraio 1842, 351222, Italia. Research title: Advanced control of MHD instabilities and Error Fields in magnetic fusion devices.

- From 01/04/2014 to 31/05/2018. **Permanent position, United Kingdom Atomic Energy Authority**, CCFE Culham Science Centre, Abingdon, OX14 3DB, United Kingdom. Project title: Experimental and modelling studies of Magneto-Hydro-Dynamic instabilities and external 3D magnetic fields.

- From 01/05/2012 to 30/03/2014. **Postdoctoral Fellow (11st EFDA fusion researcher fellowship)**, Consorzio RFX, EURATOM-ENEA Association, Corso Stati Uniti 4, 35127, Padova, Italy. Project title: Advanced magnetic feedback control of MHD instabilities and error fields in magnetically confined fusion plasmas.

- From 01/05/2011 to 30/04/2012. **Post-doc grant**, Consorzio RFX, EURATOM-ENEA Association, Corso Stati Uniti 4, 35127, Padova, Italy. Project title: Advanced magnetic

feedback control of MHD instabilities and error fields in magnetically confined fusion plasmas.

Teaching Experience

- Since 01/03/2025. **Responsible of Physics 2 Course (practical exercises)** for the degree in “Physics”, Department of Mathematics at Università degli Studi di Padova.

- From 10/06/2024 to 15/06/2024. **Lessons at the PhD academy**: Energy and Society. The case of fusion. Venice International University International PhD Academy

- 14.05.2024 **Oxford-Style Debate** organized by the Department of Physics and Astronomy and Centre for Energy Ethics at the University of St Andrews, Scotland, UK. Motion: This house believes fusion energy will be ready in time for the energy transition.

- Since 01/11/2023. **Member of Board of Governors of the European Fusion Education Network (FUSENET).**

- Since 01/10/2021. **Responsible of Physics of Nuclear Fusion and Plasma Applications Course** for the degree in “Physics”, Department of Physics and Astronomy at Università degli Studi di Padova.

- Since 01/10/2021. **Responsible of Metodi Matematici e Principi Fisici per l'Edilizia e il Territorio Course** for the degree in “Tecnologie Digitali per l'Edilizia e il Territorio”, Department of Civil, Environmental and Architectural Engineering at Università degli Studi di Padova.

- Since 01/10/2020. **Member of PhD Programme** in Fusion Science and Engineering, Università di Padova and Università di Napoli Federico II, cycles XXXVI-XXVIII.

- From 01/10/2018 to 30/09/2021 . **Responsible of the Physics Course** “Fisica” for the degree in “Tecniche e Gestione dell'Edilizia e del Territorio”, Department of Civil, Environmental and Architectural Engineering at Università degli Studi di Padova.

- From 01/10/2019 to 30/09/2020. **Member of PhD Programme** in Fusion Science and Engineering, Università di Padova and Ghent University, cycles XXXIII-XXXV.

Participation and coordination of international work programs

- 2024/Up to now
  EUROfusionTokamak Exploitation Scientific Coordinator RT-04: Physics-based machine generic systems for an integrated control of plasma discharge. I am scientific coordinator of this task, which belongs to EUROfusion ROADMAP 2021-2027, which includes more than 80 researchers. Within this research topic, I am designing, developing and testing monitors, functions, controllers in various fusion

devices which are capable of tailoring the plasma dynamics to reach the high plasma performance regimes.

- 2021/2023
  EUROfusionTokamak Exploitation Scientific Coordinator RT01: ITER baseline scenario towards detachment and low collisionality. I am scientific coordinator of this task, which belongs to EUROfusion ROADMAP 2021-2027. I am coordinating an international team of 70 researchers. The targets of this experimental and modelling proposal is the development of ITER baseline scenario, including the optimization of MHD and error field control during plasma transients.

- Since 2021
  Project manager of ITER Error Field Control – task1.3. ITER contract focused on developing Error Field Controllers for the ITER plasma control system.

- 2019/2020
  EUROfusion MST1 Scientific Coordinator T09: Error Field detection and control in AUG and MAST-U. I have coordinated an international team of 23 researchers. The aim of this experimental and modelling proposal is the identification and the minimization of spurious magnetic field perturbations by means of control coils in AUG (IPP, Garching, Germany) and MAST-U (CCFE, Culham, UK) devices.

  EUROfusion JET Scientific Coordinator B18-19: Locked mode avoidance by the use of EFCCs system. I have coordinated an international team of 10 researchers. The proposal aims at exploiting the presence of error field correction coils in JET (CCFE, Culham, UK) device to avoid the slowing down of MHD instabilities.

  International Tokamak Physics Activity *(*ITPA) MHD working group expert member. MDC-19 Project Management Plan: Error field control at low plasma rotation.

- 2017/2020
  EUROfusion JET Scientific Coordinator M18-09: Prepare integrated RTC schemes for scenarios. I have coordinated an international team of 22 researchers. The proposal is focused on the development of real-time control algorithms for JET (CCFE, Culham, UK) device, especially toward deuterium-tritium campaigns planned in 2021.

- 2014/16
  EUROfusion MST2 work program member, WP14-MST2-7 Project Management Plan: Real time control of EF and MHD modes on MAST and AUG.

  ITPA MHD working group member. WG-9 Project Management Plan: Requirements for control of n > 1 error fields in tokamaks.

  EUROfusion JET Scientific Coordinator P13-04: Exploration of Beta limits with the ILW using RFA. I have coordinated an international team of 8 researchers. This experiment aims at investigating pressure-driven instabilities in JET (CCFE, Culham, UK) device and at modelling their dynamics.

Education

- From 18/06/2025 up to now. **Intercultural Competence and Communication in EMI**, Università degli Studi di Padova, via 8 Febbraio 1842, 351222, Italia

- 05/2024. **Building Presentation Skills in EMI Contexts**, Università degli Studi di Padova, via 8 Febbraio 1842, 351222, Italia

- 03/2024. **Equity and Inclusion Course**, Università degli Studi di Padova, via 8 Febbraio 1842, 351222, Italia

- From 09/04 to 04/05 2019. **Teaching and Communicating in English**, Università degli Studi di Padova, via 8 Febbraio 1842, 351222, Italia

- From 13/02 to 15/02 2017. **Project Management course, Phase II**, *CCFE Culham Science Centre, Abingdon, OX14 3DB, United Kingdom*.

- From 29/06 to 01/07 2015. **Project Management course, Phase I**, *CCFE Culham Science Centre, Abingdon, OX14 3DB, United Kingdom*.

- From 01/01/2008 to 31/12/2010. **Joint Research Doctorate in Fusion Science and Engineering**, *Università degli Studi di Padova, Centro Ricerche Fusione, Consorzio RFX, Instituto Superior Técnico, IPP Max Planck Institut für Plasmaphysik.* Thesis title: *Improved feedback control of MHD instabilities and error fields in reversed field pinch and tokamak*.

- From 2005 to 2007. **Master degree in Physics-Plasma Physics curriculum**, *Università degli Studi di Padova - Dipartimento di Fisica G. Galilei*, via Marzolo 8, 35131, Padova, Italy, *110/110 cum laude*. Thesis title: *Experimental analysis of TAE instabilities in tokamak*. Toroidal Alfven Eigenmodes internal structure characterization in ASDEX-Upgrade experiment (IPP, Garching, Germany).

Professional Service

- 13.05.24 **Pint Science Festival Padova, Università degli Studi di Padova** Contribution titled: Fusione Nucleare: l'Energia delle Stelle sulla Terra.

- 16.02.2024 **Interview at BO Live, Università degli Studi di Padova**, title of the contribution: Anche da spento JET servirà la causa della fusione nucleare.

- 19.01.2024 **Member of the selection committee** for Fusion-fission hybrid pilot reactor for sustainable energy transition position PRIN 2022.

- 05.05.2023 **Presentation** at the "Libérez votre avenir: Padoue dans le monde", Dakar, Senegal, Africa, title of the contribution: Nuclear Fusion: The Energy of the Sun on Earth (Remote).

- 22.06.2022 **Presentation** at the VIII Assemblea del Dipartimento di Fisica Università di Trento, title of the contribution: Fusione Nucleare: l'Energia delle Stelle sulla Terra.

- **Supervisor of**
  - Edoardo Bucalo, Master student in Physics 2025 on going
  - Diego Bonato, Master student in Physics 2025 on going
  - Alessandra Tonel, Master student in Physics 2024 on going
  - Markus Edison Keu, Master student in Physics 2024 on going (Erasmus+)
  - Rachele Cicioni, PhD student since October 2023
  - Luca Orlandi, Phd student since October 2023
  - Matteo Gambrioli, PhD student since October 2022
  - Daniel Jordan, Master student in Physics (Erasmus+) 2022
  - Marco Pelieci, Master student in Physics 2022
  - Tancredi Lo Presti Piccolo, Master student in Physics (Erasmus+) 2023
  - Rachele Cicioni, Master student in Physics 2023
  - Luca Orlandi, Master student in Physics 2023
  - Michela Salinaro, Master student in Physics 2023
  - Wah Wah Myint Myat Phyo, Master student in Physics 2023 (Erasmus+)
  - Matteo Gambrioli, Master student in Physics 2022
  - Christina Karagianni, Master student in Physics 2021 (Erasmus+)
  - Deborah Oluwakemi Selemon, Master student in Physics 2021 (Erasmus+)

- **External Examinator of**
  - Claudia Salcuni, Master student in Nuclear Physics, University of Trieste on-going
  - Farzane Amiri, Master student in Physics 2023
  - Alessio Fabbian, Master student in Physics 2023
  - Vito Kornad Zotta, PhD student, 2022
  - Claudia Salcuni, Master student in Physics 2024 (University of Trieste)
  - Francesco Franco, Master student in Physics 2023
  - Pasquale Porcu, Master student in Physics 2022
  - Samuele Bresciani, Master student in Physics 2021
  - Filippo Manaigo, Master student in Physics 2019
  - Nicolas Vivenzi, Master student in Physics 2019

- **Scientific committee member** of 47th Conference on Plasma Physics, Sitges, Spain, 22-26.06.2020 (postpone to 2021 due to COVID-19).

- **Referee** of Institute of Physics Publishing (IOP).

Awards

- 2014: **RFX award for innovative contributions on modelling, theory and experimental analyses of plasma behaviour** with the paper titled Safety Factor q95 < 2 via Control of MHD Stability, P. Piovesan et al. Phys. Rev. Lett. 113, 045003 (2014).

- 2013: **EPS Plasma Physics Division PhD Research Awards.**

- 2012: **11th EFDA Fusion Researcher Fellowship.**

- 2010: **RFX award for innovative contributions on modelling, theory and experimental analyses of plasma behaviour** with the paper titled Model-based design of multi-mode feedback control in high-current RFX-mod regimes, L. Piron et al. Nucl.Fusion 50, 115011 (2010).

Participation to international conferences

Invited talks

- Empirical Error Field Control at JET in preparation of ITER start-up, invited talk at the 2024 10th International Conference on Control. Decision and Information Technologies CoDIT 2024, July 1-4, 2024, University of Malta, Valletta, Malta.

- Non-disruptive Error Field Identification in JET and MAST-U, invited talk at the FY'24 US-Japan MHD workshop 43rd ITPA MDC TG meeting, 22-26 April 2024, National Institute For Fusion Science, Toki, Japan.

- Radiation asymmetries during SPI JET plasmas, 42nd ITPA MHD Disruption and Control Topical Group, 18-22 September 2023, San Diego, California.

- Locked mode dynamics in JET ILW plasmas prior to disruptions, invited talk at MHD ITPA Meeting, Garching, IPP, Germany, 14-17/10/2019.

- Locked mode dynamics prior to disruptions in high performance JET-ILW plasmas, invited talk at 7th Annual Theory and Simulation of Disruptions Workshop Princeton Plasma Physics Laboratory, Princeton, New Jersey, 5-7/08/2019.

- Improved feedback control of MHD instabilities and error fields in reversed field pinch and tokamak, presented as invited contribution (Phd Thesis winner award) at 40th EPS Conference on Plasma Physics, Espoo Finland, 01-05/07/2013.

- Effects of 3D magnetic fields on plasma rotation in RFX-mod tokamak plasmas: experimental results and modelling, presented as invited contribution at the 17th Joint EU-US Transport Task Force Meeting in combination with the 4th EFDA Transport Topical Group Meeting Padova, Italy, 03-06/09/2012.

Oral talks

- Experimental and modelling study of locked mode dynamics prior to disruptions in high performance JET plasmas, presented as oral contribution at 46th European Physical Society (EPS) Conference on Plasma Physics, a Milano, Italia, 8-12/07/2019.

- Tearing mode control in the RFX-mod device, presented as oral contribution at the joint 19th ISHW and 16th RFP workshop, Padua, Italy, 16-20/09/2013.

- 3D magnetic fields and plasma rotation in RFX-mod tokamak plasmas, presented as oral contribution at 17th Workshop on MHD stability control at Columbia University, New York, NY, USA, 05-07/11/2012.

- Optimization of Helical Equilibria with 3D BC in RFX-mod, presented as oral contribution at 16th Workshop on MHD stability control at General Atomics, San Diego, CA, 20-22/11/2011.

- Magnetic feedback optimization by including the dynamic response of the wall in RFX-mod and DIII-D, presented as oral contribution at 15th Workshop on MHD stability control, Madison, WI, 15-17/11/2010.

- Control of tearing modes and error fields in RFX-mod, presented as oral contribution at 14th IEA-RFP Workshop, Padova, Italy, 26-28/04/2010.

Posters

- Error field detection and correction studies towards ITER operation, poster at 29th IAEA Fusion Energy Conference (FEC 2023), 16-21 October 2023, London, United Kingdom.

- Progress in preparing real-time control schemes for Deuterium-Tritium operation in JET, presented as poster contribution at SOFT 2020 virtual edition - 31th Symposium on Fusion Technology, Virtual Edition, 20-25/09/2020.

- The dud detector: an empirically-based real-time algorithm to save neutron and T budgets during JET DT operation, presented as poster contribution at SOFT 2018 - 30th Symposium on Fusion Technology, Giardini Naxos, Italia, 16-21/09/2018.

- Error field minimization strategies towards MAST Upgrade operation, presented as poster contribution at 56th Annual Meeting of the APS Division of Plasma Physics, New Orleans, Louisiana. PP8.00099, 27-31/10/2014.

- Interplay between plasma rotation and magnetic field perturbations in RFX-mod tokamak plasmas, presented as poster contribution at 40th EPS Conference on Plasma Physics, Espoo Finland. P4.133, 01-05/07/2013.

- Effects of 3D magnetic fields on plasma rotation in RFX-mod tokamak plasmas, presented as poster contribution at 54th Annual Meeting of the APS Division of Plasma Physics, Providence, Rhode Island. JP8.00167, 29/10/2012 to 02/11/2012.

- Optimization of helical equilibria control in RFX-mod, presented as poster contribution at 53th Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, Utah. P04.00006, 14-18/11/2011.

- Improved dynamic response of magnetic feedback in DIII-D with AC compensation, presented as poster contribution at 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, UP9.00064, 08-12/11/2010.

- Model-based design of multi-mode feedback control in high-current RFX-mod regimes, presented as poster contribution at 36th EPS Conference on Plasma Physics, Sofia, Bulgaria, ECA Vol.33E, P2.185, from 29/06/2009 to 03/07/2009.

Publications (full list)

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- L. Piron et al, Empirical error field control at JET in preparation of ITER start-up, Fusion Engineering and Design, 208, 114694, (2024)
- L. Piron et al, Radiation asymmetry in JET disruption mitigation experiments with shattered pellet injection, Plasma Phys. Control. Fusion 66 085007 (2024)
- L. Piron et al, Error field detection and correction studies towards ITER operation Nucl. Fusion 64 066029 (2024)
- L. Piron et al, Innovative dud detection based on JET DT experience, Fusion Engineering and Design, 200, 114155, (2024)
- L. Piron et al, On the use of error field correction coils in JET, Fusion Engineering and Design, 197, 114069, (2023)
- L. Piron et al, Locked mode detection during error field identification studies, Fusion Engineering and Design, 195, 113957, (2023)
- L. Piron et al, Radiation control in deuterium, tritium and deuterium-tritium JET baseline plasmas – part I, Fusion Engineering and Design, 193, 113634, (2023)
- L. Piron et al, Radiation control in deuterium, tritium and deuterium-tritium JET baseline plasmas – part II, Fusion Engineering and Design, 192, 113695, (2023)
- V Igochine, M Bonotto, A Gude, M Maraschek, L Pigatto, P Bettini, Y Q Liu, L Piron, D Voltolina, H Zohm, Plasma effect on error fields correction at high βN in ASDEX Upgrade, Plasma Phys. Control. Fusion, 65, 062001, (2023)
- C. Piron, F Felici, B Faugeras, N Ferron, G Manduchi, N Marconato, C Meekes, L Piron, Z Stancar, D Valcarcel, D Voltolina, M Weiland, Development of the RAPTOR suite of codes towards real-time reconstruction of JET discharges, Fusion Engineering and Design 169, 112431, (2021)
- G. Pucella, P Buratti, E Giovannozzi, E Alessi, F Auriemma, D Brunetti, DR Ferreira, M Baruzzo, D Frigione, L Garzotti, E Joffrin, E Lerche, PJ Lomas, S Nowak, L Piron, F Rimini, C Sozzi, D Van Eester, JET Contributors, Onset of tearing modes in plasma termination on JET: the role of temperature hollowing and edge cooling, Nuclear Fusion 61 (4), 046020, (2021)
- L. Piron, D. Valcarcel, M. Lennholm, C.I. Stuart, I.S. Carvalho, R. Felton, D.R. Ferreira, M. Fontana, P.J. Lomas, E. De La Luna, A. Peacock, A. Pau, C. Piron, F. Rimini, C. Sozzi, Progress in preparing real-time control schemes for Deuterium-Tritium operation in JET, Fusion Engineering and Design 166 112305 (2021)
- Yueqiang Liu, A. Kirk, D.L. Keeling, L. Kogan, X.D. Du, L. Li, L. Piron, D.A. Ryan and A.D. Turnbull, Resistive wall mode stability and resonant field amplification in MAST high beta plasm, Nucl. Fusion, 61, 116022, (2021)
- L. Piron, A. Kirk, Y.Q. Liu, R. Martin, M. Carr, G. Cunningham, R. Gowland, I. Katramados, Error field control strategies towards MAST Upgrade operation, Fusion Engineering and Design 161 111932 (2020)
- N.C. Logan, J.K. Park, Q. Hu, C. Paz-Soldan, T. Markovic, H. H. Wang, Y. In, L. Piron, P. Piovesan, C.E. Myers, Robustness of the tokamak error field correction tolerance scaling, Plasma Physics and Controlled Fusion 62 8 (2020)
- N.C. Logan, J.K. Park, Q. Hu, C. Paz-Soldan, T. Markovic, H.H. Wang, Y. In, L. Piron, P. Piovesan, C.E. Myers, M. Maraschek, S.M. Wolfe, E.J. Strait, S. Munaretto, Empirical scaling of the n=2 error field penetration threshold in tokamaks, Nuclear Fusion 60 086010 (2020)
- S.N. Gerasimov et al, Overview of disruptions with JET-ILW, Nuclear Fusion 60 066028 (2020)

S. Moradi et al, Global scaling of the heat transport in fusion plasmas, Phys. Rev. Research 2 013027 (2020)
- E. Joffrin et al, Overview of the JET preparation for deuterium-tritium operation with the ITER like-wall, Nuclear Fusion 59 112021 (2019)
- L. Piron, C. Challis, R. Felton, D. King, M. Lennholm, P. Lomas, C. Piron, F. Rimini, D. Valcarcel, The dud detector: an empirically-based real-time algorithm to save neutron and T budgets during JET DT operation, Fusion Engineering and Design 146 133364 (2019)
- B. Labit et al, Dependence on plasma shape and plasma fuelling for small edge-localized mode regimes in TCV and ASDEX Upgrade, Nuclear Fusion 59 086020 (2019)
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- Kirschner A. et al, Modelling of tungsten erosion and deposition in the divertor of JET-ILW in comparison to experimental findings. NUCLEAR MATERIALS AND ENERGY vol. 18 (2019)
- Pau A. et al, A machine learning approach based on generative topographic mapping for disruption prevention and avoidance at JET NUCLEAR FUSION vol. 59 (2019)
- Eriksson F. et al, Interpretative and predictive modelling of Joint European Torus collisionality scans. D PLASMA PHYSICS AND CONTROLLED FUSION vol. 61 (2019)
- Garcia, J. et al, A new mechanism for increasing density peaking in tokamaks: improvement of the inward particle pinch with edge E x B shearing. PLASMA PHYSICS AND CONTROLLED FUSION vol. 61 (2019)
- Valovic, M. et al, Control of the hydrogen:deuterium isotope mixture using pellets in JET. NUCLEAR FUSION vol. 59 (2019)
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- Murari A. et al, Adaptive learning for disruption prediction in non-stationary conditions NUCLEAR FUSION vol. 59 (2019)
- Jepu I. et al, Beryllium melting and erosion on the upper dump plates in JET during three ITER-like wall campaigns. NUCLEAR FUSION vol. 59 (2019)
- Garcia J. et al, First principles and integrated modelling achievements towards trustful fusion power predictions for JET and ITER.NUCLEAR FUSION vol. 59 (2019)
- Garzotti, L. et al, Scenario development for D-T operation at JET. NUCLEAR FUSION vol. 59 (2019)
- Frassinetti L. et al, Role of the pedestal position on the pedestal performance in AUG, JET-ILW and TCV and implications for ITER. NUCLEAR vol. 59 (2019)
- Kirov K. et al, Fast ion synergistic effects in JET high performance pulses. NUCLEAR FUSIONvol. 59 (2019)
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- Widdowson A et al, Deposition of impurity metals during campaigns with the JET ITER-like Wall. NUCLEAR MATERIALS AND ENERGY pp.218-224. vol. 19 (2019)
- Carnevale D. et al, Runaway electron beam control. PLASMA PHYSICS AND CONTROLLED FUSION - vol. 61 (2019)
- Eriksson, J. et al, Measuring fast ions in fusion plasmas with neutron diagnostics at JET. PLASMA PHYSICS AND CONTROLLED FUSION vol. 61 (2019)
- Fitzgerald M et al, Full-orbit and drift calculations of fusion product losses due to explosive fishbones on JET. NUCLEAR FUSION vol. 59 (2019)
- Neverov V. et al, Determination of isotope ratio in the divertor of JET-ILW by high-resolution H alpha spectroscopy: H-D experiment and implications for D-T experiment. NUCLEAR FUSION vol. 59 (2019)

- Likonen, J. et al, Investigation of deuterium trapping and release in the JET divertor during the third ILW campaign using TDS. NUCLEAR MATERIALS AND ENERGY pp.300-306. vol. 19 (2019)
- Eriksson F. et al, Impact of fast ions on density peaking in JET: fluid and gyrokinetic modeling. PLASMA PHYSICS AND CONTROLLED FUSION vol. 61 (2019)
- Silva C. et al, Geodesic acoustic mode evolution in L-mode approaching the L-H transition on JET. PLASMA PHYSICS AND CONTROLLED FUSION vol. 61 (2019)
- J.R. Harrison et al, Overview of new MAST physics in anticipation of first results from MAST Upgrade, Nuclear Fusion, 59 112011 (2019)
- S.N. Gerasimov, Overview of Disruptions with JET-ILW, 2018 IAEA Fusion Energy Conference, Gandhinagar [EX/P1-24] (2019)
- Y.O. Kazakov et al, Efficient generation of energetic ions in multi-ion plasmas by radio-frequency heating, Nature Physics 13 973 (2019)
- P. Strom et al, Analysis of deposited layers with deuterium and impurity elements on samples from the divertor of JET with ITER-like wall, Journal of Nuclear Materials 2 (2019)
- A. Baron-Wiechec et al, Thermal desorption spectrometry of beryllium plasma facing tiles exposed in the JET tokamak, Fusion Engineering and Design 133 135 (2018)
- Coiling B. et al, Testing of tritium breeder blanket activation foil spectrometer during JET operations, Fusion Engineering And design, 136, 258-264 (2018)
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