

## Paolo Zanca

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### PRESENT POSITION

Researcher, Scenario Group, Consorzio RFX, Padova (Italy).

### RESEARCH FOCUS

- Numerical and theoretical expertise in modelling of magnetohydrodynamic (MHD) perturbations in the reversed field pinch and in the tokamak.
- Numerical and theoretical expertise in modelling real-time magnetic feedback control of MHD perturbations.
- Numerical and theoretical expertise in the reconstruction of magnetic plasma equilibrium, starting from external measurements.
- Plasma density limit analysis and modelling.

### OTHER ACTIVITIES

- Supervisor of undergraduate and graduate students.
- Acting as referee for several plasma physics journals.

### SCIENTIFIC PRODUCTION

- About 100 papers in peer-reviewed journals as of November 2021.
- Invited speaker:  
2008 ICPP Conference (Fukuoka, Japan)  
2012 EPS/ICPP Conference (Stockholm, Sweden)  
2021 EPS (Sitges, Spain, remote conference)  
2021 AAPPs-DPP (remote conference)

### RECENT PUBLICATIONS

- **P. Zanca**, F. Sattin, D. Escande, "A power-balance model of the density limit in fusion plasmas: application to the L-mode tokamak", Nuclear Fusion 59, 126011 (2019).
- **P. Zanca**, F. Sattin, D. Escande, G. Pucella, O. Tudisco, "A unified model of density limits in fusion plasmas", Nuclear Fusion 57, 056010 (2017).
- M Okabayashi, **P. Zanca** et al, "Avoidance of Tearing Mode Locking with Electro-Magnetic Torque Introduced by Feedback-based Mode Rotation Control in DIII-D and RFX-mod", Nuclear Fusion 57 (2017) 016035.
- **P. Zanca**, et al, "An active feedback recovery technique from disruption events induced by  $m=2$ ,  $n=1$  tearing modes in ohmically heated tokamak plasmas" Nuclear Fusion 55, 043020 (2015).
- O. Kudlacek, **P. Zanca**, C. Finotti, G. Marchiori, R. Cavazzana and L. Marrelli, "Real time measurement of plasma macroscopic parameters on RFX-mod using a limited set of sensors" Physics of Plasmas 22, 102503 (2015)