Dr. Matthias Hoelzl *ORCID: 0000-0001-7921-9176*

Current position
Deputy Group Leader "MHD", MPI for Plasma Physics, Garching (since 2019)

Previous position
Staff Scientist, MPI for Plasma Physics, Garching (since 2013)

Scientific degree
PhD in Physics, Technical University of Munich (2010)

Recent research topics	Development of non-linear extended magneto-hydrodynamic simulation codes and application to large-scale plasma instabilities, in particular edge-localized modes and disruptions.
Awards, honors, memberships	Principal investigator of two EUROfusion Enabling Research Projects with more than 30 contributors and principal investigator of an ITER project

Publications (5 most important)

- **V. Bandaru, M. Hoelzl,** F.J. Artola, **G. Papp**, G. T. A. Huijsmans, Simulating the nonlinear interaction of relativistic electrons and tokamak plasma instabilities: Implementation and validation of a fluid model, *Phys. Rev. E.* 99, 063317 (2019) doi:10.1103/PhysRevE.99.063317
- **F. Orain, M. Hoelzl, F. Mink, M. Willensdorfer,** M. Bécoulet, et al., Non-linear modeling of the threshold between ELM mitigation and ELM suppression by resonant magnetic perturbations in ASDEX Upgrade, *Phys. Plasmas* 26, 042503 (2019) doi:10.1063/1.5091843
- **M. Hoelzl**, G. T. A. Huijsmans, **F. Orain**, F. J. Artola, S. Pamela, et al., Insights into type-I ELMs and ELM control methods from JOREK MHD simulations. *Contributions to Plasma Physics* 58, 518 (2018) doi:10.1002/ctpp.201700142
- **A. F. Mink, M. Hoelzl, E. Wolfrum, F. Orain, M. Dunne**, et al., Nonlinear coupling induced toroidal structure of edge localized modes, *Nucl. Fusion* 58, 026011 (2018) doi:10.1088/1741-4326/aa98f7
- **M. Hoelzl, P. Merkel**, G. T. A. Huysmans, E. Nardon, **E. Strumberger,** et al., Coupling the JOREK and STARWALL Codes for Non-linear Resistive-wall Simulations, *J. Phys.: Conf. Ser.* 401, 012010 (2012) doi:10.1088/1742-6596/401/1/012010