

17th European Fusion Theory Conference
9 - 12 October 2017, Athens - Greece

List of presentations



The conference is organized by



Invited lectures

Tutorial lectures

[I.1]  

Anne White (Massachusetts Institute of Technology, United States)

Comparing turbulence measurements with simulations: an experimental, multi-machine tutorial on validation of nonlinear gyrokinetic transport models

[I.2]  

Francesco Pegoraro (Università di Pisa, Italy)

Stability criteria of MHD plasmas and their underlying Hamiltonian structure

[I.3]  

Fulvio Zonca (ENEA Centro Ricerche Frascati, Italy)

Physics of energetic particles and Alfvén waves

[I.4]  

Felix Parra (University of Oxford, United Kingdom)

Neoclassical and turbulent transport in stellarators

Topical lectures

[I.5]  


Aleksey Mishchenko (Max Planck Institut für Plasmaphysik, Germany)

Pullback approach for gyrokinetic electromagnetic simulations

[I.6]  

Thomas Pütterich (Max Planck Institut für Plasmaphysik, Germany)

Impurities in a reactor

[I.7] 

Caterina Riconda (Université Pierre et Marie Curie, France)

Relativistic electron acceleration in laser plasma interaction

[I.8] 

George Wilkie (Chalmers University of Technology, Sweden)

First-principles modelling of fast ion transport by microturbulence

[I.9]  


George Throumoulopoulos (University of Ioannina, Greece)

On equilibrium, stability and dynamics of ITER-like plasmas

[I.10] 


Christopher Ham (Culham Centre for Fusion Energy, United Kingdom)

Theory of nonlinear ballooning modes

[I.11] 

Alessandro Zocco (Max Planck Institut für Plasmaphysik, Germany)

Geometric stabilization of the electrostatic ITG driven instability

[I.12] 

Xin Wang (Max Planck Institut für Plasmaphysik, Germany)

Nonlinear dynamics of EP-driven Alfvénic fluctuations in fusion plasmas

[I.13]  


Taina Kurki – Suonio (Aalto University, Finland)

Clearing the road for high-fidelity fast ion simulations in full 3D

[I.14]  

Yevgen Kazakov (ERM/KMS Brussels, Belgium)

Recent advances in fast ion generation and plasma heating with IC waves

[I.15] 

Arturo Alonso (CIEMAT Madrid, Spain)

Zonal flow relaxation in stellarators

[I.16]  

Alessandro Geraldini (University of Oxford, United Kingdom)

Kinetic solution of a collisionless magnetic presheath

[I.17]  

Rogério Jorge (École Polytechnique Fédérale de Lausanne, Switzerland)

An analytical model for SOL plasma dynamics at arbitrary collisionality

Oral presentations

[O.1]  


Heinz Isliker (Aristotle University of Thessaloniki, Greece)

Fractional transport in strongly turbulent plasmas

[O.2]  

Maurizio Ottaviani (Institut de Recherche sur la Fusion Magnétique, France)

Fast secondary reconnection and the sawtooth crash

[O.3] 


Emiliano Fable (Max Planck Institut für Plasmaphysik, Germany)

Integrated modelling of reactor scenarios and impact of core-SOL coupling on plasma performance

[O.4]  

Carrie Beadle (École Polytechnique Fédérale de Lausanne, Switzerland)

Simulations of SOL turbulence in a double-null magnetic configuration

[O.5] 

Vinodh Bandaru (Max Planck Institut für Plasmaphysik, Germany)

Implementation of a model for the non-linear interaction between runaway electrons and background plasma

[O.6]  


Noe Ohana (École Polytechnique Fédérale de Lausanne, Switzerland)

The Particle-in-Fourier (PIF) Approach applied to gyrokinetic simulations

[O.7]  


Francesco Palermo (Max Planck Institut für Plasmaphysik, Germany)

Damping and propagation of GAMs in gyrokinetic simulations

[O.8] 

Zhixin Lu (Max Planck Institut für Plasmaphysik, Germany)

Local and global analysis of symmetry breaking for ITG and BAE modes

[O.9] 

Marcus Held (University of Innsbruck, Austria)

Zonal flow generation by nonlinear polarization and high relative fluctuation amplitudes

[O.10]  

Calin Atanasiu (Institute for Laser, Plasma and Radiation Physics, Romania)

Modelling of wall currents excited by plasma wall-touching kink and vertical modes during a tokamak plasma disruption with application to ITER


Poster presentations

Session 1 (10/10/17, 15.00 – 17.00)

[P1.1]  

Ian Abel (Chalmers University of Technology, Sweden)

Kinetic modelling of the edge of fusion plasmas

[P1.2] 

Elnaz Safi (University of Helsinki, Finland)

Plasma impurity co-bombardment effects on sputtering of Beryllium and Tungsten

[P1.3]  

Daniela Grasso (Polytecnico di Torino, Italy)

ECCD magnetic island suppression as converse of a forced reconnection problem

[P1.4]  

Ajay Jayalekshmi – Chandrarajan (École Polytechnique Fédérale de Lausanne, Switzerland)

How non-adiabatic passing electron dynamics and density of mode rational surfaces affect turbulent transport in magnetic fusion plasmas

[P1.5]  


Dick Hogeweyj (Dutch Institute for Fundamental Energy Research, Netherlands)

Separating the effects of heating and current drive on NTM evolution in TCV

[P1.6]  

Dimitris Kaltsas (University of Ioannina, Greece)

Hamiltonian construction of translationally symmetric extended MHD with equilibrium applications

[P1.7] 


Jason Parisi (University of Oxford, United Kingdom)

Extending critical balance to ITG with flow shear in fusion plasmas

[P1.8]  


Tünde Fülöp (Chalmers University of Technology, Sweden)

Runaway dynamics in disruptions: sliding and screening

[P1.9] 


Samuel Lanthaler (École Polytechnique Fédérale de Lausanne, Switzerland)

Linear kinetic – magnetohydrodynamic stability of internal modes in toroidally rotating plasmas

[P1.10] 


Ivan Calvo (CIEMAT Madrid, Spain)

Tangential magnetic drift, tangential electric field and their impact on stellarator radial neoclassical transport

[P1.11] 


Pierre Manas (Max Planck Institut für Plasmaphysik, Germany)

Energy confinement in He and D plasmas: on the role of central electron heating

[P1.12] 


Aristeides Papadopoulos (National Technical University of Athens, Greece)

Propagation of radio frequency waves through spatially modulated interfaces in the plasma edge in tokamaks

[P1.13] 

Alessandro Cardinali (ENEA Centro Ricerche Frascati, Italy)

Semi-analytical inspection of the quasi-linear absorption of RF in presence of alpha-particles in tokamak reactor

[P1.14] 


Andreas Kleiner (École Polytechnique Fédérale de Lausanne, Switzerland)

Ideal saturated 3D external kink structures in quiescent H mode plasmas

[P1.15]  


Achilleas Evangelias (University of Ioannina, Greece)

Analytic anisotropic-pressure equilibria with incompressible flow in helically symmetric geometry

[P1.16] 


Emmanuel Lanti (École Polytechnique Fédérale de Lausanne, Switzerland)

An improved hybrid electron model for global gyrokinetic simulations using the ORB5 PIC code

[P1.17] 


Yanick Sarazin (Institut de Recherche sur la Fusion Magnétique, France)

Multi-scale issues in fusion plasmas: synergy between turbulence and neoclassical transports

[P1.18] 

Michail Anastopoulos – Tzanis (University of York, United Kingdom)

3D perturbative ideal MHD stability in tokamak plasmas

[P1.19] 


Herve Guillard (Institut National de Recherche en Informatique et en Automatique, France)

Grid generation for fusion applications

[P1.20]  


Virgil Baran (Institute for Laser, Plasma and Radiation Physics, Romania)

Evolving the ITG driven turbulence with test modes

[P1.21]  

Spyridon Aleiferis (Foundation of Research and Technology Hellas, Greece)


On the gradB and ExB drifts of alphas in burning plasmas

[P1.22] 

Dario Borgogno (Polytecnico di Torino, Italy)

Test-electron analysis of magnetic reconnection topology

Session 2 (11/10/17, 15.00 – 17.00)

[P2.1] 

Pavlos Xanthopoulos (Max Planck Institut für Plasmaphysik, Germany)

Gyrokinetic simulation of micro-turbulence in stellarators

[P2.2]  


Daniele Brunetti (Istituto Fisica del Plasma, Italy)

Analytic characterisation of infernal type instabilities in tokamak as with large edge pressure gradients

[P2.3]  

Allah Rakha (Barcelona Supercomputing Center, Spain)

Modelling of Alfvén modes properties in TJ-II plasmas

[P2.4] 


Stefan Buller (Chalmers University of Technology, Sweden)

Ion composition effects on neoclassical transport in density pedestals

[P2.5] 


Loukas Vlahos (Aristotle University of Thessaloniki, Greece)

On the limits of the quasilinear evolution of ions interacting with Alfvén waves in a magnetised plasma

[P2.6] 


Ksenia Aleynikova (Max Planck Institut für Plasmaphysik, Germany)

Quantitative study of kinetic ballooning mode theory in magnetically confined toroidal plasmas

[P2.7] 

Fotis Bairaktaris (National Technical University of Athens, Greece)

Advanced homogenization approach for a plasma dielectric mixture: Case of a turbulent tokamak

[P2.8] 


Hugo de Blank (Dutch Institute for Fundamental Energy Research, Netherlands)

Electromagnetically consistent model of complete reconnection

[P2.9]  



Iulian Miron (Institute for Laser, Plasma and Radiation Physics, Romania)

Modelling the effect of resonant magnetic perturbations on neoclassical tearing modes

[P2.10] 

Alessandro Biancalani (Max Planck Institut für Plasmaphysik, Germany)

Nonlinear gyrokinetic investigation of energetic particle-driven geodesic acoustic modes

[P2.11]  

Eduard Reiter (University of Innsbruck, Austria)

Full-F gyrofluid modelling of blob-impurity interaction in the tokamak SOL

[P2.12]  


Laurent Villard (École Polytechnique Fédérale de Lausanne, Switzerland)

Global features of gyrokinetic simulations with sources

[P2.13]  


Fabien Widmer (Institut de Recherche sur la Fusion Magnétique, France)

Neoclassical island control with stiff temperature model

[P2.14] 

Nathan Howard (Massachusetts Institute of Technology, United States)

Multi-scale gyrokinetic simulation of L and H-mode plasma conditions in the Alcator C-Mod tokamak

[P2.15] 


Michael Hardman (University of Oxford, United Kingdom)

Modelling coupled ion and electron scale turbulence in magnetic confinement fusion plasmas

[P2.16]  

Iason Valvis (National Technical University of Athens, Greece)

Scattering of radio frequency waves by cylindrical blobs in the plasma edge in tokamaks

[P2.17] 

Konsta Särkimäki (Aalto University, Finland)

Mechanics of ELM control coil induced alpha particle transport

[P2.18]  


Stefan Mijin (Imperial College London, United Kingdom)

A fully implicit kinetic code for parallel electron transport in the SOL

[P2.19]  


Peter Donnel (Institut de Recherche sur la Fusion Magnétique, France)

A multi-species collision operator for gyrokinetic codes

[P2.20] 


Klaus Hallatschek (Max Planck Institut für Plasmaphysik, Germany)

Study of collisional effects on GAMs and zonal flows

[P2.21] 

Paulo Rodrigues (Instituto Superior Technico Lisboa, Portugal)

Local, up-down asymmetrically shaped, analytical tokamak-equilibrium model

[P2.22] 

Chris Dritselis (University of Thessaly, Greece)

Numerical modeling of dust transport in a tokamak plasma