



# 16th IAEA Technical Meeting on Energetic Particles in Magnetic Confinement Systems - Theory of Plasma Instabilities

## Tuesday, 3 September 2019

### Plenary: Session 1 - Control of Energetic Particle Confinement (10:05 - 11:40)

time	[id] title	presenter
10:05	[27] Modification of Alfvén Eigenmode Drive and Nonlinear Saturation Through Variation of Beam Modulation in DIII-D	VAN ZEELAND, Michael
10:40	[59] Characteristics of fast ions profile with MHD activities and improvement of fast ion confinement with AE suppression by counter-ECCD in LHD	NAGAOKA, Kenichi
11:15	[62] Efficient generation of energetic D ions with the 3-ion ICRH+NBI synergetic scheme in H-D plasmas on JET-ILW	Dr KAZAKOV, Yevgen

### Plenary: Session 2 - Multiscale Physics and Instabilities in Burning Plasmas (13:30 - 15:30)

time	[id] title	presenter
13:30	[9] Electromagnetic turbulence suppression by energetic particle driven modes	DI SIENA, Alessandro
14:05	[92] Study of shaping effect on ITG/TEM instabilities through full-f gyro-kinetic simulation	WANG, Wei
14:40	[3] Excitation of Alfvén Eigenmodes and Formation of ITB during off-axis Sawteeth in EAST	Dr XU, Ming
15:05	[72] Magnetic Reconnection during Fast Ion Driven Alfvénic Activity	BIERWAGE, Andreas

### Plenary: Session 3 - Collective Phenomena (16:00 - 18:00)

time	[id] title	presenter
16:00	[45] Stability of Low Frequency Fast-ion Driven Instabilities in DIII-D	HEIDBRINK, William W.
16:35	[6] Effects of spatial channeling on the structure of Alfvén eigenmodes	TYKHYYI, Anton
17:10	[31] MHD spectroscopy of pellet injected plasmas	OLIVER, James
17:35	[104] Fast ion instabilities in DIII-D hybrid discharges	LIU, Deyong

**Wednesday, 4 September 2019****Plenary: Session 4 - Effects of Energetic Particles in Magnetic Confinement Fusion Devices (09:15 - 10:40)**

time	[id] title	presenter
09:15	[30] Observation of Non-Collisional Bulk Ion Heating by Energetic Ion Driven Geodesic Acoustic Modes in LHD	Dr TOI, Kazuo
09:50	[51] Residual Zonal Flows for non-Maxwellian Equilibrium Distribution Function	HAHM, Taik Soo
10:15	[90] Influence of fishbone-induced fast-ion losses on rotation and transport barrier formation in MAST	MICHAEL, Clive

**Plenary: Session 5 - Transport of Energetic Particles & Effects of Energetic Particles in Magnetic Confinement Fusion Devices (11:00 - 12:25)**

time	[id] title	presenter
11:00	[87] Investigation of beam-ion transport and acceleration during edge localized modes in the ASDEX Upgrade and MAST Upgrade tokamaks	RIVERO RODRIGUEZ, Juan Francisco
11:35	[5] Explosive Alfvén Event in HL-2A H-mode Plasmas	CHEN, Wei
12:00	[95] Non-linear 3D hybrid kinetic-MHD simulations of ELMs in the ASDEX Upgrade tokamak with MEGA	DOMINGUEZ-PALACIOS, Jesus

**Plenary: Session 6 - Runaway Electrons and Disruptions (16:00 - 17:50)**

time	[id] title	presenter
16:00	[66] Observation of rapid frequency chirping driven by runaway electrons in DIII-D	LVOVSKIY, Andrey HEIDBRINK, William W.
16:35	[35] Kinetic Aspects of High-Z Pellet Modeling for Disruption Mitigation	BREIZMAN, Boris
17:00	[98] Runaway electron driven high frequency kinetic instabilities during quiescent phase of KSTAR discharge	KIM, Jayhyun
17:25	[77] Deuterium experiment on LHD and its contribution on Energetic Particle Physics in Toroidal Plasmas	Prof. OSAKABE, Masaki

## Thursday, 5 September 2019

### **Plenary: Session 7 - Transport of Energetic Particles (09:15 - 10:40)**

time	[id] title	presenter
09:15	[67] Energetic particle transport in NSTX/NSTX-U multi-mode scenarios through integrated simulations	PODESTA, Mario
09:50	[100] Analysis of TAEs and FBs induced fast ions redistribution and losses in MAST using a reduced fast ion transport model	CECCONELLO, Marco
10:15	[36] Fast-ion loss simulation with MEGA code in the Large Helical Device	

### **Plenary: Session 8 - Control of Energetic Particle Confinement (11:00 - 12:25)**

time	[id] title	presenter
11:00	[64] Experiments on Control of TAEs in ASDEX Upgrade and TCV plasmas with ECRH / ECCD	SHARAPOV, Sergei
11:35	[89] Experimental assessment of Toroidal Alfvén Eigenmode control using externally applied resonant magnetic perturbations in the ASDEX Upgrade tokamak	GARCIA-MUNOZ, Manuel
12:00	[34] Simulations of Alfvén Eigenmode Destabilized by Energetic Electrons and Energetic Electron Effects on Energetic-Ion Driven Alfvén Eigenmode	Mr WANG, Jialei

### **Plenary: Session 9 - Collective Phenomena (16:00 - 17:50)**

time	[id] title	presenter
16:00	[24] Quasi-periodic frequency sweeping in electron cyclotron emission of mirror-confined plasma sustained by high-power microwaves	Dr VIKTOROV, Mikhail
16:35	[47] Analysis of velocity distribution of D-D fusion products driving ion cyclotron emission on JT-60U	SUMIDA, Shuhei
17:00	[28] First investigation of fast-ion-driven modes in Wendelstein 7-X	SLABY, Christoph
17:25	[43] Validation of the TGLF-EP+Alpha critical-gradient model of energetic particle transport in DIII-D scenarios for ITER	BASS, Eric M.

# Friday, 6 September 2019

**Plenary: Session 10 - Transport of Energetic Particles & Diagnostics for Energetic Particles (09:15 - 10:15)**

time	[id] title	presenter
09:15	[26] High-Resolution Imaging Neutral Particle Analyzer Measurements of the Local Fast Ion Distribution Function and Instability Induced Transport in DIII-D	Dr DU, Xiaodi Dr VAN ZEELAND, Michael
09:50	[46] Observation of Hole-Clump Pair Using an Upgraded E//B-NPA during TAE Burst in LHD	Dr KAMIO, Shuji

**Plenary: Session 11 - Transport of Energetic Particles (10:35 - 12:00)**

time	[id] title	presenter
10:35	[20] Energetic-particle Transport and Loss Induced by Helically-trapped Energetic-ion-driven Resistive Interchange Mode in the Large Helical Device	OGAWA, Kunihiro
11:10	[65] Excitation of elliptical and toroidal AE modes by 3 He - ions of the MeV energy range in hydrogen - rich JET plasma	Dr KIPTILY, Vasily
11:35	[102] Predator-prey paradigm for Alfvén instability dynamics in realistic RBQ simulations	GORELENKOV, Nikolai