

## 18th Meeting of ITPA Topical Group on Energetic Particles

*26th – 28th April 2017*

*Seville University, Seville, Spain*

Registration opens on Tuesday 25th April from 12:00 to 21:00 at the conference venue with some drinks and tapas.

**Wednesday, 26<sup>th</sup> April 2017**

**Chair: Sergei Sharapov**

**Remote Participation Details:**

Audio/Video:

Presentation: <https://tv.euro-fusion.org/channel19/home>

Presentation Password: **itpa\_ep**

Video-conference nr. (H.323): 004910097926827

ISDN: **+49-30-20097926827** (ConferenceID = 97926827)

For ISDN VC systems and phones please use the DFNVC - ISDN/IP gateway as follows:

Dial with any phone the German telephone numbers:

**+49-30-20097926827**

Pressing \*6 mutes your phone. Pressing \*6 again unmutes your phone.

<b>Time</b>	<b>Topic: Opening and ITER status update</b>	<b>Presenter</b>
09:00	Registration	All
09:15	Opening and Logistics	M.Garcia-Munoz, S.Sharapov
09:30	ITER Progress and High Priority Needs in the Area of Energetic Particles	Simon Pinches ITER
	<b>Topic: Techniques and detectors for fast particles on ITER</b>	
10:00	Current status of the ITER FILD project and other fast particle diagnostics	Martin Kocan, ITER

10:20	Update on the ITER FILD design	Juan Ayllon, Seville University
10:45	<i>Break</i>	
11:15	The FILD instrument function; signal estimates for ITER	Joaquin Galdon- Quiroga Seville University
11:35	Loose ends in Fast Ion Modelling connected to beam supported CXS diagnostics	Manfred Von Hellermann, FOM
11:55	Conceptual Design of the Radial Gamma Ray Spectrometer System for alpha particle and runaway electron measurement at ITER	Massimo Nocente Milan University
12:25	Sensitivity of the ITER gamma- ray spectra to fast ion distributions	Dmitry Gin Ioffe Institute
12:45	Discussion	Chairman and all
13:00	<i>Lunch</i>	
	<b>Topic: Modelling of Fast Particles on ITER</b>	
14:00	Modelling needs for ITER non-active phase nominal scenarios	Mireille Schneider ITER
14:30	ASCOT modelling of ITER half-field scenarios	Taina Kurki- Suonio, Aalto University
14:50	Sawtooth effects on knock-on D,T ion NPA spectra in ITER plasma.	Feodor Zaitsev Moscow State University
15:20	New status of the H&CD workflow in IMAS and associated benchmark activities linked to fast ions	Mireille Schneider ITER
15:40	Discussion	Chairman and all
16:00	<i>Break</i>	
16:30	Adaptive time-stepping integration of Coulomb collisions for orbit-following codes	Konsta Sarkimaki Aalto University
16:50	Feasibility study of automatic D-T ratio control using NPA measurements of knock-on ions	Shishkin, Moscow State University
	<b>Topic: ITPA EP Joint Experiments in support of ITER</b>	
17:10	<b><i>Status of EP-9: Assessment of Ion Cyclotron Emission (ICE) for diagnosing lost and barely confined fast ions</i></b>	David Pace GA
17:30	Discussion	Chairman and all
18:00	<i>Adjourn</i>	

**Thursday, 27<sup>th</sup> April 2017**

**Chair: Don Spong**

Remote Participation Details

Audio/Video:

<b>Time</b>	<b>Topic: 3D effects in fast particle transport</b>	<b>Presenter</b>
09:00	<i>Status of EP6: Fast-Ion Losses and Associated Heat Load from Edge Perturbations (ELMs and RMPs)</i>	Manuel Garcia-Munoz, Seville University
09:15	Brief report on fast-ion loss under the RMP (using the middle-coils) experiments on KSTAR	Junghee Kim, KSTAR
09:30	On nonlinear wave-particle resonances due to imposed magnetic perturbations	Liu Chen
09:50	Eulerian approach to bounce-transit and drift resonance with magnetic drifts in tokamaks	Ker-Chung Shaing
10:10	3D fields induced edge resonant transport in AUG and ITER	L. Sanchis-Sanchez, Seville University
10:35	Comparison of fast ion losses when the plasma response to RMPs is modeled either with MARS-F or JOREK	K.Sakirmaki
10:50	<i>Break</i>	
	<b>Topic: ITPA EP Joint Experiments</b>	
11:15	<i>Status of EP11: Velocity-space tomography based on combined diagnostics</i>	Mirko Salewski DTU
11:30	What is an energetic ion and how hot is the plasma?	Mirko Salewski DTU
11:45	<i>Status of EP-8: Validation of Neutral Beam Current Drive and projections to ITER</i>	Mario Podesta PPPL
12:10	<i>Status of EP12: Identification of AE control actuators and preliminary assessment for ITER</i>	Alvaro Cappa, CIEMAT
12:30	Resonance maps for AEs in TJ-II with varying iota and generalization of the drag/ diffusion theory for two species	Sergei Sharapov CCFE
12:50	Detection and investigation of AEs with HIBP diagnostic on TJ-II	Alexander Melnikov Kurchatov/ CIEMAT

13:15	<i>Lunch</i>	
	<b>Topic: Energetic Particles in Stellarators</b>	
14:15	Kinetic MHD hybrid simulation of energetic particle driven instabilities in LHD 25'+5'	Yasushi Todo NIFS
14:45	ASCOT simulations of beam power loads on W7-X plasma-facing components for different edge rotational transforms and densities	Taina Kurki-Suonio, Aalto University
15:00	Contributions of stellarator community to fast particle physics: experiment and modelling	Axel Koenis IPP
15:30	Discussion	Chairman and all
16:00	<i>Break</i>	
16:30	<b><i>Status of EP-10: Transport of fast and thermal ions in steady-state scenarios at high-q</i></b>	Sergei Sharapov CCFE
	<b>Topic: New Joint Modelling Activity on BAE/ BAAE (Part 1)</b>	
16:45	Introduction	Philipp Lauber IPP
16:50	The DIII-D BAAE case	David Pace GA
17:10	Survey of low frequency BAE/BAAE instabilities with changing q-profiles in DIII-D.	Don Spong ORNL
17:30	GTC simulations of BAE and BAAEs	Z. Lin/Y. Liu
17:50	Nonlinear gyrokinetic simulations of BAEs	Wenlu Zhang
18:10	Discussion: ➤ Perspectives and needs for new Joint Modelling Activity on BAE/ BAAE	Chairman and All
18:30	<i>Adjourn</i>	

### 19:30 ITPA EP Conference Dinner at Eslava Bar

[https://www.tripadvisor.es/Restaurant\\_Review-g187443-d984924-Reviews-Eslava-Seville\\_Province\\_of\\_Seville\\_Andalucia.html](https://www.tripadvisor.es/Restaurant_Review-g187443-d984924-Reviews-Eslava-Seville_Province_of_Seville_Andalucia.html)

## Friday, 28<sup>th</sup> April 2017

### Chair: Sergei Sharapov

Time	Topic: New Joint Modelling Activity on BAE/ BAAE (Part 2)	Presenter
09:00	On Energetic-Particle Excitations of Low-Frequency Alfvén Eigenmodes in Toroidal Plasma	F.Zonca/ Liu Chen
09:20	BAE in hybrid simulation of ITER steady operation scenario	Yasushi Todo NIFS

09:35	Linear kinetic simulations of BAEs and BAAEs	Philipp Lauber IPP
10:00	Discussion: ➤ Perspectives and needs for new Joint Modelling Activity on BAE/ BAAE	Chairman and All
10:30	<i>Break</i>	
	<b>Topic: Advances in fast particle modelling</b>	
11:00	Quantification of the impact of EGAMs on transport in gyro-kinetic simulations	David Zarzoso Aix-Marseille University
11:30	Nonlinear gyrokinetic investigation of energetic-particle driven modes with ORB5	A.Bottino
	<b>Topic: ITPA EP Joint Modelling Activities</b>	
12:00	Update on JET scenario development for alpha-driven TAEs	Sergei Sharapov CCFE
12:15	Discussion: <input type="checkbox"/> Theory and modelling priorities <input type="checkbox"/> Joint modelling issues	All
12:30	Decisions and Actions	Chairman and All
13:45	Next ITPA Meetings	
14:00	<b>Meeting Ends</b>	

### Reference Documents

Ref.	Document
<a href="#">18th ITPA EP Meeting</a>	Meeting web site
<a href="#">Joint Modelling</a>	Shared information on joint modelling activities
<a href="#">Joint Experiments</a>	Shared information on joint experiments