

**Joint Meeting of
28th "MHD, disruptions and control"
17th "Energetic particle physics"
ITPA Topical Group Meetings**

24 - 26 October 2016

Kyoto, Japan



Date:

From October 24 (Mon) to 26 (Wed), 2016

Venue:

Clock Tower Centennial Hall, Yoshida Campus (main),
Kyoto University, Kyoto, Japan

Meeting rooms: 2nd floor of Clock Tower Centennial Hall

- International Conference Halls III

Opening, MHD-TG, EP&MHD-TGs combined session, refreshments

- Conference Rooms III

EP-TG

Wi-Fi connection:

- "eduroam"

You can connect to "eduroam" if you have an account.

- "KUINS-Air"

We prepare the guest account for our campus Wi-Fi network.

Please sign up and get your account at the registration desk.

Social events:

Group dinner

Date: Oct. 25 19:30

Location: "Ganko Takasegawa Nijoen"

Fee: JPY6000

Please pay your fee at the registration desk after the morning session of 24 October.

Acknowledgements:

This program is supported by a subsidy from Kyoto City and
the Kyoto Convention & Visitors Bureau.

17th Meeting of the ITPA Topical Group on Energetic Particles

24th – 26th October 2016, Kyoto University, Kyoto, Japan

Monday, 24th October 2016, Conference Room III, Chair S.Sharapov

Time	Topic	Presenter
09:15	<i>Registration</i>	All
09:45	Opening and Logistics	S.Murakami
	ITER	
10:00	ITER Progress and High Priority Needs in the Area of Energetic Particles	S.Pinches
10:35	Status of the H&CD workflow in IMAS	M.Schneider
11:05	<i>Break</i>	
11:35	Development of a non-steady-state OFMC code and its applications to ITER	K.Tani
	Joint Experiments	
12:05	Report on Joint Experiment EP7 - Impact of localised ECH on Alfvén Eigenmode activity	M Van Zeeland
12:25	Effect of ECH/ ECCD on AEs in Heliotron J	S. Yamamoto
12:40	Discussion on closure of EP-7 and possible new JEX devoted to ECRH/ECCD on TAEs	All
12:50	<i>Lunch</i>	
	Fast Particle Diagnostics	
14:00	Velocity-space tomography for AUG, DIII-D, MAST, TCV and JET	M.Salewski
14:30	Discussion on possible new ITPA EP Joint Experiment devoted to Velocity-space tomography.	M.Salewski
14:50	<i>Break</i>	
15:20	Neutron diagnostics for energetic particle study in LHD	K.Ogawa

15:50	Integrated simulation of triton burn-up in the deuterium experiment of LHD	S. Murakami
16:20	The gamma-ray camera upgrade for fast ion physics studies in D and DT plasmas at JET	M.Nocente
16:50	New observations of beam-driven AEs in TJ-II	A.Melnikov
17:20	<i>Adjourn</i>	

Tuesday, 25th October 2016

Time	Topic	Presenter
	<i>Joint EP and MHD Morning Session, International Conference Hall III</i>	
09:15	Runaway electron generation and mitigation on the European medium sized tokamaks ASDEX Upgrade and TCV	G.Papp
09:40	A new gyrofluid model for 3D systems and recent modeling of runaway electron suppression by pellet clouds	D.Spong
10:05	<i>Break</i>	
10:35	Generation and mitigation of runaway electrons in ITER	P.Aleynikov
11:00	Influence of energetic ions on neoclassical tearing modes	Huishan Cai
11:25	Measurement of runaway electrons distribution functions while varying synchrotron and collisional damping	C.Paz-Soldan
11:50	Report on JEX EP6 - Fast-Ion Losses and Associated Heat Load from Edge Perturbations (ELMs and RMPs)	M.Garcia-Munoz
12:15	Measurements and modeling of runaway electron suppression by an RMP in MST tokamak plasmas	B.E.Chapman
12:50	<i>Lunch</i>	
	<i>ITPA EP TG Meeting, Conference Room III, Chair D.Spong</i>	
	<i>Alfvén Eigenmodes and Transport of Energetic Ions</i>	
14:00	Counter-propagating TAE, GAE suppression and ICE on NSTX-	E.Fredrickson

	U	
14:40	Report on Joint Experiment EP-10 - Transport of Thermal Plasmas and Fast Ions in Steady-State Scenarios	D.Borba/S.Sharapov
14:55	<i>Break</i>	
15:30	Multi-phase hybrid simulation of energetic particle driven Alfvén eigenmodes	Y.TODO
16:00	Critical gradient for Alfvén eigenmode transport of energetic particles derived from the TGLF model	R.E.Waltz
16:30	Radial displacement of resonating ions induced by single-n modes: gap modes versus EPs	S.Briguglio (remote)
17:00	Discussion on the update to the ITER Physics Basis	All (some are remote)
17:30	<i>Adjourn</i>	
19:30	<i>Conference Dinner at Restaurant Ganko, Takasegawa Nijoen, Kyoto</i>	

Wednesday, 26th October 2016, Conference Room III, Chair S.Pinches

Time	Topic	Presenter
09:15	Report on Joint Experiment EP-8 - Validation of Neutral Beam current drive and projections to ITER	M.Podesta (remote)
09:45	MEGA simulations of Abrupt Large relaxation Events (ALE) in JT-60U and physics insights concerning ALE trigger mechanism	A.Bierwage
10:15	Discussion	All
10:30	<i>Break</i>	
11:00	Report on Joint Experiment EP-9 - Assessment of Ion Cyclotron Emission for diagnosing lost and barely confined fast ions	D.Pace (remote)
11:30	Revisiting the damping of CAEs for ICE problem	N.Gorelenkov

12:00	Discussion on modelling needs for JEX EP-9 in view of developing ICE diagnostics at ITER	All
	<i>New Joint Experiments</i>	
12:15	Discussion on possible new JEX devoted to reciprocating Fast Ion Loss Detector (in support of ITER)	M.Garcia-Munoz
12:40	<i>Lunch</i>	
	<i>Joint Modelling Activities</i>	
14:00	Update on the on-going benchmarking activity on fast ion distributions	M.Schneider
14:25	Current status of modelling works for fast ion loss induced by external magnetic perturbation in KSTAR	Tongnyeol Rhee
14:50	<i>Break</i>	
15:10	Some applications of the fully gyrokinetic EUTERPE and GYGLES codes to tokamaks and comparison with MHD	A.Koenies
15:40	Decisions and Actions	S.Sharapov
16:15	Date and location of next Meeting(s)	S.Sharapov
16:20	<i>Meeting Ends</i>	

28th Meeting of the ITPA Topical Group on MHD, Disruptions and Control
 Joint with the Meeting of the ITPA Energetic Particle Group, with the US - Japan JIFT Meeting
 "Theory and Simulation of 3D Physics In Toroidal Plasmas - Comparison to Experiments"
 and "Extended MHD and MHD simulations for magnetized plasmas"
 October 24-26, 2016 - Kyoto University, Kyoto, Japan

Agenda

Monday, October 24th, 2016

Session 1

Chair: A. Sen

09:15		Registration	0:30
09:45		Welcome address	0:15
10:00	Gribov, Y.	ITER high priority needs in the area of MHD and magnetic control	0:40
10:40	Lehnen.	Implementing the needs on Disruptions Loads, Detection and Mitigation in the ITER Research Plan	0:25
11:05		<i>Break</i>	0:30
11:35	Meyers, C..	Report on working group "WG-6 Non-Axisymmetric currents during VDEs" (REMOTE)	0:25
12:00	Lanctot, M.	Report on joint experiment "MDC-19 Error Field Control at Low Plasma Rotation" (REMOTE)	0:30
12:30	Okabayashi, M.	Pre-emptive Electromagnetic Torque Injection Feedback for NTM Locking Avoidance and Recovery of H-mode Edge with High Core Confinement	0:25
12:55		<i>Break</i>	1:05

Session 2

Chair: G. Pautasso

14:00	Lukash, V.	Forces on the vacuum vessel during thermal quench in the ITER tokamak	0:25
14:25	Hender, T.	Report on joint activity JA-2	0:25
14:50		<i>Break</i>	0:30
15:20	Lehnen, M.	Report on joint experiment "MDC-01 Disruption mitigation by massive gas jets" and discussion on its closure	0:35
15:55	Piovesan, P.	Report on working group "WG-12 3D distortion of the plasma boundary" (REMOTE)	0:25
16:20	Granetz, R.	Report on joint experiment "MDC-23: Formation, suppression and mitigation of runaway electrons during disruptions"	0:25
16:45	Pustovitov, V.	Sideways forces due to coupled kink modes in tokamaks	0:25
17:10	Jardin, S.	3D VDE modeling of NSTX with M3D-C1	0:20

17:30 Adjourn

Note: 25 minutes speakers should allow 5 minutes question time

Tuesday, October 25th, 2016

Session 3: joint with the Energetic Particle Group

Chair: R. Granetz

09:15	Papp, G.	Runaway electron generation and mitigation on the European medium sized tokamaks ASDEX Upgrade and TCV	0:25
09:40	Spong, D.	A new gyrofluid model for 3D systems and recent modeling of runaway electron suppression by pellet clouds	0:25
10:05		<i>Break</i>	0:30
10:35	Aleynikov, P.	Generation and mitigation of runaway electrons in ITER	0:25
11:00	Huishan, C.	Influence of energetic ions on neoclassical tearing modes	0:25
11:25	Paz-Soldan, C.	Measurement of runaway electrons distribution functions while varying synchrotron and collisional damping	0:25
11:50	Garcia-Munoz, M.	Report on JEX EP6 - Fast-Ion Losses and Associated Heat Load from Edge Perturbations (ELMs and RMPs).	0:25
12:15	Chapman, B.E.	Measurements and modeling of runaway electron suppression by an RMP in MST tokamak plasmas	0:25
12:50		<i>Break</i>	1:00

Session 4: joint with the US-Japan JIFT Meeting

Chair: R. Buttery

13:50	Suzuki, Y.	3D physics studies in LHD	0:25
14:15	Sanpei, A.	Experimental and 3-D MHD simulation studies for Formation of Helical Structures in low-aspect-ratio Reversed-Field-Pinch Plasma	0:25
14:40		<i>Break</i>	0:25
15:05	Yan, X.	Effects of Equilibrium Toroidal Flow on Locked Mode and Plasma Response in a Tokamak	0:25
15:30	Paz Soldan, C.	Measurements and modeling of multi-mode plasma response Discussion on the joint session topics	0:25

Session 5

Chair: V. Pustovitov

15:55	Pautasso, G.	Report on joint experiment "MDC-22 Disruption Prediction"	0:25
16:20	Sauter, O.	Report on joint experiment "MDC-20 Requirements for real-time sawtooth control"	0:25
16:45	Lehnen, M.	Report on working group "WG-13"	0:25
17:10	Yi, Y.	Report on recent studies of internal kinks on EAST	0:25

17:35 Adjourn

Wednesday, October 26^h, 2016

Session 5

Chair: Y. Gribov

09:15	Rocella, R..	Modelling ITER Asymmetric VDEs through Asymmetries of Toroidal Eddy Currents	0:25
09:40	La Haye, R..	Report on joint experiment “MDC-8 Current drive prevention/stabilization of NTMs” (REMOTE)	0:25
10:05	La Haye, R	Forecasting ECCD Stabilization of NTMs in ITER	0:25
10:30		<i>Break</i>	0:30
11:00	Humphreys, D.	Report on joint experiment “MDC-18 Evaluation of axisymmetric control aspects for ITER” and recent news on dZ/dt studies (REMOTE)	0:25
11:25	Bandyopadhyay, I.	Report on working group “WG-10 “Halo current modelling”	0:25
11:50	Granetz, R.	Disruption studies in Alcator C-mod	0:25
12:15	Yan, X..	Neoclassical Toroidal Viscosity Torque Induced by Plasma Response in a Low-beta Tokamak	0:25
12:40		<i>Break</i>	1:00

Session 7

Chair: M. Lehnen

13:40	Eidietis, N.	Overview of recent D3D disruption mitigation results (REMOTE)	0:25
14:05	all	Discussion on topical group scientific priorities for 2017	0:45
14:50		<i>Break</i>	0:20

Session 8: Conclusions

15:10	Hender, Martin, Sen	Discussion on the NF TG paper	0:40
15:50	Martin, P.	Meeting summary and future plans for the group	0:20
16:10	Martin, P	Date and location of next meeting	0:10

16:20 Meeting Ends

Note: 25 minutes speakers should allow 5 minutes question time