

MHD Stability Control Workshop: Integrating disruption prediction and MHD control

Day 1: Monday Oct 30

8:00	Registration	Corentine Kinzley			
8:45	Welcome & Announcements	Jeremy Hanson John Sarff Jeremy Hanson		Program Chair Local Announcements Agenda	
No.	Start Time	Session Title	Presenter or Chair	Affiliation	Topic
1		Disruption avoidance	Jerry Navratil		
	9:00		Doo Hyun Kim (I)	PPPL	Sawtooth period control experiment
	9:35		Alan Turnbull	General Atomics	Instability Prediction and Disruption Avoidance
	10:00	Coffee break			
	10:35		Carlo Sozzi (I)	IFP-CNR	Real-time plasma diagnostics for instabilities control and disruption avoidance
	11:10		Jay Hyun Kim	National Fusion Research Institute	Integrated disruption avoidance and mitigation
	11:35		Jeremy Hanson	Columbia University	Real-time plasma response control for disruption avoidance
	12:00	Lunch			
2		Disruption prediction	Jeremy Hanson		
	13:20		Cristina Rea (I)	MIT - PSFC	Investigating disruption prediction with Machine Learning
	13:55		Mitchell Clement (I)	Columbia University	GPU based optimal control techniques for RWM feedback in tokamaks
	14:30		Joseph Snipes	ITER Organization	ITER Needs for Predicting Controllability Boundaries
	14:55	Discussion			
	15:15	Coffee break			
3		High-beta and RWM control	Ted Strait		
	15:50		Steve Sabbagh	Columbia University	Progress on Disruption Event Characterization and Forecasting in Tokamaks (DECAF)
	16:15		Leonardo Pigatto (I)	Consorzio RFX - Università degli Studi di Padova	Modeling disruptive instabilities and feedback control in JT-60SA high β_N scenarios
	16:50	Discussion			
	17:00	Tours of MST, Pegasus, and HSX			
Day 2: Tuesday Oct 31					
4		Tearing	Rob La Haye		
	9:00		Matt Beidler (I)	UW-Madison	Nonlinear Modeling of Mode Locked States Induced by Transient Magnetic Perturbations
	9:35		Michi Okabayashi	PPPL	3D field response by deeply-locked tearing mode
	10:00		Yoshiro Narushima (I)	NIFS	Behavior of intermediate state of magnetic islands and utilization of resonant magnetic perturbation for detached plasma in LHD
	10:35	Coffee break			
	11:10		Erik Olofsson (I)	General Atomics	Event hazard function learning with survival analysis for the tearing mode onset problem
	11:45	Group photo			
	12:00	Lunch			
5		3D response	Andrew Cole		
	13:20		Wilkie Choi (I)	Columbia University	Dynamics, stability and stabilization of magnetic islands by feedback phase-control and synchronized ECCD
	13:55		Nikolas Logan	PPPL	Optimizing 3D Field Coils in Tokamaks
	14:20		Stefano Munaretto	General Atomics	Poloidal structure of the plasma response to n=2 perturbations
	14:45		David Weisberg	General Atomics	Optimization of multimodal, non-axisymmetric plasma response metrics on DIII-D using MARS-F
	15:10	Coffee break			
	15:45		Francesco Volpe (I)	Columbia University	Review of locked mode control techniques using 3D fields and ECCD
	16:20		Robert Wilcox	Oak Ridge National Laboratory	Two fluid 3D plasma response modeling around the tokamak pedestal and implications for confinement
	16:45	Discussion / close			
	18:00	No-host bar			
	19:00	Banquet			

Day 3: Wednesday Nov 1

Day 3: Wednesday Nov 1				
6	Integrated and configuration control	Francesco Volpe		
8:30		Mark Boyer (I)	PPPL	Feedback control of stored energy and rotation on DIII-D using variable beam voltage and perveance
9:05		Thomas Cornelis Blanken	Eindhoven University of Technology	Real-time plasma event monitoring on TCV
9:30		Peter Buxton	Tokamak Energy Ltd.	Vertical stability in ST40
9:55		Imene Goumiri	UW-Madison	Advanced plasma control for the Madison Symmetric Torus
10:20	Coffee break			
10:55		Long Zeng (I)	Institute of Plasma Physics, CAS, China	Runaway electron generation and losses on EAST
11:30	Discussion of 2018 March US-Japan workshop	Yoshiro Narushima	NIFS	
11:45	Discussion of 2018 Workshop	Rob La Haye		
12:00	Close	Jeremy Hanson	Columbia University	
FIN				