18th Workshop on MHD Stability Control: MHD Control for Steady State Burning Plasmas

Santa Fe, New Mexico hosted by the Los Alamos National Laboratory
November 18-20, 2013
Agenda, v6, as of Nov. 16

Monday

8:00-8:45	Registration	
8:45-8:50	Welcome and announcements	
Session 1	**Chair:** G. Navratil	**Steady state burning plasma control**
8:50-9:25	J. Ferron	Tokamak control issues for steady-state burning plasma operation
9:25-9:45	M. Boyer	Nonlinear Control and Real-time Optimization of the Burn Condition in ITER
9:45-10:05	J. Hanson	RWM control in low-q tokamak discharges
10:05-10:25	Y. Park	Resistive wall mode active control physics design for KSTAR
10:25-10:55	*Coffee break*	
10:55-11:30	G. Manduchi	Integrated magnetic plasma control: lessons learned from RFX-mod MHD Control
11:30-11:50	J. Barton	Physics-model-based Safety Factor Profile and Internal Energy Control in AT-Scenarios
11:50-12:10	N. Logan	Kink-Resonance of NTV Torque: Optimizing the Poloidal Spectrum
12:10-1:30	*Lunch*	
Session 2	**Chair:** J. Finn	**Resistive wall mode physics**
1:30-2:05	J. Menard	Kinetic effects on the ideal-wall limit and the resistive wall mode
2:05-2:25	J. Levesque	Optical measurements of kink modes, and plasma shaping and ferritic wall effects in HBT-EP
2:25-2:45	F. Turco	Progress on MARS-K validation for high performance plasmas
2:45-3:05	J. Berkery	Resistive Wall Mode Stability in NSTX and Benchmarked Kinetic Physics Calculations with MISK
3:05-3:35	*Coffee break*	
Session 3	**Chair:** M. Lanctot	**Resistive wall mode control**
3:35-4:10	B. Park	Strategy on MHD control for steady-state operation in KSTAR
4:10-4:30	D. Brennan	Control of rotating plasmas with a resistive wall and complex gain
4:30-4:50	S. Sabbagh	Resistive wall mode and plasma rotation control for disruption avoidance in NSTX
4:50-5:25	L. Marrelli	Low-q tokamak operations in RFX-mod

Banquet (included in registration fee) preceded by no-host cash bar.
Banquet speaker: Vincenzo Cirigliano, LANL: Matter, antimatter and surviving the big bang

Tuesday

Session 4	Chair: F. Volpe	**Steady state burning plasma control and 3D fields**
8:00-8:35	K. Watanabe	Operation scenario of a helical reactor based on the high beta LHD and its MHD-related issues
8:35-8:55	D. Maurer	Disruption avoidance using stellarator fields on CTH
8:55-9:15	M. Lanctot	Effect of 3D Fields on the Edge Harmonic Oscillation in Quiescent H-mode Plasmas
9:15-9:50	T. Pedersen	Control of topology and edge heat flows in steady-state plasmas on W7-X
9:50-10:20	*Coffee break*	
Session 5	Chair: M. Okabayashi	**Energetic particles and 3D MHD stability**
10:20-10:55	E. Frederickson	Feedback Control of Energetic Particle Driven Modes
10:55-11:15	F. Orain	Non-linear MHD simulations of ELMs and their interaction with RMPs
11:15-11:35	J. King	3D structure and evolution of a resonant magnetic perturbation
11:35-12:10	S. Yamamoto	Control of energetic-ion-driven MHD instability in low shear helical plasmas
12:10-1:30	*Lunch and group picture*	
Session 6	Chair: R. La Haye	**Tearing mode stability and control**
1:30-2:05	E. Kolemen	Neoclassical tearing mode control and stabilization in steady state burning plasma
2:05-2:25	E. Olofsson	Array magnetics signal processing: beyond FFT and SVD
2:25-2:45	Z. Wang	The Use of DCON for Computation of Outer Region Matching Data for Singular MHD Modes in Axisymmetric Toroidal Plasmas
2:45-3:05	J. King	NIMROD modeling of instabilities and control
3:05-3:25	L. Frassinetti	Tearing mode locking and unlocking to an error field in EXTRAP T2R
3:25-4:05	*Coffee break*	
4:05-4:40	G. Canal	Fast seeding of NTMs by sawtooth crashes and implications on their preemption
4:40-5:00	M. Okabayashi	NTM locking and disruption avoidance by mode-rotation control by magnetic feedback
5:00-5:20	L. Lin	Measurements of tearing mode dynamics with laser-based polarimetry-interferometry diagnostic in toroidal plasmas

Wednesday

Session 7	Chair: D. Maurer	**Mode locking and special topics**
8:00-8:35	G. Pautasso	Disruption avoidance and mitigation in ASDEX Upgrade: Tearing mode stabilisation, mode locking with magnetic perturbations and application to study toroidal asymmetry of mode-lock disruption mitigation by massive gas injection

8:35-8:55	L. Delgado	Internal kink modes in Ohmic and LHCD plasmas in Alcator C-Mod
8:55-9:15	K. Kim	Study on neoclassical transport and kinetic stability in perturbed tokamaks with particle simulation
9:15-9:35	R. Nebel	Helical Current Drive in Tokamaks and a Plasma-based DC-DC Electrical Transformer
9:35-10:10	D. Shiraki	Error Field Detection and Mode Locking Avoidance by the Interaction of Applied Rotating 3D Fields With Otherwise Locked Modes
10:10-10:30	*Coffee break*	
Session 8	Chair: R. Buttery	**Error fields**
10:30-11:05	Y. Liu	Modelling of the error field correction experiments in MAST
11:05-11:25	C. Paz-Soldan	The importance of tuned poloidal spectra for error field correction
11:25-11:45	C. Piron	First results on error field correction in q(a)<2 RFX-mod tokamak plasmas
12:05-12:25	E. Strait	Summary of ITPA MHD Group Activities
12:25-12:45	Closing	