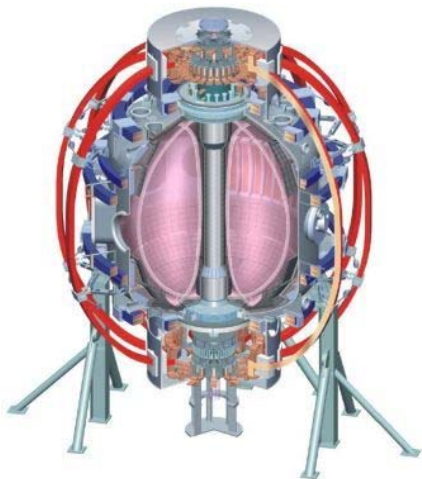


Macroscopic Stability TSG Planning for Research Forum

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**NSTX Research Forum for 2011-2012 Campaign
 B318, PPPL
 March 15-18, 2011**



College W&M
 Colorado Sch Mines
 Columbia U
 CompX
 General Atomics
 INEL
 Johns Hopkins U
 LANL
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 Lodestar
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 Nova Photonics
 New York U
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 U St. Andrews
 York U
 Chubu U
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 Hyogo U
 Kyoto U
 Kyushu U
 Kyushu Tokai U
 NIFS
 Niigata U
 U Tokyo
 JAEA
 Hebrew U
 Ioffe Inst
 RRC Kurchatov Inst
 TRINITY
 KBSI
 KAIST
 POSTECH
 ASIPP
 ENEA, Frascati
 CEA, Cadarache
 IPP, Jülich
 IPP, Garching
 ASCR, Czech Rep
 U Quebec

Milestones, ITPA activities to be covered

- Milestones :
 - R(11-2) : Assess ST stability dependence on plasma aspect ratio and boundary shaping
 - R(12-3) : Assess access to reduced density and collisionality in high-performance scenarios (Main responsibility to ASC)
 - IR(12-1) : Investigate magnetic braking physics and develop toroidal rotation control at low collisionality

- ITPA activities :
 - MDC-2, WG-7: Resistive wall mode physics
 - MDC-4, MDC-14, WG-9: EF, Locking and tearing mode physics
 - MDC-12: Magnetic braking physics
 - MDC-15, MDC-17: Disruption physics

20 proposals will be presented and prioritized in MS breakout session

- Schedule presently has 20 proposals and presentations
 - Well covering milestones and ITPAs with
 - 4 for maximum sustainable beta,
 - 10 for RWMs, NTVs, RFAs,
 - 4 for EF, locking, and tearing,
 - 2 for disruptions
- 20 proposals requested 23.5 days (> 11.5 days allocated)
 - FY11 : 7 days = 5.5 days (1st) + 1.5 days (2nd)
 - FY12 : 4.5 days = 3.5 days (1st) + 1.0 days (2nd)
- 20 presentations are planned followed by breakout session
 - 7 minutes for each, and 10 minutes break (2.5 hours)
 - Breakout session for prioritization (1~1.5 hours)

Proposal list and tentative agenda (1:30~5:30pm, Wed., B318)

Proposal title	Presenter	Days	Minimum days
• Influence of q profile on Tear. Mode Beta Limit and 3D Field Sensitivity	(R. J. Buttery)	3.0	1.5
• Error Field Threshold Study with Reduced Input Torques	(J.-K. Park)	1.0	0.5
• High-n stability test using RFA	(J.-K. Park)	1.0	0.5
• The later error field correction including plasma response	(J.-K. Park)	0.5 + 1.0	0.5
• Physics of early error field corr. in reduced-density adv. scenarios	(J. E. Menard)	1.5	0.5
• Role of kinetic dissipation in modifying RWM eigenfunctions	(J. E. Menard)	1.5	0.5
• Neoclassical toroidal viscosity at reduced collisionality	(S. A. Sabbagh)	1.0	0.5
• NTV steady-state offset vel. at red. torque with HHFW (XP1062)	(S. A. Sabbagh)	1.0	1.0
• RWM stab. control, NTV rot. alteration of higher A targets	(S. A. Sabbagh)	1.5	1.0
• RWM state space control physics	(S. A. Sabbagh)	1.0	1.0
• RWM state space active control at reduced plasma rotation	(Y. S. Park)	1.0	1.0
• RWM control physics with partial control coil coverage	(Y. S. Park)	1.0	1.0
• RWM Stabilization Physics at Reduced Collisionality	(J. W. Berkery)	1.0	0.5
• RWM Stabilization Dependence on Energetic Particle Distribution	(J. W. Berkery)	1.0	0.5
• Comparison of private flux region gas inj. vs midplane gas inj.in reducing divertor heat loads and halo currents during disruptions in NSTX	(R. Raman)	2.0	0.5
• Experimental Study of Disruption Heat Loading and Halo Currents	(S. P. Gerhardt)	1.0	0.5
• XMP for upgrades to the betaN controller	(S. P. Gerhardt)	0.3 + 0.0	0.0
• Test of ideal MHD stability as a function of A and elongation	(S. P. Gerhardt)	1.0	0.5
• MHD stability at Low-A and high normalized current	(S. P. Gerhardt)	1.0	0.5
• Opt. of early heat. and ramp rate to achieve stable op. at red. den.	(S. P. Gerhardt)	1.0	0.5
Total 11.5 days		23.5	13.0