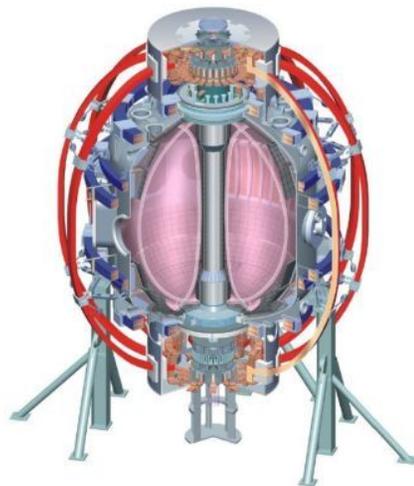


Advanced Scenarios and Control FY-11 & 12

College W&M
Colorado Sch Mines
Columbia U
CompX
General Atomics
INL
Johns Hopkins U
LANL
LLNL
Lodestar
MIT
Nova Photonics
New York U
Old Dominion U
ORNL
PPPL
PSI
Princeton U
Purdue U
SNL
Think Tank, Inc.
UC Davis
UC Irvine
UCLA
UCSD
U Colorado
U Illinois
U Maryland
U Rochester
U Washington
U Wisconsin

Stefan Gerhardt, TSG Leader
Mike Bell, TSG Deputy
Egemen Kolemen, Theory and Modeling

NSTX 2011&12 Research Forum
B-318, PPPL, Tuesday, March 15th



Culham Sci Ctr
U St. Andrews
York U
Chubu U
Fukui U
Hiroshima U
Hyogo U
Kyoto U
Kyushu U
Kyushu Tokai U
NIFS
Niigata U
U Tokyo
JAEA
Hebrew U
Ioffe Inst
RRC Kurchatov Inst
TRINITI
KBSI
KAIST
POSTECH
ASIPP
ENEA, Frascati
CEA, Cadarache
IPP, Jülich
IPP, Garching
ASCR, Czech Rep
U Quebec

ASC Priorities in 2011 & 2012

- Develop and implement improved *plasma control techniques* to achieve advanced operating scenarios
- Develop improved *plasma formation* and *ramp-up* techniques for *reduced density* and collisionality (R12-3)
- Assess the *impact* of *increased aspect ratio and elongation* on the *integrated performance* of the spherical torus (R11-2)
- Experimentally realize *high non-inductive current fraction* plasmas with high-beta under sustained conditions
- Create and validate *models* for the *integrated plasma performance*, with the goal of developing a predictive capability for next-step ST *scenario and control design*

Overview of Submissions

- # of submissions: 19
 - And 3 XMPs for discussion
- Total Request: 19.5 days
 - Minimum Request: 12.5 days
- Total Allocation: 9.5 days
- Milestone coverage:
 - R11-2 (Effect of A and κ): 3 proposals by 2 individuals cover ASC obligations.
 - R12-3 (Low- n_e startup): Main effort in multiple-day XP lead by D. Mueller.
 - 4 proposals independent of the main XP...need to integrate these.
 - Integration/coordination of MS contributions to the effort remains murky.
 - R11-3 (High Flux Expansion Divertors): Proposals for shape or control development from 2 individuals.

XP Presentation Order

No longer alphabetical!

#	Title	Proposer	Requested Time	Minimum Time Requested	Total Allocation
1	Triggered Ohmic H-mode	Battaglia	0.3	0.1	0
2	Long-Pulse EPH	Canik	1	1	0
3	Rampdown Development	Gerhardt	1	0.5	0
4	Integrated Performance vs. A and elongation	Gerhardt	1	0.5	0
5	Vertical Control Improvements	Gerhardt	1	0.5	0
6	Advanced Scenario Snowflake	Soukhanovskii	2	1	0
7	Snowflake Control	Kolemen	1	0.5	0
8	MIMO Shape Control	Kolemen	1	1	0
9	Rotation Control	Kolemen	1	0.5	0
10	Density Feedback	Lee	0.5	0.5	0
11	USN H-modes	Maingi	1	0.5	0
12	HHFW For Higher H-mode NBCD	Bell	1.25	0.5	0
13	HHFW for q-profile control	Menard	1.5	1	0
14	Early Error Field Correction	Menard	1.5	0.5	0
15	Low Density Startup	Mueller	5	2	0
16	Low Density, Low EF Startup	Mueller	2	1	0
17	Testing Magnetic Diffusion	Petty	0.5	0.5	0
	PID RWM Checkout	Gerhardt	NA	NA	0
	rt-Vphi checkout	Podesta	NA	NA	0
	LQG RWM Checkout	Sabbagh	NA	NA	0
18	Early PID and LQG RWM Control	Sabbagh	1	0	0
19	RWM PID Control	Sabbagh	0.5	0.5	0
		TOTALS:	22.75	12.6	0

5-6 Minutes Per Presentation!