

July 19, 2007

**NSTX, C-mod, and DIII-D National Tokamak Planning Workshop
MIT September 17-19, 2007
Agenda**

Monday

10 am OFES Perspective

Overview of Tokamak Facility Plans (30min presentation, 5min questions)

10:15 am C-Mod 5- year Plan Overview: E. Marmor

10:50 am DIII-D 5 year Plan Overview: M. Wade

11:25 am NSTX 5-year Plan Overview: M. Ono

12:00 pm *Lunch*

Topical Area Coordination Discussions:

Topical Area contents as outlined in FESAC Priorities Subpanel Report on “*Scientific Challenges, Opportunities, and Priorities for the U.S. Fusion Energy Sciences Program,*” except where noted.

http://www.ofes.fusion.doe.gov/more_html/FESAC/PP_Rpt_Apr05R.pdf

Speakers and Discussion Facilitators are noted.

Integrated Scenario Research

1:15 pm Facility plans (DIII-D: Luce, C-mod: Hubbard, NSTX: Menard)
(15 min presentations, 5 min for clarifying questions)

2:15 pm Summary of preliminary coordination activities (15 min presentation)
(J. Ferron, S. Wolfe, D. Gates)

2:30 pm Discussion: Integrated Scenario Research Plans
(C. Kessel, H. Zohm)

4:30 pm *Break*

Multi-scale Transport Physics Research

(includes pedestal scaling, L-H transition, and internal barriers)

4:45 pm Facility plans (C-mod: Greenwald, NSTX: Kaye, DIII-D: Burrell)
(15 min presentations, 5 min for clarifying questions)

5:45 pm Summary of preliminary coordination activities (15 min presentation)
(S. Scott, D. Mikkelsen, E. Doyle)

6:00 pm Discussion: Multi-scale Transport Physics Research Plans
(P. Terry, W. Dorland)

7:45 pm *Adjourn*

Tuesday

Macroscopic Plasma Physics Research

(includes disruption avoidance and mitigation)

- 9:30 am Facility plans (NSTX: Sabbagh, DIII-D: Strait, C-mod: Granetz)
(15 min presentations, 5 min for clarifying questions)
- 10:30 am Summary of preliminary coordination activities (15 min presentation)
(S. Gerhardt, A. Garofalo, I. Hutchinson)
- 10:45 am Discussion: Macroscopic Plasma Physics Research Plans
(C. Hegna, R. Buttery) *(break included)*
- 12:15 pm *Lunch*

Research on Waves and Energetic Particles

- 1:15 pm Facility plans (NSTX: Taylor, C-mod: Wukitch, DIII-D: Nazikian)
(15 min presentations, 5 min for clarifying questions)
- 2:15 pm Summary of preliminary coordination activities (15 min presentation)
(E. Fredrickson, P. Bonoli, R. Prater)
- 2:30 pm Discussion: Research Plans for Waves and Energetic Particles
(W. Heidbrink, C. Philips)
- 4:15 pm *Break*

Research on Plasma Boundary Interfaces

(includes ELM control such as pellet pacing and RMP)

- 4:30 pm Facility plans (C-mod: Lipschultz, DIII-D: Allen, NSTX: Maingi)
(15 min presentations, 5 min for clarifying questions)
- 5:30 pm Summary of preliminary coordination activities (15 min presentation)
(D. Whyte, P. West, V. Soukhanovskii)
- 5:45 pm Discussion: Plasma Boundary Interfaces Research Plans
(T. Rognlien, R. Nygren)
- 7:30 pm *Adjourn*

Wednesday

Summary Reports of Discussions

(15 min presentations, 5 min for questions)

- 9:30 am Macroscopic Plasma Physics Research (C. Hegna, R. Buttery)
- 9:50 am Waves and Energetic Particles (W. Heidbrink, C. Philips)
- 10:10 am Integrated Scenario Research (C. Kessel, H. Zohm)
- 10:30 am *Break*
- 10:45 am Plasma Boundary Interfaces (T. Rognlien, R. Nygren)
- 11:05 am Multi-scale Transport Physics Research (P. Terry, W. Dorland)
- 11:25 am *Adjourn*

Tokamak Planning Workshop

Science Area	Facility Plan Presentations	Preliminary Coordination	Topical External Facilitators
Program Overview	Marmar (C-mod) Wade (DIII-D) Ono (NSTX)		
Integrated Scenario Research	Hubbard (C-mod) Luce (DIII-D) Menard (NSTX)	Wolfe (C-mod) Ferron (DIII-D) Gates (NSTX)	C. Kessel, G. Sips
Waves and Energetic Particles	Wukitch (C-mod) Nazikian (DIII-D) G. Taylor (NSTX)	Bonoli (C-mod) Prater (DIII-D) Fredrickson (NSTX)	W. Heidbrink, C. Phillips
Macroscopic Research (MHD)	Granetz (C-mod) Strait (DIII-D) Sabbagh (NSTX)	Hutchinson (C-mod) Garofalo (DIII-D) S. Gerhardt (NSTX)	C. Hegna, R. Buttery
Multi-scale Transport Research	Greenwald (C-mod) Burrell (DIII-D) Kaye (NSTX)	S. Scott (C-mod) Doyle (DIII-D) Mikkelsen (NSTX)	P. Terry, W. Dorland,
Plasma Boundary Interfaces	Lipschultz (C-mod) Allen (DIII-D) Maingi (NSTX)	Whyte (C-mod) West (DIII-D) Soukhanovskii (NSTX)	T. Rognlien, R. Nygren

Facility Coordinators

(Teams of three, one from each facility)

Deliverables for each area

1. Prior to the Workshop (9/10/2007) produce a 4-5 page paper. Paper should:
 - a. Define appropriate subtopics (themes) for coordinated research in their area among the three facilities. Can be joint experiments or complementary experiments followed by integration activities.
 - b. Discuss what resources (facility diagnostics, hardware, or analysis capabilities) are involved
 - c. Discuss what can be learned (expected outcome of coordinated research)

2. At the Workshop:

Present summary of writeup in a 15min talk at the Workshop

3. After the Workshop:
 - a. Adjust plan based on results of Workshop discussions.
 - b. Submit revised plan by October 5, 2007.

Facility Coordinators should communicate with their two counterparts prior to the Workshop to develop plans, divide up work, and prepare their workshop presentation (only one speaker at the Workshop please).

Discussion Facilitators

(Two for each area)

Deliverables for each area

1. Prior to the Workshop:
 - a. Read the draft coordination plans for their area supplied on Sept 10th by the three facility coordinators.
 - b. Prepare brief comments on the coordination plans
 - c. Communicate with their co-facilitator on how to organize their discussion time and how they will summarize the discussion during the last session of the Workshop.

2. At the Workshop:
 - a. Open the discussion with brief comments on the plan, highlighting what they think are key issues for discussion.
 - b. Facilitate the discussion
 - c. Present a 15-20 min summary of their discussion, with any suggestions for improving plans. Answer questions (30 min total for summary + Q&A for each topical area)

3. After the Workshop:

Be available for follow-up Q&A discussion (telephone or e-mail) with program representatives.