

Workshop on Physics Issues for FIRE

PPPL

Room LSB-318

May 1 - 3, 2000

Purpose: to understand, assess and develop a plan to address physics issues driving the FIRE design.

Agenda (Updated April 30)

Monday May 1, 2000

8:30 AM	FIRE Program Status and Physics Issues	0:30	D. Meade
9:00 AM	Engineering Status and Issues	0:45	R. Thome
9:45 AM	Discussion of FIRE Status /Issues	0:30	J. Schmidt et al
10:15 AM	IGNITOR Status and Plans	0:30	B. Coppi
10:45 AM	Break	0:15	
11:00 AM	Recent Results from C-Mod	0:45	J. Snipes
11:45 AM	Recent Results from DIII-D	0:45	C. Petty
12:30 PM	Discussion of Recent Results	0:30	N. Sauthoff et al
1:00 PM	Lunch	0:30	
	Divertor and PFC Status and Issues		
1:30 PM	Power Handling Parameters and Issues	0:15	M. Ulrickson
1:45 PM	UEDGE Modeling of FIRE	0:45	T. Rognlien/Nevins
2:30 PM	Erosion Modeling	0:20	J. Brooks/Ulrickson
2:50 PM	Impurity Seeding	0:15	J. Mandrekas
3:05 PM	Discussion of Divertor/PFC	0:25	M. Ulrickson et al
3:30 PM	Break	0:15	
	Disruption Requirements and Issues		
3:45 PM	Disruption Characteristics and Issues	0:30	J. Wesley
4:15 PM	C-Mod Disruption Data	0:20	R. Granetz
4:35 PM	Disruption Scenarios	0:20	TBD
4:55 PM	Disruption Erosion and Radiated Power	0:20	Hassenien/Ulrickson
5:15 PM	Discussion of Disruption Issues	0:30	J. Wesley et al
5:45 PM	Adjourn		
7:00 PM	No Host Dinner at Good Time Charlies		

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Tuesday May 2, 2000

Confinement Status and Issues

8:30 AM	Reactor Scale Physics Issues	0:30	F. Perkins
9:00 AM	Confinement Issues and Update	0:20	N. Uckan
9:20 AM	High Field Tokamaks for Burning Plasma Exp'ts	0:20	E. Mazzucato
9:40 AM	Predicting Performance in Ignition Experiments using Transport Simulation	0:20	L. Sugiyama
10:00 AM	Edge Pedestal Scaling	0:15	G. Hammett
10:15 AM	Burning Plasma Issues Illustrated by FIRE Simulations	0:20	W. Houlberg
10:35 AM	Break	0:10	
10:45 AM	Predictive Transport Simulations for FIRE	0:20	A. Kritz
11:05 AM	Discussion of Confinement Issues	0:30	TBD

Stability Status and Issues

11:35 AM	MHD Stability Regimes	0:20	S. Jardin
11:55 AM	High Ibs/Ip Scenarios without Conducting Walls	0:20	J. Ramos
12:15 PM	Kink Stability Issues	0:20	J. Manickam
12:35 PM	Neoclassical Tearing Modes in FIRE	0:20	P. Rutherford
12:55 PM	Lunch	0:30	
1:25 PM	Stabilization of Neoclassical Tearing Modes	0:20	F. Perkins
1:45 PM	Discussion of AT Modes and MHD Issues	0:30	W. Nevins et al

Burning Plasma Status and Issues

2:15 PM	Ripple Loss in FIRE AT Modes	0:20	R. White
2:35 PM	Alpha Driven Instabilities	0:20	N. Gorelenkov
2:55 PM	Discussion of Burning Plasma Issues	0:20	R. Nazikian et al
3:15 PM	Break	0:15	

Plasma Control, Diagnostics and Operations

3:30 PM	RF Heating Scenarios	0:20	R. Majeski
3:50 PM	Current Drive for FIRE AT Mode	0:20	T. K. Mau
4:10 PM	Rotation Driven by ICRH	0:15	F. Perkins
4:25 PM	Diagnostics	0:20	K. Young
4:45 PM	Operations Issues	0:20	J. Wesley
5:05 PM	Improved Core Fueling with High Field Side Pellet Injection on the DIII-D Tokamak	0:20	W. Houlberg
5:25 PM	Identification of Hot Issues	1:00	TBD
6:25 PM	Adjourn		

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Wednesday May 3, 2000

Discussion of Critical Issues, Opportunities and Needed Actions

8:30 AM	Confinement	0:45	N. Uckan
9:15 AM	Stability	0:45	S. Jardin
10:00 AM	Power Handling	0:45	M. Ulrickson
10:15 AM	Break	0:15	
11:00 AM	Plasma Control/Operations/Diagnostics	0:45	J. Wesley
11:30 AM	Fast Particles	0:30	R. Nazikian
12:00 PM	AT Modes	0:30	W. Nevins
12:30 PM	Action Plan and Wrap Up	0:30	D. Meade
1:00 PM	Adjourn		

Notes

- * Chits/comment forms will be used during the meeting to record comments /issues /suggestions and will be used to stimulate the discussion panels and to develop action plans.
- * We have set up a FIRE Workshop Web page to post changes in the agenda, comments, VGs prior to presentation and VGs presented (esp action items and conclusions).
- * We have set up links to the FIRE Workshop page from various web pages.

* We will use ShowStation (for VG video-out) with Real Player (for audio-out) for remote participation. A limited number of call in lines are available by which remote participants can ask questions directly. When you want to ask a question please dial 609-243-2822, wait for the beep, then enter the four digit pass code. This takes about 20 seconds, you can then ask your question, and enter the discussion. When not actively in the discussion, please hang up so others can call in and ask their question. This will work if people don't hang on the line. If you want to use one of the rotating call-in lines send an email Monday to fire@pppl.gov and we will email you the pass code. A virtual chat room will be setup in the conference room (fire@pppl.gov) that will be checked every minute to receive comments, questions and VGs for presentation. Check the webpage http://fire.pppl.gov/physics_workshop.html for up to date info on Remote Participation (addresses and passwords).