

Summary of Wave-Particle ET Meeting on 1/5/06

NOTE: Viewgraphs and other documents used during this meeting can be downloaded from the following folder on the NSTX Web site:

http://nstx.pppl.gov/DragNDrop/ET_Meetings/Wave_Particle_Interactions/Meeting_01_05_06/

We had good participation at this meeting, with five ET members "attending" remotely from Oak Ridge and the West Coast. The meeting lasted much longer than I intended, however I appreciated the lively discussion and many important issues that were raised by the meeting participants. Here is a brief summary of our discussions at our ET meeting.

1. Discussion of proposed NSTX reversed fields campaign

A reversed field campaign has been proposed and may occur towards the end of the 2006 run (May or early June). The plan under discussion includes a total of about a day of operation using HHFW with reversed TF&Ip, reversed Ip only and possibly reversed TF only. The ET group members expressed concern that the HHFW experiments with reversed fields should be given a high priority since they directly address the FY06-3 NSTX draft milestone to characterize the interaction between the HHFW and the edge plasma. Concern was also expressed that the reversed field campaign may not happen this year due to severe constraints on run time with only an 11-week run campaign, if that is the case at the very least the HHFW coupling and plasma interaction studies would benefit from a day of reversed TF operation.

2. ET run strategy and XP scheduling for the first 8 weeks of the 2006 NSTX run campaign

Several XP authors expressed interest in running their XP's during the first eight weeks of the campaign, these include the following XPs:

"Fast-Ion Transport by Fishbone Instabilities & Documentation of TAE/EPM Fast Ion Losses" - W. Heidbrink, E. Fredrickson & N. Crocker (Priority 1 XP, 1 run day after start of Li)

"Thermal EBW Emission and Oblique O-Mode Coupling Efficiency in L and H-Mode Plasmas" - S. Diem & G. Taylor (Priority 1 XP, 0.5 run days after first four weeks of run)

"TAE/EPM Impact on Fast Ion Transport (JNBI) & Displacement of NB Ions by MHD" - E. Fredrickson & C. Petty (Priority 1 XP, 1 run day after first four weeks of run)

"Parameter Scaling of 'Angelfish' Instability" - E. Fredrickson (Priority 2 XP, 0.5 run days after first four weeks of run)

3. Identify experiments that should be run before lithium is introduced into the vessel

The group agreed that if Li is to be introduced early in the run they would prefer to run all the ET XPs after the Li conditioning campaign starts. We request however a half a day of XMP time before Li introduction in order to baseline HHFW conditioning, this would be followed by another half a day XMP to characterize HHFW conditioning after Li introduction. Ben LeBlanc and others expressed a concern that the Thomson scattering window would be coming coated after the Li conditioning campaign starts, particularly since the window is in close proximity to the point where Li will be introduced. Bill Heidbrink requested that the XP "Fast-Ion Transport by Fishbone Instabilities & Documentation of TAE/EPM Fast Ion Losses" should be run after Li is introduced.

4. Provisional schedule for reviewing XPs in the ET

We will be reviewing ET XPs in a series of meetings during January and early February. Meetings will be held at 11 AM in LSB 252 on Thursdays, except when this is not possible due to schedule conflicts etc. The dates of the XP reviews are listed in the attached spreadsheet. If you are listed as lead author(s), please check the date of the meeting when your XP is scheduled to be reviewed and let me and Phil Ryan know ASAP if this is not a convenient time. At least a day before the ET XP review meeting is scheduled, please email a copy of your presentation viewgraphs (pdf or Powerpoint) and a draft XP (MS Word) to myself and Phil Ryan so we can post it in the Wave-Particle ET meeting folder on the Web before the ET meeting.

5. Discuss FY06 HHFW milestone

At the end of the meeting we discussed the prerequisites for the NSTX draft FY06-3 HHFW research milestone and completed the worksheet

provided by Martin Peng. After the ET meeting a revised worksheet was sent to Martin. Martin has now asked us to establish an approved schedule for the design, FDR, machining, installation, and commissioning of the B-dot RF probe system (see attached NSTX FY06-3 milestone worksheet). In addition to the RF probe work, he is also asking for NSTX project commitments to support the antenna camera(s), and the antenna voltage feedback control, if these are required to address the draft FY06-3 milestone.