

## **NSTX Weekly Report (Sept. 5, 2008)**

### **FY 2008 NSTX plasma operations**

**Planned: 15 run weeks**

**Completed: 16.62 run weeks, 2571 plasmas (run completed on July 14, 2008)**

- Two Korean graduate students from the Pohang University of Science and Technology, South Korea recently completed their visits to PPPL. Woonchang Lee worked with NSTX personnel during the past two years on the calibration and operation of the high-k scattering turbulence diagnostic as a part of his Ph. D. Thesis. Hyelyeon Kang spent past summer using the MIST (Multiple Impurity Species Transport) code to calculate impurity charge-state distributions for NSTX discharges. (R. Kaita)
- S. Kaye attended the European Transport Task Force Meeting in Copenhagen, Denmark on 1-4 Oct. 2008, and he presented an oral entitled "Momentum Transport Studies in Electron-Dominate Spherical Torus Plasmas". He also attended the EU TTF Executive Committee Meeting dinner on Monday night, Oct. 1, to discuss tightening the connection between the U.S. and EU TTF. (S. Kaye)
- There will be an NSTX Physics Meeting on Monday, 9/8 at 1:30 PM in LSB318. Ricky Maqueda and Mario Podesta will present outlines of their APS Invited talks for group discussion. If anyone else would like to present something, please let me know before the meeting. The talks will be found in [http://nstx.pppl.gov/DragNDrop/NSTX\\_Meetings/Monday\\_Physics\\_Meetings/2008/9-08-08/](http://nstx.pppl.gov/DragNDrop/NSTX_Meetings/Monday_Physics_Meetings/2008/9-08-08/) (S. Kaye)
- The program letter and RoD documents for innovative diagnostic collaboration from universities and industry are available at: [http://nstx.pppl.gov/nstx/NSTX\\_Program\\_Letters/](http://nstx.pppl.gov/nstx/NSTX_Program_Letters/). The program letter provides additional information in support of the recent solicitation notice from DoE available at: <http://www.er.doe.gov/grants/FAPN08-29.html>. For those expecting to submit a proposal to DoE, please contact the person noted in the program letter to be assigned a research contact to work with in preparing your record of discussion. (J. Menard)

### **Engineering Operations (A. von Halle, C. Neumeyer)**

The NSTX outage continued this week with the removal of the HHFW antenna for an upgrade to a symmetrical feed. Also this week, upper and lower machine tiles were removed at bay B to inspect and measure the proposed location of the collection optics for the new Beam Emission Spectroscopy (BES) diagnostic. The post-run alignment checks of the lithium evaporator (LITER) probes have been completed, and the evaporators have been removed for off-line storage under vacuum. The removal of the lower TF flex links is in progress to allow for inspections of the lower TF flag joints.

The NSTX test cell will be in free (card reader) access this coming week.

## **Research Operations (M. Bell)**

### **Boundary Physics Operations (H. Kugel)**

- Liquid Lithium Divertor (LLD)

- A teleconference was held between SNL-NM and NSTX to discuss planning for LLD fabrication at SNL-CA.
- A teleconference and email communications have been in progress with SNL-CA to discuss fabrication sequencing.
- Tests at PPPL on brazing 0.060, 0.030, and 0.010 inch thick, 304-SS, sheets to copper plate samples exhibited successful bonding with sufficient flatness.
- Work continued on assigning feedthrough and port allocations in preparation for initiating Control Wiring Diagrams (CWDs).

- Lithium Powder

- Tests were performed on dropping lithium powders in argon on to a heated porous molybdenum sample in argon to study adhesion and wetting. Data analysis is in progress.

- Lithium Evaporator (LITER)

- LITER-F AND LITER-K were inserted into the vessel and the alignment and nearby interferences documented. The units were then removed from the vessel, and are presently under vacuum on their NTC support stands.