

## NSTX Weekly Report (Oct. 28, 2005)

FY2006 weeks of research operations

Planned: TBD

Completed: 0 weeks

### **NSTX Department, Project, Program (M. Ono, M. Peng, E. Synakowski)**

- Members of the NSTX Team attended the 47th Annual Meeting of the APS-DPP in Denver, Colorado. There were six invited talks on NSTX given by the NSTX research team members: "Structure and Motion of Edge Turbulence in NSTX and Alcator C-Mod" by S. Zweben, "Physics and Operational Space of the small ELM regime in NSTX" by R. Maingi (ORNL), "The Effect of Shaping on Plasma Performance on National Spherical Torus Experiment" by D. Gates, "Current Drive by Electron Bernstein Waves" by A. K. Ram (MIT), "Collective Fast Ion Instability-Induced Losses in NSTX" by E. Fredrickson, and "Long Pulse High Performance Plasma Scenario Development for the National Spherical Torus Experiment" by C. Kessel. In addition, 13 contributed oral and 42 poster presentations on NSTX results were presented by the team members.
- There will be an NSTX Physics Meeting on Monday, 10/31 at 1:30 PM in LSB318. The speaker will be Olaf Grulke of Grieswald, Germany, on "Propagation of fluctuation structures in the SOL of Alcator C-Mod"
- The 2005 NSTX Results/Theory Review, Dec. 12 - 13, and Research Forum, Dec. 14- 16, 2005 will be held at PPPL. You are cordially invited to attend this week long event. Remote participation will be available for off site meeting participants to take part in viewing the presentations and providing valuable input.
- The Burning Plasma Workshop will be held at ORNL, Dec. 7- 9, 2005. In order to enter ORNL, it is necessary to register on the website: <http://www.burningplasma.org/home.html> by November 7th. The security regulations are very strict at ORNL. Even if you are undecided about going to the meeting, it is wise to register at this time.

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

The NSTX outage continued this past week with the machining of modifications on the Bay G port cover to provide a second viewing point for the EBW diagnostic, and the routine maintenance of NSTX water and AC power systems. Engineering reviews of plans to provide additional supports for the TF L-connectors and for the OH coil cooling water leak repair were held this past week, and indicate that activities are on track for a February restart of NSTX experimental operations.

Access to the NSTX test cell will be available via the card readers throughout this coming week. (A. von Halle)

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

#### **Diagnostic Operations (R. Kaita)**

- Damaged magnetic sensor coils used for resistive wall mode experiments have been identified. One coil was “open,” and several were “shorted” to the NSTX vacuum vessel. Failed integrator components were also identified. Repairs to correct these problems are in progress.

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

- A meeting of the LITER-1 team reviewed the results of cartridge welding tests, the air cooling tube dimensions, and the proposed cartridge assembly procedure.
- Maintenance on the Sample Coupon mounting fixture was completed.
- The following Boundary Physics contributions were presented at the 47th APS/DPP Meeting, Oct. 24-28, 2005, Denver CO:
  - "Time Resolved Measurements of Deposition and Dust in NSTX"(oral paper) C. H. Skinner, et al.
  - "Development of Particle and Impurity Control Techniques for NSTX"(poster paper), M.G. Bell, et al.
  - "Recycling Measurements Following Repeated Lithium Pellet Injection"(oral paper), H. W. Kugel, et al.
  - "Dissipative Divertor Experiments in NSTX"(oral paper), V.A. Soukhanovskii (LLNL), et al.