

## **NSTX Weekly Report (Nov. 18, 2005)**

FY2006 weeks of research operations

Planned: TBD

Completed: 0 weeks

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

- The November NSTX Team Meeting was held on Monday, November 14, 2005. The presentation material is available on the NSTX web.
- There will be no NSTX Physics Meeting for the week of Nov. 21. (S. Kaye)

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

The NSTX outage continued this past week with the successful completion of hydrostatic tests at 600 PSI and 70 C° (water temperature) on the mockup of the OH repairs. A white plate calibration of the MPTS system has been completed and the internal resistances of all 48 RWM sensor coils were checked and found to be satisfactory. Two trial TF L-Connector stiffeners were fabricated and tests were performed on the brazed joints. The tests were satisfactory and the fabrication of the stiffeners is in progress. Access to the NSTX test cell will be available via the card readers throughout this coming week. (W. Blanchard)

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

Collaboration: Work began last week to port a set of DIII-D profile and EFIT analysis tools over to be used with NSTX data. The profile analysis tools allow data to be built up from a particular phase of the inter-ELM cycle and feature refined fitting in the H-mode pedestal region. The EFIT tools allow kinetic fits optimized to the H-mode pedestal region including current in the pedestal region from transport analysis. The EFIT tools also allow variations of the pedestal current density and pressure gradient around the equilibrium point to be quickly generated for mapping out the peeling/ballooning mode stability space. Over the week of November 7-11 the basic analysis packages, written in Python, were installed at PPPL and work began on converting the codes to the NSTX data structures. (J. Ferron, General Atomics)

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

- The damaged magnetic sensor ("B(z) coil") used as a resistive wall mode (RWM) diagnostic has been replaced and reinstalled inside the NSTX vacuum vessel. The other B(z) coils have been tested and re-insulated as required. The resistances and inductances of all 48 of the B(z) coils have been checked yesterday and found to be satisfactory.

- Window calibrations for the multipoint Thomson scattering (MPTS) diagnostic were completed.

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

- The design of the LITER-1 Cartridge-A heaters was completed and fabrication is in progress. The fabrication of oven parts for the test assembly of Cartridge-A continued in progress. The specification for the Cartridge-A thermocouple positions was received. A rack was identified for LITER-1, and a preliminary rack layout design was completed. A meeting on LITER-1 controls analyzed the respective interlocking responsibilities of the software, PLC, and possible hardwired systems. The design of the interlock logic was initiated. The design of the umbrella structure, mount alignment jig was reviewed, completed, and fabrication drawings were initiated. A preliminary layout for the Cartridge-A off-line test assembly was completed (W. Blanchard)
- The fabrication of parts for the MGP was completed, and the installation of thermocouples was initiated in preparation for the final welding of the assembly. (T.Provost)
- An inspection of the UCSD Fast Probe was performed to qualify it for support of CHI experiments, and action items were derived for probe isolation upgrades. (J. Boedo, UCSD)