

## **NSTX Weekly Report (Feb. 3, 2006)**

FY2006 weeks of research operations

Planned: 11 weeks

Completed: 0 weeks

- There will be an NSTX Physics Meeting on Monday, 2/6 at 1:30 pm in LSB318. The agenda is “Summary of presentations at the DIII-D PAC meeting” by S. Kaye, and “Summary of wrap-up discussion and debriefing” by DIII-D PAC – R. Wilson. (S. Kaye)
- The February NSTX Team Meeting will be held on Wednesday, February 8, 2006, at 1:30 P.M., in LSB318. The meeting agenda includes the status of the facility and research operations, the plan for the upcoming run, and the latest budget guidance. Remote participation will be available for our off site team members. (J. Savino)

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

The NSTX outage drew to a close this week with the completion of hardwired safety interlock, fault detection, and emergency stop system testing, and the successful insulation testing (HiPots) of the magnetic coil systems. Pre-operational testing of the plasma control system and the power system real time controls is complete and ready to start integrated system power testing this coming week. Alignments of the MPTS Lasers are in progress, as well as the assembly of the new lithium evaporator probe (LITER 1) and the pre-operational testing of the lithium pellet injector. The three neutral beam ion sources have been conditioned to operating levels of 65kV, and a new capability for notching the NBI up to 24 times in a pulse has been tested.

Access to the NSTX test cell will be limited during the 1st shift this coming week during power testing. Access to the test cell is expected after 5:00PM. Daily access restrictions will be announced in the morning meeting notes. (A. von Halle)

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

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

- Both lasers for the Thomson scattering diagnostic (MPTS) are close to being aligned, but further adjustment is needed to correct a clipping problem with one of the beams.
- The spatially and photometrically calibrated 1D CCD arrays have been reinstalled on NSTX in preparation for recycling and impurity measurements in the edge and divertor plasma region during the run which is about to start. The

data acquisition system has also been checked. (V. Soukhanovskii, Lawrence Livermore National Laboratory)

- Princeton University graduate student David Smith gave a presentation for proposed doctoral thesis research on NSTX on Tuesday, January 31. It was entitled, "Measurement of Electron Gyroscale Fluctuations on NSTX with Millimeter-Wave Scattering."

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

- The LITER probe assembly continued. The helium and air cooling lines were connected to their respective feedthroughs and passed leak testing. The connections to the thermocouple and power feedthroughs were started. Preparations for the Off-line Test Lab continued. The Installation Procedure IP-3007 "LITER Controls and Cabling Installation" was completed. The Job Hazards Analysis (JHA), National Environmental Protection Act (NEPA) Form, and the Operating Procedure (OP) for the Off-line Test Lab were approved. Similar documentation for the NSTX Test Cell are under review.
- The testing of the LPI controls was completed. The propellant valves were tested by firing into an empty barrel, and the subsequent respective peak chamber pressures were found to indicate satisfactory performance. During this testing, the new more sensitive Target plate piezo sensor was able to observe the arrival of the impacting propellant gas pulse.
- Formal reviews of the following Boundary Physics Experimental Proposals (XP) were held: XP 601 - Li deposition in NSTX – H.Kugel, XP 616 - Movable glow probe for wall conditioning – H. Kugel, XP 604 - Density scaling after Li application – J.Boedo (UCSD), and XP605- Divertor detachment and divertor heat load – by V.Soukhanovskii (LLNL).