

## NSTX Weekly Report (August 17, 2007)

**FY 2007 NSTX plasma operations completed on June 22, 2007.**

**Planned: 12 weeks**

**Completed: 12.63 weeks with 1,879 plasma discharges**

NSTX data has been sent to Alexey Zabolotskiy of Culham Labs as part of a joint density peaking study between MAST and NSTX. The data is also being compared to density peaking data from TCV, and will, in short order, be sent to Henri Weisen to be included in the ITPA density peaking database. The density peakedness for the three machines (TCV, NSTX and MAST) appear to be well-ordered by current profile. (S. Kaye)

There will be an NSTX Physics Meeting on Monday, 8/20 at 1:30 pm in LSB318. Ben LeBlanc will update us on the status of the MPTS window and data recalibration. If anyone has anything they would like to present, please let me know. (S. Kaye)

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

NSTX In-vessel work continued this week with high-k scattering diagnostic system calibrations and on-going inspections of the HHFW antennas. Also in the vessel, two rows of outboard divertor tiles were removed in preparation for the installation of new magnetic pickup coils, to allow measurements to be made to prepare for a future liquid lithium divertor module, and to perform additional tile surface analysis. Work continued this week on upgrades to the diagnostic grounding system.

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

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

#### Diagnostic Operations (R. Kaita)

- All in-vessel photometric and spatial calibrations of the divertor and midplane 1D CCD cameras, VIPS visible spectrometer, and EIES/filterscope filtered visible detectors have been completed. This work was performed under the Lawrence Livermore National Laboratory collaboration on NSTX.
- In-situ power testing for measuring the mixer loss was performed for the NSTX high-k microwave turbulence diagnostic.
- A peer review was held on Tuesday, August 14, for new halo current sensors to be installed in the NSTX lower outboard divertor region.

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

- Preparations for in-vessel FARO Arm measurements for designing the LLD installation were started (R. Ellis III). Additional LLD lithium wetting tests on molybdenum flame sprayed on stainless steel were performed (J. R. Timberlake).

- Preparations for the evaporation of the remaining lithium in LITER\_1d\_1u and associated testing were resumed. An auxiliary chamber for this work was assembled with sample coupons, and preparations for initial pumpdown, and vacuum testing are in progress. (J. R. Timberlake)
- A core sample was obtained from a lower Outer Divertor FY07 exposed graphite tile. Preparations are in progress to obtain unexposed comparison samples, as well as, samples cleaned using two candidate techniques, mechanical abrasion and laser cleaning. The initial analysis of available samples at PRISM on the Main Campus has been scheduled for next week. (J. R. Timberlake, C.H. Skinner, L. Roquemore)