

NSTX Weekly Report (Mar. 23, 2007)

FY 2007 NSTX plasma operations started on Feb. 19, 2007.

Planned: 10 weeks

Completed: 1.96 weeks (through Mar. 2, 2007)

- Vlad Soukhanovskii (LLNL) attended the 15th International Conference on Atomic Processes in Plasmas, held at the National Institute of Standards and Technology (NIST) on 19 - 22 March 2007 in Gaithersburg, MD. He presented a poster on electron density measurements in the NSTX divertor using Stark broadening of the deuterium P6-P13 Paschen series near-infrared emission lines. He held discussions with scientists from NIST and LLNL on atomic physics data and collisional-radiative modeling for NSTX divertor spectroscopy. He also toured the NIST Electron Beam Ion Trap (EBIT) experimental facility.
- Osamu Mitarai (Professor, Kyushu Tokai University, Japan) visited NSTX under the UA-Japan Personnel Exchange Agreement on March 12- 22 for the collaboration on vertical field current ramp-up. Y. Yokota from Kyushu University, Japan visited PPPL on March 22 and 23 to discuss microwave diagnostics with NSTX personnel.
- There will be an NSTX Physics meeting on Monday, March 26 at 1:30 pm in LSB252 (NOTE CHANGE OF ROOM). The agenda will be: W. Heidbrink (UC Irvine) - "Recent analysis of DIII-D fast-ion D-alpha data & implications for NSTX." The presentation will be placed in the usual Monday Physics Meeting folder in the Drag and Drop area. (S. Kaye)
- NSTX Team meeting was held on March 21. The facility operation schedule and other NSTX matters were discussed. The presentation material is available on the NSTX web page.

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

The NSTX maintenance period, extended to provide time to replace a leaking neutral beam calorimeter bellows, drew to a close this week with the installation of the repaired calorimeter and a bake of the NSTX vacuum vessel. NSTX plasma operations will resume early this coming week after the restoration of diagnostic systems after the bake, and a "scrub" of the machine areas. The neutral beam-line has been cooled to liquid He temperatures, and the ion sources have been reconditioned for operation to 90keV. Also this past week, a neon glow was performed to calibrate the CHERS/PCHERS spectrometers, and the lithium pellet injector (LPI) was reinstalled on the machine in preparation for TESPEL pellet experiments scheduled for this coming week. LITER-1d lithium evaporator thermal tests were completed offline in a vacuum test chamber, and that system is now being loaded with lithium and will be installed on NSTX early next week.

The NSTX test cell will be in restricted access during plasma operations this coming week. A vacuum vessel boronization is scheduled for Tuesday evening after beam operations and RF conditioning during the day on Tuesday. Access to the test cell will be available from 5PM to 10PM on Wednesday through Friday this week.

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

- N. Tamura (NIFS, Japan) arrived at NSTX to begin sample preparation and planning for TESPEL measurements.
- The LPI was reinstalled on NSTX, evacuated, and its bakeout is in progress in preparation for TESPEL measurements.
- LITER-1d unit-1 was completed and installed on the offline test facility. Thermal testing to operating temperatures was completed successfully. The canister was then filled with about 77 grams of lithium (about twice the previous amount) for the experiments on NSTX.