

NSTX Weekly Report (March 17, 2006)

FY2006 weeks of research operations

Planned: 11 weeks

Completed: 2.27 weeks

- We will have an NSTX Physics Meeting on Monday, 3/20 at 1:30 pm in **B252 (note change of room)**. The agenda is: **Results from last week's operation (1-2 vugraphs max)**: Raman – Transient CHI, Soukhanovskii - H-mode access with supersonic gas jet fueling, Gates – Double-Null target development, Menard – Lower Single Null target development. **Physics Talk**: Heidbrink (remote) - Effect of HHFW on frequency chirping instabilities. (S. Kaye)

Run Coordination (R. Raman, S. Sabbagh)

MSE Calibrations, March 13, 14 - F. Levinton: Good progress was made with MSE calibrations. Full calibrations were obtained at 0.45 and 0.55T and most of the required data at 0.35T was also obtained.

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

The NSTX FY'06 run continued this past week with XMP-33 "MSE calibration" using the TF up to 0.55T nominal field, various PF field combinations, and the NBI system injecting into a gas-filled vacuum vessel. A three day maintenance break was taken from Wednesday through Thursday this week to prepare for an experiment on impurity injection in collaboration with the Japanese National Institute on Fusion Science (NIFS), scheduled for next week. Work continued on the development and commissioning of the new lithium evaporator (LITER 1), and on the EBW antennas being installed at bay G.

NSTX plasma operations are scheduled for this coming week, and there will be no access to the test cell during the 1st shift. Evening access will also be restricted on Tuesday and Wednesday this coming week during HHFW antenna conditioning and a vacuum vessel boronization. (A. von Halle)

Research Operations (M. Bell)

Diagnostic Operation (R. Kaita)

- Calibration of the motional Stark effect (MSE) current profile diagnostic was performed last week with two days of operation in the gas filled torus with magnetic fields and neutral beam injection.
- The hardware for remote control of the antenna positions was installed for the electron Bernstein wave diagnostic. The software required to perform the antenna steering is being tested.
- The installation of the optical head for the multi-color tangential "optical" soft X-ray array was completed.

- Additional plasma monitors for detecting visible emission from deuterium, carbon, and lithium are being set up in preparation for the TESPEL pellet injection experiments planned for next week.

Boundary Physics Operations (H. Kugel)

- A successful Conceptual Design Review (CDR) was held for the LITER-1 design upgrades. The candidate commercial heater upgrades were mounted on a test prototype oven cartridge, and electrical testing was completed to a peak exit temperature of 780°C. Fabrication of a unit for installation on NSTX is in progress. Testing of a candidate procedure for loading lithium into the upgraded design is in progress.
- Preparations have started for baking the LPI in preparation for loading of TESPELs (Tracer-Encapsulated Solid Pellets) for application in forthcoming transport measurements.