

NSTX Weekly Report (May 7, 2004)

FY 2004 weeks of operation planned: - 18 weeks, Completed: - 11.6 weeks

Department, Project, Program (M. Ono, M. Peng, M. Williams, E. Synakowski)

- Several on-site and off-site researchers from the NSTX team attended the Transport Task Force meeting in Salt Lake City, held April 29 - May 2. (Fu, Hawryluk, Horton (IFS), Redi, Synakowski, Zweben). Stewart Zweben gave a presentation, "Latest Results from High Speed Imaging of Edge Turbulence in Alcator C-Mod and NSTX," Wendall Horton gave a talk, "Electron Transport on NSTX and Tore Supra," and Martha Redi's presentation was titled "Turbulence Simulations for NSTX and C-Mod." A particular focus of the meeting was a discussion of transport science, ITER, and transport priorities as they pertain to recent activities of the FESAC Priorities Panel. Given the development of new fluctuation diagnostics on NSTX, another topic of keen interest was captured in a talk by William Oberkampf of Sandia National Laboratory on "Verification and Validation in Complex Dynamical Systems," where criteria for measurement/theory comparison and code verification in turbulence models were described and discussed. (E. Synakowski)
- An NSTX Physics meeting will be held on Monday, May 10, beginning at 1:30 pm in B-318. The featured speaker will be Hantao Ji, who will discuss "Magnetic fluctuations measured at MRX and their theoretical perspectives".s (C. K. Phillips)
- NSTX received a "Commissioner of Labor Award" from the New Jersey Department of Labor for having worked three consecutive years without an injury case requiring time away from work. The award was presented at an Annual Governor's Occupational Safety and Health Awards Program dinner on May 6, 2004. Joe Winston of the NSTX engineering operations team attended the event and received the award on behalf of NSTX. (J. Levine, ES&H)

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

NSTX is returning to operations following a productive one week maintenance period. During this week, good progress was made on the installation of the 1st two resistive wall mode coils and the cabling for the new capacitor bank for transient CHI start-up. The new controller for the center stack shoulder gas injector has been commissioned providing alternate or combined operation of the shoulder and inboard-mid-plane gas injectors. The fit-ups and engineering analysis for powering the PF4 coil system has been started and that capability is being evaluated. Preparations were made to exercise the new daily boronization scheme and that system will be tested during plasma operations this week.

Access to the NSTX test cell will be restricted during plasma operations this week. Test cell access will be available from 5:00PM to 10:00PM each evening, except for Tuesday, May 11th, when plasma operations will be extended to 7:00PM. The next maintenance period is scheduled for June 5th - 17th. (A. von Halle)

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

- USCD Fast Probe team members performed maintenance on the Fast Probe, and upgraded the probe controls page. (R. Hernandez, L.Chousal, UCSD)
- A dust sample was retrieved from the dust detector at Bay C bottom. On examination in a digital microscope this showed microscopic black particles and fibers at an areal density of 2,018 /mm². The count median diameter was 2.06 microns. The samples have been sent to Charles Evans Associates for chemical analysis via Raman spectroscopy. (C.H.Skinner)
- Lithium Pellet Injector (LPI) testing in air was started. The assembly of vacuum appendages to the LPI was completed.
- The machining of parts for the Supersonic Gas Injector (SGI) was completed. An SGI team meeting in the Test Cell derived a cost effective method for connecting an SGI gas feedline using existing controls. A full scale cardboard mockup of the SGI probe motion system was completed and used to perform a trial fit-up at Bay-I in the presence of UCSD Fast Probe engineers who found no interferences when the nearby Fast Probe was in its most forward position. (T. Provost)

Diagnostic Operations (R. Kaita)

- Signals are being measured with the sensor tips on the Langmuir probe drive installed on the NSTX midplane near the radio frequency heating and current drive antennas.
- Calibration data have been obtained for the poloidal Mirnov coil array.

- A neon glow discharge was used to calibrate the charge exchange recombination spectroscopy (CHERS) and edge rotation diagnostic (ERD) systems.