

NSTX Weekly Report (Dec. 16, 2005)

FY2006 weeks of research operations

Planned: TBD

Completed: 0 weeks

NSTX Department, Project, Program (M. Ono, M. Peng)

- The NSTX Results Review for the 2005 run was held on Dec. 12-13 at PPPL. Over 50 presentations that included experimental, analysis, theoretical results and updates on diagnostic development and implementation were made. Several remote presentations were made by researchers who could not attend the Review in person. The breakdown of presentations by ET was the following: Solenoid-Free Startup (5), MHD (6), Transport and Turbulence (13), Edge Physics (13), Waves and Energetic Particles (9) and Integrated Scenario Development (6). The material presented at the Forum can be found through the Web link http://nstx.pppl.gov/DragNDrop/Results_Review_2005/. (S. Kaye, J. Menard)

- The NSTX Research Forum for FY 2006 research on NSTX was held at PPPL on December 14 - 16 attended by members of the NSTX Research Team, including several collaborators, some participating by conference links from off-site. After a plenary session on Wednesday morning, which provided information on plans, capabilities and organization for the next run period, break-out sessions were organized by the six NSTX Experimental Task (ET) Groups on Wednesday afternoon and through Thursday. In these sessions, members of the NSTX research team presented ideas for experiments which were then discussed and prioritized. A total of 116 proposals for experiments, requesting over 125 days of runtime, were presented and evaluated. From these, a subset of highest priority experiments was selected by the ET Groups and reported by the ET Group leaders to a final plenary session of the Forum on Friday morning. The NSTX Run Coordinator for 2006, Dr. Roger Raman (University of Washington) then presented the plan for preparing and reviewing the detailed NSTX Experimental Proposals and allocating run time. The material presented at the Forum can be found through the Web link http://nstx.pppl.gov/DragNDrop/Research_Forum_2005/. (M. Bell, R. Raman)

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

The NSTX outage continued this past week with preparations for the upcoming vessel pump-down. All in-vessel diagnostic alignments/calibrations have been completed, as well as the installation of in-vessel coupons and the cleaning/photographing of the torus interior. The neutral beam transition duct has been installed, thereby closing the access port to the vessel, and operational testing of both the neutral beam and vessel pumping systems has been completed. The NSTX vacuum vessel was pumped down and put on the

turbo-pumps on Dec. 18. The NB beam-line is also under vacuum. The vacuum leak checking is in progress.

Access to the NSTX test cell will be available via the card readers throughout this coming week. (A. von Halle)

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

- The Movable Glow Probe (MGP) temperature/air flow interlock cable and Poly-flo air supply line was connected to the probe at Bay-K top. The pressure switch functioned when the air supply was opened to the MGP and indicated "air flow" on the TVPS operator's GDC control page. The temperature indication at present is 21 degrees C (69 F). All PLC temperature/air flow interlocks for MGP operation have been implemented and tested. The motor control cables will be connected at a later time. (R. Gernhardt)
- The LITER-1 computer controls block design was completed, and purchasing of parts was initiated. The installation of power connections and control fiber optics to the LITER-1 Rack was initiated. The prototype oven assembly was completed and released for testing with the as-built heaters. The heater for the reservoir was completed, mounted on the prototype oven, and successfully tested to 450 watts. Work is in progress on the completion of the 2nd half of the snout heaters.
- Viewports (2.75 inch) exposed during FY05 plasmas were shipped to SNL (W.R. Wampler) for analysis similar to that performed previously on the QMB crystals. (C.H. Skinner)