

NSTX Weekly Report (March 26, 2004)

FY 2004 weeks of operation planned: - 18 weeks, Completed: - 6.6 weeks

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

- Ming Feng Gu of Stanford University arrived at NSTX on March 22, 2004 to work on the development of X-ray crystal spectrometer analysis program software for NSTX with Manfred Bitter. Sadatsugu Muto and Kazuo Araki of National Institute for Science Research Gifu, Japan, visited NSTX on March 22, 2004. (J. Savino)
- The March NSTX Team Meeting was held on Thursday, March 25, 2004. The agenda included an update on the vent recovery status and the run plan, along with a brief summary of the recent budget planning meeting. The presentation material is available on the NSTX web page.
- At the NSTX Physics meeting on Monday, March 29, there will be a remote presentation by Phil Ryan, of ORNL, entitled "Status of the HHFW Current Drive Experiment on NSTX (XP403)". The meeting will be held as usual in LSB B-318 and will begin at 1:30 pm.

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

- The NSTX maintenance period concluded this past week with the successful bake-out of the vacuum vessel, including a vessel boronization at elevated temperatures. One of the two vessel turbopumps failed late in the bakeout cycle and was replaced/commissioned over this weekend. The neutral beam has been cooled to cryo temperatures, and arc conditioning of the three ion sources has been completed over their full operating range.

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. The next maintenance week is scheduled for May 3rd-7th. (A. von Halle)

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

- The recent Bakeout of the vessel to 350°C achieved a lower peak outgassing pressure than that of the November-03 Bakeout. The subsequent pumpdown reached the same lower pressure at which the transition to longer hydrogen-dominated pumpdown rates occurred during the November-03 Bakeout. However, this occurred in only 25 hrs versus ~180 hrs in November-03. These differences were attributed to the relatively short duration of the vent and the initially clean vacuum conditions.
- During the Bakeout, Boronization-23 was deposited on hot vacuum surfaces.
- The Deposition Monitor was operated during the Bakeout. (C.H.Skinner)
- The Dust Detector was installed and is under bakeout in preparation for opening to the vessel. (C.H.Skinner)
- Calibrations of the IR Cameras were performed during Bakeout. (R.Maingi, ORNL)
- A Database for facilitating the analysis of spectroscopic and other data for evaluating boundary conditions, and operational performance was tested. (D. Mastrovito, C.H. Skinner)
- The Joint CDX-U/NSTX Lithium Evaporator team met to review the development of a lithium resistive evaporation probe, the offline test stand and the requisition of resistive evaporation units for testing. (R. Majeski)

Diagnostic Operation (R. Kaita)

- The SPRED VUV survey spectrometer moved to CDX-U for tests with plasmas earlier this week, and good spectra were obtained. Speculations concerning its failure on NSTX include faulty cables and a loose grating mount, which was tightened when the spectrometer was vented prior to its move to CDX-U. The instrument has been reinstalled on NSTX, and is being readied for plasma operations next week.
- Collaborators from the ENEA - Frascati Laboratory in Italy and the Johns Hopkins University have completed the calibration

of the PIXCS tangential soft X-ray diagnostic. The instrument is ready for plasma operations.