

NSTX Weekly Report (October 21, 2011)

NSTX is in the Upgrade Project outage in FY 2012

N. Nishino (Professor, Hiroshima University, Japan) completed a two-week visit to PPPL as part of a US-Japan collaboration. He gave a seminar entitled "Two-dimensional HeII Doppler shift image measurement in QUEST," in which he described a new plasma flow diagnostic (SWIFT) on the QUEST spherical tokamak at Kyushu University in Japan. The development of SWIFT is part of an ongoing collaboration between Nishino and researchers on NSTX. Possibilities for incorporating ideas from the QUEST SWIFT diagnostic on a similar instrument for the NSTX upgrade were discussed. (R. Kaita)

Michael Bell (PPPL) delivered a lecture entitled "Magnetic Confinement Fusion at the Crossroads" to a group of undergraduates and faculty at Monash University, Victoria, Australia. The lecture, which was presented remotely from PPPL to a lecture room at Monash University, surveyed the history of the fusion energy development, its present status, including recent results from NSTX, and the challenges moving forward to ITER. The lecture was part of a course "Energy and the Environment" in the Engineering Faculty which includes discussion of future energy sources. (M. Bell)

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

NSTX Upgrade construction activities continued this week with the transfer of the test cell to temporary construction power, and the powering down of the diagnostic control racks. The removal/storage of RF transmission lines and instrument air lines to the NSTX vessel was completed this week. Removal of items directly on the vacuum vessel at bays J, K & L continues, and the installation of the new West 118' platform has begun. In addition to diagnostic removals, electricians worked on the commissioning of the center stack oven and the sandblaster to be used for TF conductor prep.

Access to the NSTX test cell will be available only through previous arrangement with the Upgrade Work Control Center.

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

- Lithium Evaporators (LITERs)
 - The remaining 2 LITER units, F2 and K1 were vented and moved to storage. All 4 LITER units (F1,F2, K1, K2) are now empty and in storage
- Lithium Centrifugal Granule Injector for ELM Pacing
 - The angular spread of porcelain spheres injected at 50m/s in the final assembly was measured successfully.
 - Preparations started for performing the same measurements using lithium spheres.
- Lithium Pellet Injector (LPI)
 - Work continued on preparations to move the LPI and associated parts for storage.