

NSTX Weekly Report (October 28, 2011)

NSTX is in the Upgrade Project outage in FY 2012

R. Kaita (PPPL) gave a seminar on Wednesday, October 26, in the Department of Nuclear Engineering at Purdue University. His talk was entitled, “Scientific and Engineering Challenges for Liquid Metal First Walls in Magnetic Confinement Fusion” and it included a description of the lithium evaporation and liquid lithium divertor experiments on NSTX. He also met with Purdue collaborators on NSTX, and discussed plans for future research with the Material Analysis Particle Probe (MAPP). (R. Kaita)

The article “Conceptual design study of a superconducting spherical tokamak reactor with a self-consistent analysis code” by B. G. Hong (Chonbuk National University, Korea), Y.S. Hwang (Seoul National University, Korea), et al., was published in Nuclear Fusion 51, 113013 (2011) as a collaborative work with NSTX. In this paper, it is shown that a relatively compact-sized all superconducting coil ST design is viable by using an inboard neutron reflector while tritium self-sufficiency is achieved with outboard-only tritium breeding blanket. (Y.S. Hwang)

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

NSTX Upgrade construction activities continued this week with electrical removals associated with the X-Ray Crystal, Neutral Pulse Analyzer, Locked Mode Coil, and Transmission Grating Polychromator diagnostics, and removal of items directly on the vacuum vessel at bays J, K & L as well as all upper bays. Diagnostic mechanical vacuum pumps have been removed, and the installation of the new West 118' EL platform is in progress. Areas are being prepped on the vacuum vessel for TF clevis pad welding, and the neutral beam ion dump manifold is being leak-checked prior to attachment and brazing.

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

-