

NSTX Weekly Report (Jan. 22, 2009)

FY 2010 NSTX plasma operations

Planned: Total - 15 run weeks (Base - 14 run weeks, ARRA - 1 run week)

Completed: 0 run week and 0 plasma shot

• Members of the NSTX research team attended the 2nd NIFS-CRF International Symposium on Plasma-Surface Interactions on Jan. 18 - 20, 2010 at NIFS, Gifu, Japan and the presented following three invited and two contributed oral presentations: "Lithium coatings on NSTX plasma facing components and its effects on plasma performance -invited," by H. Kugel, "A Simple Apparatus for the Injection of Lithium Aerosol into the Scrape-off Layer of Fusion Research Devices - contributed," by D. Mansfield, "Effects of lithium coatings on ELM stability in NSTX - invited," by J. Canik (ORNL), "Deuterium retention with lithium conditioned walls in NSTX - contributed," by C. Skinner (presented by H. Kugel), and "Possible Implications of NSTX Lithium Experimental Results on Magnetic Fusion Research - invited," by M. Ono. The NSTX presentations were very well received at the symposium.

Members of the NSTX research team received the Department of Energy Office of Science Early Career Award: Jean-Paul Allain of Purdue University on "Harnessing Nanotechnology for Fusion Plasma-Material Interface Research in an in-situ Particle-Surface Interaction Facility," Jong-Kyu Park of Princeton Plasma Physics Laboratory on "Self-consistent Calculations of Pedestal Structure Modification by 3D Fields in Tokamaks," and Vsevolod Soukhanovskii of Lawrence Livermore National Laboratory on "Advanced High Heat Flux Divertor Program on the National Spherical Torus Experiment."

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

The NSTX outage concluded, and start-up activities began with the closing and pump-down of the NSTX vacuum vessel. The neutral beam to torus transition duct was re-installed this past week after successfully testing the new Beam Emission Spectroscopy (BES) diagnostic shutters, and pre-operational testing of the Liquid Lithium Divertor (LLD) heating and control system. Vessel leak checking, machine area scrubs, and preparations for a vessel bake are in progress, as well as MPTS diagnostic Laser alignments and the start of integrated system testing of the LLD.

Access to the NSTX test cell will be available 1st and 2nd shifts this coming week, with periods of restricted access for MPTS diagnostic Laser alignments.