# NSTX-U Weekly Report (July 13, 2012)

## NSTX-U is in the Upgrade Project outage in FY 2012

The papers "Transient CHI Plasma Start-up in NSTX and CHI Program Plans on NSTX-U" by R. Raman (U. Washington), D. Mueller (PPPL), S.C. Jardin (PPPL), et al. and "Massive Gas Injection Plans for Disruption Mitigation Studies in NSTX-U" by R. Raman, D.P. Stotler (PPPL), T. Abrams (PPPL), et al., were published in a special issue of the journal IEEJ Transactions on Fundamentals and Materials, Vol. 132 (2012) No. 7, dedicated to the 16th International ST Workshop. These papers briefly summarize experimental and computational results from NSTX CHI experiments and program plans for CHI and MGI experiments on the upgrade to NSTX, which is now under construction. (R. Raman)

Jon Menard (PPPL), Gary Taylor (PPPL), and Rajesh Maingi (ORNL) attended the 10th US-PRC Magnetic Fusion Workshop, held at UCSD from July 10-12. Menard presented a talk "Overview of PPPL and NSTX-U collaboration interests, plans, and results on EAST", and Maingi presented a talk "The steps by which lithium wall coatings lead to ELM avoidance in NSTX". There were many fruitful discussions on new collaboration prospects between US and Chinese scientists. (R. Maingi)

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

NSTX Upgrade construction activities continued this week with the ongoing preparations for the cutting of the vessel at bays J-K. This modification will allow for the installation of the vessel extension needed for the new neutral beam port. Installations of in-vessel stiffeners, which are needed prior to making these cuts, are nearing completion, as is the welding and installation of the containment shields. The new bay J-K vessel cap and bay K port extension is being prepared for vacuum leak checking and subsequent installation on the NSTX vessel. Good progress continues on the installation of the new TF clevis pads, with welding of the upper bay A-D pads now complete, and the start of welding at lower bays G-H. A pre-job brief for the modification of the PF4/PF5 supports for the NSTX-U configuration was held this week, and that work has started. New TF clamps are now on site, and preliminary fit-ups are in progress. On neutral beams, prep work for the upcoming beam-line move has started, and the lift beam and fixtures have been moved into the old TFTR test cell.

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