

## NSTX-U Weekly Report (Jan. 18, 2013)

### **NSTX-U is in the Upgrade Project outage in FY 2013**

Jon Menard (PPPL) participated in the second workshop for the Max Planck/Princeton Center for Plasma Physics held January 14-16, 2013 at the Max-Planck-Institut für Plasmaphysik (IPP) in Garching, Germany. Jon gave a presentation entitled: "Effect of rotation and drift-kinetic damping on NSTX kink stability with future application to tearing stability". (J. Menard)

Masa Ono (PPPL) attended the First A3 Foresight Workshop in Spherical Torus at Seoul National University, Seoul, Korea, Jan. 14 - 16. It is a workshop to coordinate the spherical tokamak research among three Asian nations, namely, China, Japan, and Korea. He gave an invited talk entitled "National Spherical Torus Experiment - Upgrade Status and Plans". After the conference, he collaborated with the CARFRE group at SNU on the VEST experiment and high harmonic fast wave heating and current drive feasibility study on the K-DEMO and KSTAR. (M. Ono)

Tyler Abrams (Princeton University) made a successful presentation on Friday, January 15, of his doctoral thesis proposal entitled "The compositional and spatial evolution of thin mixed-material films in the NSTX-U divertor." Abrams intends to model the erosion and re-deposition of plasma-facing component (PFC) materials, and evaluate his results with measurements on the Magnum-PSI linear device. These studies will be relevant to PFCs planned for NSTX-U and future fusion devices. (R. Kaita, PPPL)

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

NSTX Upgrade construction activities continued this week with the installation of the second neutral beam's (NB2) 90" flange and ion source isolation valves. The vacuum leak check fixture for the new vessel port for NB2 at Bays J-K is being fabricated, and preparations are underway for the bay L vessel cut needed for the MPTS Diagnostic.

Preparations for plasma operations in the NSTX-U configuration also continued with the ongoing fabrication of the new field coil power conversion system firing generators. Additional technical resources have been added to this effort to be ready to have the first five firing generator chassis installed on FCPC rectifiers by the end of February.

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