

## NSTX-U Weekly Report (Sept. 14, 2012)

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

Professor Jean-Paul Allain from the Department of Nuclear Engineering at Purdue University met with members of the LTX and NSTX-U teams and Princeton Professor Bruce Koel's surface science group on Thursday, September 6. The Materials Analysis and Particle Probe (MAPP), developed at Purdue, enables sample exposure to tokamak plasmas and immediate study in a separate analysis chamber with a variety of surface diagnostics. The details of calibrating the MAPP diagnostics, testing on LTX, and implementation on NSTX-U were discussed. Professor Allain also made a presentation on recent measurements and modeling of deuterium uptake with lithium-coated carbon and refractory metal substrates. (R. Kaita)

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

NSTX Upgrade construction activities continued this week with the commissioning of the alignment metrology needed to properly establish the desired neutral beam #'s 1 & 2 trajectories, and the completion of the move of NB2 into place in the NSTX Test Cell. The NW corner of the NSTX machine platform was removed to make room for NB2, and the north test cell door shield blocks was removed to make room for the NB2 High Voltage Enclosures (HVEs). Also this week, installations of new PF2/3 mounting hardware, as well as AC power for the vacuum/RGA/glow discharge systems continued.

Preparations of non-upgrade equipment for plasma operations in the NSTX-U configuration also continued. Painting and general maintenance of outdoor equipment continued, and the installation of a new cooling system for the 2600kW standby diesel generator was completed.

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

### **NSTX-U 2<sup>nd</sup> NBI Beam Box Moved into Test Cell!**



*"The eagle has landed."* Mike Viola, Critical Lift Team Leader