

## NSTX-U Weekly Report (September 2, 2016)

### **FY 2016 NSTX plasma operations completed Completed: 10.06 run weeks and 1066 plasma shots**

Stefan Gerhardt (PPPL) will be the recipient of 2016 Excellence in Fusion Engineering Awards. Gerhardt is cited "for your many scientific contributions, including your recent work on plasma disruptions, which will provide major benefit to ITER and other major fusion experiments, and the leadership you provided, and are providing, to the successful completion and operation of the NSTX-U experiment at PPPL. (S. Gerhardt)

Visiting graduate student Felipe Bedoya returned to the University of Illinois at Urbana-Champaign (UIUC) last week. He was at PPPL during the last NSTX-U run period, during which he took thesis data with the Materials Analysis and Particle Probe (MAPP). Bedoya used the MAPP to insert graphite and molybdenum alloy (TZM) samples into the NSTX-U vacuum vessel for exposure during boronization and subsequent plasma operations. He was able to characterize the samples after withdrawing them into the MAPP analysis chamber without exposure to air. Bedoya will continue the analysis of the MAPP samples at UIUC, and use the results along with further laboratory studies there for his doctorate from the Department of Nuclear, Plasma, and Radiological Engineering. (R. Kaita, PPPL)

### **Engineering Operations (A. von Halle, P. Titus)**

All in-situ joint verification testing of the lower TF connections has been completed, and the TF and OH bus inside the lower umbrella has been removed. Daily vacuum vessel Hi-Pots have resumed after finding and correcting a contaminated through-bolt on the upper ceramic break, and machine technicians are in the process of fitting up prototypes for an improved ceramic break bolt bushing design. Radiography of the failed PF1aU coil was performed and analysis of results is in progress as part of the forensics of that failure. Setup of the coil winding facility continues. A preliminary review of plans and schedules to remove the NSTX-U center column and replace both the PF-1A U & L coils was held this week. The neutral beam-lines are being pumped, purged, and vented in preparation for the removal of the calorimeter assemblies for maintenance, and to remove the neutral beam duct for vessel access. The procedure to "safe" the NSTX-U vessel for access with the lockout and tagout of all hazardous energy sources is in progress.

Access to the NSTX-U Test Cell is expected to be available for approved work this coming week.