

NSTX-U Weekly Report (September 4, 2015)

NSTX-U is in the Upgrade Project outage in FY 2015

R. Maingi (PPPL) presented a colloquium at the Dept. of Physics and Astronomy, West Virginia University on September 3, 2015: "The Benefit of Coating the Plasma Facing Surfaces of Fusion Research Chambers with Low-Atomic-Number Materials in Keeping Plasma Hot, Confined, and Fusing." This lecture was sponsored by the APS Distinguished Lectures in Plasma Physics program. WVU students, postdocs, and faculty expressed substantial interest in the worldwide use of lithium in tokamaks, and possible collaboration on PPPL lithium-related projects. (R. Maingi)

Devon Battaglia (PPPL) presented an overview of the NSTX-U program at University of Rochester's Laboratory for Laser Energetics on September 4. The talk gave an overview of fusion energy research using magnetic confinement, the motivation for tokamak and spherical tokamak research and summarized the scientific mission of NSTX-U. The audience included members of the community, as well people working on inertial confinement fusion research at LLE. (D. Battaglia)

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

Following the successful Raman and Rayleigh scattering calibrations of the Multipulse Thompson Scattering (MPTS) diagnostic, the NSTX-U vessel underwent a brief vent to install valves for the new Argon Purge System, check interferences for LITER & MAPP, install a DTI assembly, install a window at bay J Upper, make an obstruction measurement at the Bay L port, and replace the Bay B CCD camera and shutter. The vessel is once again under high vacuum, and preparations are underway for an extended vessel bake. The Engineering Work Package (and procedure) for the bake is ready, and includes required configurations of Coil system mechanical supports and diagnostic system preparations. The bake will start this coming week and continue to the end of September. Also this week, new IR cameras were installed at Bays G & H, and will be calibrated during the bake. The Beam Emission Spectroscopy (BES) diagnostic fiber bundle was installed in the NTC to within 8" of its final terminations at the vessel. The final connections of the BES fibers will be completed after the bake. Local testing of the Switching Power Amplifier (SPA) system used to power the NSTX-U Resistive Wall Mode (RWM) coils started this week with the open-circuit testing of the rectifier that provides the primary DC power for the SPA's.

The NSTX-U Test Cell is expected to be in restricted access this week during the vessel bake.