

NSTX-U Weekly Report (December 6, 2013)

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

High-resolution vacuum field divertor footprint structures, produced by $n = 3$ perturbation fields from the ex-vessel RWM/EF coil with a current of 1 kA, have been calculated for NSTX discharge 127317. The internal structure and total wetter area of the upper outer and lower outer footprints in this slightly unbalanced DN discharge are found to be significantly different. The total area covered by the lower outer footprint is 352.3 cm^2 while the upper outer area is 431.7 cm^2 . A comparison with an image of the lower outer divertor recycling emission in a similar DN discharge shows footprint features that are very similar to those found in the vacuum field modeling but indicate toroidal variations that do not appear in the vacuum modeling results. These differences are being investigated. (Todd Evans, General Atomics).

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

NSTX Upgrade activities continued with the ongoing preparation of the OH winding system. Timing of the conductor/tape heads is now good, and test pulls of OH conductor are in progress. On the NSTX-U machine, the welding of the TF supports has been completed, and all turnbuckle spacers and struts installed. In vessel, metrology for the installation of diagnostic studs is in progress, and fit-up installation of two of the four neutral beam armor plates have been completed.

Preparations for plasma operations in the NSTX-U configuration also continued with the completion of a second Stand Alone Digitizer (SADII) module to be used for plasma diagnostics. Re-commissioning of neutral beam power systems also continued with the replacement of a Autotransformer/Tap Changer assembly with an operational spare.

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