

NSTX-U Weekly Report (October 7, 2016)

FY 2017, NSTX-U is in the maintenance and repair outage.

M. Ono (PPPL) was invited to attend the ICEF (Innovation for Cool Earth Forum) on October 5 – 6, 2016 in Tokyo, Japan. The ICEF is aimed at providing a global platform to promote discussions and cooperation among researchers, business persons, and policymakers from around the world in order to address climate change through innovation of energy and environmental technologies including their dissemination: <http://www.icef-forum.org>. He gave an invited talk entitled “Spherical Tokamak for Economical Fusion Energy Development” and participated in the fusion panel discussion. (M. Ono)

M. Ono (PPPL) visited the University of Tokyo (Tokyo, Japan) on October 7, 2016. He met with Profs. Y. Ono and Y. Takase to discuss the ST collaboration research under the US-Japan Collaboration. He toured the TS-3/4 ST facilities and heard the status of fusion energy research at the University of Tokyo. The facilities are undergoing upgrade for higher field and current operations to explore high-beta ST regimes with the merging-reconnection plasma heating. He gave a seminar to the University of Tokyo faculties and students on “ST Fusion Development Path and NSTX/NSTX-U Overview”. (M. Ono)

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

NSTX-U in-vessel diagnostic calibrations continued this past week. In-vessel time was also spent to complete fit-ups of the new MPTS calibration probe. PF1aU tests to baseline the failed coil cooling tubes are in progress in preparation for the coil dissection. The pre-job brief for the start of the coil dissection has been scheduled for October 11th. The new PF1a mandrel cylinders have been welded, and are out for radiography. Work continues on the recommissioning of the coil winding facility with ongoing conductor pull tests and adjustments, and the assembly of the vacuum pressure impregnation (VPI) system. Disconnection of the neutral beam (NB) thermocouple and the calorimeter drive assemblies on both NB's has started in preparation for next week's scheduled removal of both calorimeters for maintenance.

Access to the NSTX-U Test Cell and South High Bay will be restricted during the neutral beam calorimeter removals.

Experimental Research Operations (S. Gerhardt, R. Kaita)

In-vessel diagnostic calibrations were completed during the week of 10/3. Monday and Tuesday were dedicated to the successful spatial calibration of the SSNPA diagnostics (D. Liu). Wednesday was dedicated to metrology, white plate, and lab sphere calibrations of the Edge Neutral Density Diagnostic (ENDD) and Gas Puff Imaging (GPI) diagnostics (F. Scotti and S. Zweben). Thursday was dedicated to a number of follow-up calibrations including i) recalibration of the ORNL reflectometer (C. Lau), ii) tile metrology (F. Scotti), iii) MAPP metrology (C. Skinner), and iv) spectroscopy sightline evaluation (K. Gan).