

NSTX-U Weekly Report (Feb. 21, 2014)

NSTX-U is in the Upgrade Project outage in FY 2014

Wonho Choe (Director, Fusion Plasma Transport Research Center, KAIST, Korea) and his associates visited PPPL during the week of Feb. 17 to discuss the KSTAR x-ray diagnostic and tungsten impurity injector designs with the NSTX research team and Johns Hopkins University researchers. During their visit, they gave the following presentations: “Research Activities in KAIST-FPTRC” by Wonho Choe, “Design and tomography test of Soft X-ray Array diagnostics on KSTAR” by Seung Hun Lee, “Design and tomography test of Edge Multi energy Soft X-ray Array diagnostics on KSTAR” by Juhyuk Jang, “Impurity transport analysis and preparation of W injection experiments on KSTAR” by Joohwan Hong, “Development of tungsten injection system for high Z impurity study on KSTAR” by Joohwan Hong. (M. Ono, PPPL)

Charles Skinner (PPPL) participated in the Erosion, Deposition, Dust and Tritium workshop held at the ITER organization 12th -14th February, 2014. The goal of the meeting was to assess the diagnostic requirements for erosion/deposition/dust and tritium diagnostics in light of the change in ITER divertor PFC material and in preparation for conceptual design reviews scheduled for the near future. He gave two presentations: ‘*Experience with IVVS-like systems*’ and ‘*TFTR experience with tritium accounting and tritiated dust*’ and chaired the session on ‘Dust Measurements’. (C. Skinner)

Stefan Gerhardt (PPPL) visited General Atomics to participate in the DIII-D physics advisory committee (PAC), from Feb 11th to Feb 13th. The committee was given presentations on the planned FY14 DIII-D run campaign, the DIII-D 10 year vision, and the role of DIII-D in national and international collaborations; the PAC provided comments and advice in these three areas in answering the committee charge. (S. Gerhardt)

Experimental Research Operations (M. Ono - Acting)

The U. Wisconsin group (D. Smith, G. McKee, R. Fonck) has delivered to PPPL all the custom hardware for the BES (beam emission spectroscopy) expansion to 48 detection channels. The hardware includes detector modules, optical modules, conditioning electronics, and digitizer. The expansion to 48 detection channels will better utilize a new 2D layout of BES sight lines in the pedestal/SOL region. The Physical Sciences Lab at U. Wisconsin is presently performing the design and fabrication of the 2D fiber assembly. (D. Smith)

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

NSTX Upgrade activities continued with the ongoing winding of the new OH coil on the inner TF bundle in two shift/day operations. A second set of in-line brazes have been completed on the OH second layer, and that layer is nearing completion. The new high voltage Triax cables that supply high Voltage grid power from the Neutral Beam Power Building to NB2 in the NSTX test Cell have been terminated and successfully tested.

Preparations for plasma operations in the NSTX-U configuration also continued with the ongoing preparations of the Field Coil Power Conversion (FCPC) rectifiers for upcoming power testing. All drawings and procedures required to complete fiberoptic connections between the

FCPC rectifiers and the Controls junction Area have been completed.

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