

PRINCETON PLASMA PHYSICS LABORATORY

WEEKLY highlights



The PPPL Highlights for the week ending November 23, 2012, are as follows:

NSTX (M. ONO):

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

A highlight on the snowflake divertor research has just been published on the DOE Office of Science web site: <http://science.energy.gov/fes/highlights/2012/fes-2012-10-a/>. The highlight summarizes experimental results obtained in NSTX and more recently, with participation of NSTX research staff, at the DIII-D tokamak. As per the highlight, "One of the grand challenges of the magnetic fusion research is to "tame the plasma-material interface"—to develop an interface between the hot plasma in the nuclear fusion reactor and the low-temperature material wall. The novel snowflake configuration diverts and dissipates heat lost from the high-temperature core plasma, thus alleviating thermal loads on the material wall." The "snowflake divertor" was a 2012 R&D 100 Winner:

<http://www.rdmag.com/award-winners/2012/08/high-performance-tokamak-exhaust>

The NSTX highlight appears among other prominent research efforts managed by the DOE Office of Fusion Energy Sciences.

NSTX Upgrade construction activities continued this week and are highlighted in the Engineering section below.

Preparations of non-upgrade equipment for plasma operations in the NSTX-U configuration also continued with the completion of testing of the prototype fault detector in conjunction with the new firing generator in a field coil power conversion rectifier. The Real Time Control System was used in a combined test of the fault detector, firing generator, and rectifier driving 5kA into a dummy load, while working through a comprehensive list of simulated faults. Also this week, the Final Design Review of the MPTS diagnostic ex-vessel Laser input configuration was held.

FUSION SIMULATION PROGRAM (W. TANG):

Bill Tang participated in the International Toki Conference (ITC-22) on November 19-22, and presented an invited plenary talk on "Challenges in Cross-Validation of Experiment and Modeling in Fusion Energy Sciences." He also chaired the Wednesday morning oral session at ITC-22.

BUSINESS OPERATIONS (E. WINKLER):

Helen Wojtenko has joined the Accounting Division as a staff accountant. Ms. Wojtenko passed the CPA exam in the State of Pennsylvania and was previously employed by Rutgers University. She will be performing a variety of general accounting functions.

ENVIRONMENT, SAFETY, HEALTH & SECURITY (J. LEVINE):

A management safety walkthrough of the D-Site Neutral Beam Power Conversion building took place on November 26. Very good to excellent safety conditions in this area were found by the walkthrough participants.

This report is also available on the following web site:

<http://www-local.pppl.gov/director/highlights/2012-highlights.htm>