NSTX Weekly Report (December 12, 2008)

FY2009 research operations

Planned: **TBD**

Completed: **0 weeks**

Program and research planning

The NSTX Research Forum for FY2009 was held at PPPL on Monday through Wednesday Dec 8–10, 2008, involving NSTX Team members who attended or participated remotely by teleconference. The forum began with a plenary session where programmatic issues for the 2009 run were discussed and the plans of other facilities, MAST, Pegasus, C-Mod and DIII-D, were presented. Then in three consecutive half-days of two parallel sessions, each of the six NSTX Topical Science Groups, discussed over 100 proposals for experiments. In the final plenary session on Wednesday morning, the prioritized lists of proposals were presented by the group leaders and the plan for organizing the run time was presented by the NSTX Run Coordinator for 2009, Dr. R. Raman. Files of the presentations to the forum are available through the website http://nstx-forum-2009.pppl.gov/. *(M. Bell)*

Dr. S. Kaye attended the Seventh IEA Large Tokamak Workshop (W69) on Implementation of the ITPA Coordinated Research Recommendations, held at PSFC, MIT on Dec. 11-13, 2008. The meeting was attended by Program leaders of the major fusion devices and ITPA Chairs and IO representatives. The objectives of the meeting were to 1) discuss and agree to the various ITPA groups' plans to address the ITER High Priority Issues, and 2) to establish levels of commitment by the various programs to ITPA Joint Experiments and Programmatic Activities. *(S. Kaye)*

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

The NSTX outage continued this week with ongoing diagnostic calibrations and preparations for vessel pump-down. HHFW antenna installations were completed over the weekend, and various coil system insulation tests (HiPots) have been performed. The TF system flexible bus links have been installed, integrated system resistance checks successfully completed, and the machine's umbrella lid lifted into place. Also this week, the copper to stainless brazing of a prototype Liquid Lithium Divertor (LLD) tray segment was completed.

The NSTX test cell will be in free (card reader) access for most of this coming week. Some access restrictions are expected on the 2nd shifts during the latter part of the week for MPTS laser testing.

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

1) Liquid Lithium Divertor (LLD)

- a gauge representing the as-built configuration of the mounting points inside the vacuum vessel was used to test and analyze the shape of the first LLD prototype quadrant.
- material for a second prototype LLD quadrant was delivered to the vendor for bending to shape.
- a meeting was held to integrate planning for the Summer 2009 Outage.

– a Work Request for an in-vessel cable mockup jig was submitted for fabrication.

– a concept was developed for electrically isolating the thermocouples in the LLD gap tiles to allow low-noise calibrations during vessel bakeout.

2) Lithium evaporators (LITERs)

– the field installation of cabling for improved probe position telemetry to reduce EMI was completed and connectorization is in progress.

3) Sample Probe

– final machining for the Sample Probe support stand is in progress.

Diagnostic Operations (R. Kaita)

1) Spatial calibrations for the poloidal CHERS plasma rotation diagnostic, FIDA fast ion diagnostic, and MSE current profile diagnostic are nearly complete. Photometric calibrations are planned for next week.

2) Two out of the three sets of bolometer detectors for the lower divertor region (eight-channel "Bay I upper" and four-channel "Bay J midplane" arrays) have been installed. The third eight-channel array ("Bay I lower") will be mounted this weekend.