NSTX Weekly Report (December 14, 2007)

FY 2008 NSTX plasma operations

Planned: TBD

Completed: 0 weeks

Jinping Qian from ASIPP, China, completed his visit to PPPL where he has been working to understand the approaches taken for equilibrium reconstruction of low aspect ratio NSTX plasmas. Specifically, he has spent time learning the NSTX version of EFIT as well as the LRDFIT codes, with the intent of using LRDFIT for equilibrium reconstruction of EAST plasmas. One of the issues that needs to be resolved, and the motivation for adapting LRDFIT, is a discrepancy between measured and calculated wall currents in EAST. (S. Kaye)

David Gates (PPPL) visited the University of Wisconsin-Madison this week to discuss opportunities for collaboration with the Pegasus group. Several activities were identified that will help determine the utility of the plasma gun startup technique first used on Pegasus for non-inductive initiation experiments on NSTX. D. Gates also gave a colloquium to the Engineering Physics department on results from the NSTX 2007 run. (D. Gates)

R. Maingi (ORNL) gave a seminar at IPP Greifswald, Germany, entitled "Characteristics of Small ELMs in NSTX." (R. Maingi)

R. Raman (Univ. of Washington) gave the seminar "Magnetic Fusion and Progress in Spherical Torus Research" at the Laboratory for Laser Energetics at the University of Rochester on December 7. (R. Raman)

There will be an NSTX Physics Meeting on Monday, 12/17 at 1:30 PM in LSB318. Dmitri Ryutov of LLNL will give a talk entitiled, "A simple model of blobs in the X-point configuration" (S. Kaye)

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

The bake of the NSTX vacuum vessel continued this past week, along with the conditioning of the three neutral beam ion sources. The ion source in the "B" position developed a small vacuum leak late in the week and will be removed for repair or replacement with a spare currently on the test stand. Also this week, lithium wetting tests continued on the proposed Liquid Lithium Divertor surface samples, and parts have been received for the new lithium evaporator probe.

The NSTX test Cell will be in restricted access through Monday this coming week during the vessel bake and neutral beam conditioning. Access to the test cell will be available from Tuesday through Friday in parallel with vessel leak checking and post-bake diagnostic system work.

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

• The bellows motion drive for LITER-08 Bay-K passed acceptance testing. The drawings for the LITER Bay-F and Bay-K umbrella support structures were submitted for fabrication.

• A LLD team meeting reviewed design issues, and discussed scheduling and plans for the CDR.