

NSTX Weekly Report (July 13, 2007)

FY 2007 NSTX plasma operations completed on June 22, 2007.

Planned: 12 weeks

Completed: 12.63 weeks with 1,879 plasma discharges

• The '07 NSTX Results and Theory Review will be held at PPPL on Monday and Tuesday, July 23 and 24th. This will be followed by the Run Assessment, which will be held on Wed AM, 7/25. As in previous Results Reviews, you will have the opportunity to give short presentations (10 to 15 min) concerning your XP and/or Theory results, organized by topical group. If there is enough interest, we will also have a session on Diagnostic advances and status.

It is important to start organizing the sessions very soon, and therefore we request that you send the titles of your presentations to skaye@pppl.gov, d gates@pppl.gov and to your ET leader by Wednesday of THIS week.

ET	Leader	
MHD/EP	S. Sabbagh	ssabbagh@pppl.gov
T&T	K. Tritz	ktritz@pppl.gov
Boundary	V. Soukhanovskii	vlad@pppl.gov
RF	G. Taylor	gtaylor@pppl.gov
ISD	R. Maingi	rmaingi@pppl.gov
Sol.-Free Startup	R. Raman	rraman@pppl.gov

I will be sending out a preliminary agenda and schedule as soon as I get all the talk titles. As in previous Results Reviews, we will be broadcasting remotely, and the presentations will need to be sent prior to the meeting so they can be put in the NSTX Drag&Drop folder for remote access. If you will be visiting from off-site, please let Joanne Savino (jsavino@pppl.gov) know so she can arrange for your entry to the Lab. Also, please direct any questions regarding accommodation to her as well. (S. Kaye)

• Members of NSTX team attended the 34th European Physical Society Conference on Plasma Physics, held in Warsaw, Poland from July 2 to 6, 2007. An invited talk entitled “the observation and theory of Alfvén-Acoustic Modes on NSTX and JET” were reported by N. Gorelenkov, et al.

In addition, the twelve NSTX posters were presented as shown below. (S. Kaye)

P1.106 – E. Fredrickson, et al., “Beta Suppression of Alfvén cascade modes in NSTX”

P1.117 – D. Darrow, et al., “MHD induced neutral beam ion loss from NSTX”

P1.162 – J. Menard, et al., “Physics design of the National High-power advanced Torus experiment”

P2.020 – R. Maingi (ORNL), et al., “Variation of the midplane heat flux width with plasma current and heating power in NSTX”.

P2.023 – V. Soukhanovskii (LLNL), et al., “Divertor heat flux amelioration in highly-shaped plasmas in NSTX”.

P2.043 – K.L. Wong, et al., “Microtearing instabilities and electron transport in NSTX”.

P2.045 – H. Park, et al., “NSTX high-k scattering system on NSTX status and plan”.

P2.048 – K. Tritz (Johns Hopkins), et al., “Investigation of the relationship between ELM energy loss and perturbed electron transport on NSTX”.

P2.050 – L. Delgado-Aparicio (Johns Hopkins), et al., “Neoclassical impurity transport in NSTX beam heating H-mode plasmas”.

P2.061 – D. Stutman (Johns Hopkins), et al., “Dependence of perturbed electron transport on heat flux and $q(r)$ in NSTX”.

P2.064 – S. Kaye, et al., “Confinement, transport and turbulence properties of NSTX plasmas”.
P4.160 – B. LeBlanc, et al., “HHFW and EBW research on NSTX”.

There will be an NSTX Physics Meeting on Monday, 7/16 at 1:30 pm in LSB318. We will have summaries of the highlights of the recent EPS meeting: R. Budny - Transport, Modeling, Theory, E. Fredrickson - MHD, Energetic Particles, Boundary, and S. Kaye - Special ITER session. (S. Kaye)

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

The NSTX outage began this holiday shortened week after pumping and purging, and then venting the NSTX vacuum vessel to air. The vessel was first vented to nitrogen in order to remove and bag in argon several diagnostic windows to evaluate the nature of window surface coatings after the plasma operations in particular the use of lithium evaporator during this run. An air purge of the vessel will continue until next week when the neutral beam duct will be removed to provide vessel access.

The NSTX test cell will be in unrestricted (card reader) access this coming week.

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

- LITER-1du1 (unit 1) was removed from NSTX, with the lithium content doubly sealed in argon, and transported to C-Site to await the completion of preparations in progress for off-line testing.
- Personnel entered the recently vented NSTX vessel for inspection, photography, and documentation of post-run conditions, and removal of samples, coupons, and tiles for analysis. The plasma facing components all appeared intact and no obvious source of high-Z metallic contamination was found. There was evidence of lithium deposition on many areas.
- Documentation was completed and submitted to the PPPL shops for fabrication of lithium test trays to facilitate LLD wetting tests at SNL. A linked schedule for the LLD is now in the Rollover Schedule. NSTX field quench data analysis (S. Gerhardt) and other information for eddy current and lithium related MHD simulations was sent to N.Morley (UCLA).