

NSTX Boundary Physics Operations



- Demonstration of clear reduction in recycling by coating walls with lithium from pellets injected into both limiter and divertor discharges.
- Also used LPI to inject lithium, boron and carbon pellets for JHU perturbative transport experiments.
- Commissioned the Movable Glow Probe (MGP) and used it for experiments, including the long-pulse discharges and the CHI experiments. XMP in FY06.
- Now proceeding with installation of a lithium evaporator, LITER-1, for next run period.
- N. Tamura and H. Funaba from NIFS visited NSTX as part of the US- Japan Ex. Prog. to discuss planned impurity transport measurements with NSTX and JHU.
- During later half of the Run, Boronizations -46, -47, -48 performed. 332 grams TMB deposited to date.
- Neil Brooks (GA) visited NSTX 8/25/05 to discuss results of GA-LLNL-ORNL-PPPL collaboration on fast filterscope ELM imaging and divertor spectroscopy with R. Maingi (ORNL), L. Roquemore (PPPL) and V. Soukhanovskii (LLNL). Collab completed.

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- **National Undergraduate Fellow, Colin Parker (Harvey Mudd College) under the mentorship of C.H. Skinner, investigated the operation of an electrostatic dust detector. A new technique to deliver a known amount of dust in a test vacuum chamber was successfully developed.**
- **The in-vessel toroidal and poloidal Sample Coupons were removed and shipped to SNL where analysis was performed and completed. (W.R. Wampler, SNL, C.H. Skinner)**
- **A paper on the design of NSTX supersonic gas injector and recent interesting NSTX plasma fueling results was presented at the 21st IEEE/NPSS SOFE 2005, Knoxville, TN. (V.A. Soukhanovskii, LLNL)**
- **"Fuelling Requirements for Steady-State Spherical Torus Operation", by R. Raman, T.R. Jarboe, H.W. Kugel was presented at the Joint Meeting of the 3rd IAEA Technical Meeting on Spherical Torus and the 11th International Workshop on Spherical Torus, 3-6 October 2005, St Petersburg, Russia.**
- **The following Boundary Physics related contributions were presented at the 47th APS/DPP Meeting, Oct. 24-28, 2005, Denver CO:**
 - "Time Resolved Measurements of Deposition and Dust in NSTX"(oral paper) C. H. Skinner, et al.**
 - "Development of Particle and Impurity Control Techniques for NSTX"(poster paper), M.G. Bell, et al.**
 - "Recycling Measurements Following Repeated Lithium Pellet Injection"(oral paper), H. W. Kugel, et al.**
 - "Dissipative Divertor Experiments in NSTX"(oral paper), V.A. Soukhanovskii (LLNL), et al.**