

NSTX Weekly Report (Aug. 31, 2006)

FY 2006 NSTX plasma operations completed on June 23, 2006.

Joule Milestone: 11 weeks

Achieved: 12.66 weeks

Thomas Windisch of IPP Greifswald returned to Germany this week after a one month visit to NSTX. During this visit he used codes developed in Germany to analyze data from the NSTX gas puff imaging diagnostic. His codes tracked the 2-D radial vs. poloidal 'blob' motion in the edge and evaluated the blob speed, size, and amplitude as a function of plasma minor radius and time. He will continue to work on the data analysis in Greifswald in order to compare these results to recent theories of blob motion. (S. Zweben)

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

The in-vessel machining effort to make way for Poloidal CHERS continued this week. The lower barbecue rails have been completed and upper rails begun. Removal of the PHA diagnostic hardware continued and it is now electrically disconnected. Testing of the CHI electrical parameters took place over several days but was impeded by the limits of the available instrumentation. Work took place on cable trays at the top of the machine to facilitate work in those areas and to provide better access during the NBI duct lifts. Plasma Control System progress included the relocation of the RICH computer and the installation of the new control computers in their racks. Grounding investigations continued this week and a ground loop was found and repaired on the LITER system.

The test cell will remain in free (card reader) access through the coming week, with the exception of a brief period early Tuesday morning (before 8:00AM) for electrical ground testing on CHI.

Central I&C (P. Sichta)

The new Sun VZ40 multi-processor servers which will be used to replace the present Sky computer were received and successfully put through hardware tests, and are awaiting operating system installation. The replacement front panel data port input/output modules were also installed in the VZ40 servers. The Infiniband interconnect to the replacement control host computers was also installed. The gas system injection hardware and timing module component placements were received from the vendor. The Systran fiber optic links and a fourth front panel data port PCI card were ordered. Kernel modifications to allow for the suspension of interrupts during plasma operations for Linux version 2.6 were completed and tested. (D. Gates)

Research Operations (M. Bell)

Diagnostic Operations (R. Kaita)

Activities are continuing on the high-k scattering turbulence diagnostic. A check of the system alignment with a microwave beam was performed this past week. Future tasks include calibrations with an acoustic

cell for simulating fluctuations from various spatial locations, and the installation of a new collection mirror.