

S7 operation update

Eric Dufresne, TRR group meeting, Dec. 4, 2007

- Work is on-going to install an exhaust system for hazardous gases on sector 7. EL and Steve Southworth have specified the system being engineered by APS-AES. Orders for the fan and pipework were placed and the installation will start in the next shutdown.
- ED can now fully edit the new Sector 7 web site.
- DW has nearly completed the upgrade of the stepper motor drivers in 7ID-C to Phytron drivers and ACS StepPak drivers, both APS standards. The old IDC NextStep drivers have been decommissioned in 7ID-C. Dohn Arms will also upgrade the 7ID-B hutch in FY08.
- The IT Network File System periodic failure has been temporarily fixed, until a full fix can be engineered by Sun Microsystem.
- All XOR7 staff and many users were trained by EL for the laser oscillator alignment and amplifier startup in September. This was a great service from EL who helped many of us understand his plight.
- An optical engineer from LCLS, Sasha Gilevich, and EL are designing a new laser beam delivery system for 7ID users. Design work is nearly complete.
- EL is also designing a new laser transport system to deliver laser beam from 7ID-E to 7ID-C while being able to access 7ID-D when X-rays are present in 7ID-C only.
- ED, BA and HG made a first attempt to commission the new AMO/XOR7 Hybrid mode Chopper in 7ID-C. Some problems remain to be solved with the utilities (dry N₂) and timing.
- In Oct., Bernhard Adams was hired as a full time XSD employee. He will work to develop a user program with the new 7ID-C streak camera and provide user support on 7ID.

S7 R&D (cont.)

- A collaboration led by Bernhard Adams was awarded an ANL Laboratory Directed Research and Development (LDRD) award for FY08. See <http://www.anl.gov/LDRD/si08.htm> for FY08's list of approved awards. The title of the project is: *Novel Concepts in Streak-Camera Development and Applications*.
- A new paper was recently published by the ANL AMO group entitled: **K-edge x-ray-absorption spectroscopy of laser-generated Kr⁺ and Kr²⁺**. See S. H. Southworth, D. A. Arms, E. M. Dufresne, R. W. Dunford, D. L. Ederer, C. Höhr, E. P. Kanter, B. Krässig, E. C. Landahl, E. R. Peterson, J. Rudati, R. Santra, D. A. Walko, and L. Young, Phys. Rev. A. **76**, 043421 (2007)
- Several articles of work done at S7 have appeared in the Proceedings of SRI07 in NIM A and are posted on our web site.
- BA, Alexei Grigoriev (Wisconsin) and ED worked on the streak camera in late Nov. 07. BA is pleased with the run.
- A new Special Interest Group (SIG) was started in Nov. 2007. See the new Ultrafast SIG at this link http://www.aps.anl.gov/Users/Scientific_Interest_Groups/

Random pictures from XOR7



New Hybrid Mode Chopper (black Instrument) and controller (blue)



New 7ID-C motion control rack (tall black rack). ACS and Phytron drivers are now available.