

# S7 operation update

Eric Dufresne, TRR group meeting, May 19, 2004

## Outline:

- Summary of May shutdown activities.
- News from the first month of operations

# Summary of May shutdown activities

- The 7ID PSS system was revalidated at the beginning of the shutdown.
- At the beginning of the shutdown, a major failure occurred for the micromono. A water line broke and filled the ion pump completely! Don Walko and Dohn Arms replaced the dirty pump with a spare pump. The water lines are being repaired and weren't installed during the shutdown. The micromonochromator cannot be used until the cooling line is replaced. Don and Dohn did a great job to restore the beamline to operation!
- Dohn Arms upgraded the 7ID-B and 7ID-C crates to get EPICS from our main server. Now all our crates are upgraded to the latest stable release of EPICS. The A/D and D/A board (Xycom-540) on the 7ID-B crate was moved to the 7ID-C crate. Support for the Oxford cyberstar and the PI-500 stage was added to the 7ID-C crate. The 7ID-D crate also has a full size VME crate.
- ED with Harold Gibson finalized the pressure stabilization circuit for the mono closed loop.
- Two Be windows (i.e. 0.508 mm Be) in 7ID-A before MF1 and after MF2 were removed by Don Walko and Harold Gibson. The mono was warmed up.
- The closed loop of the cryocooler was vented on the days before the run started so the start up was delayed. (More details next).

# Shutdown continued

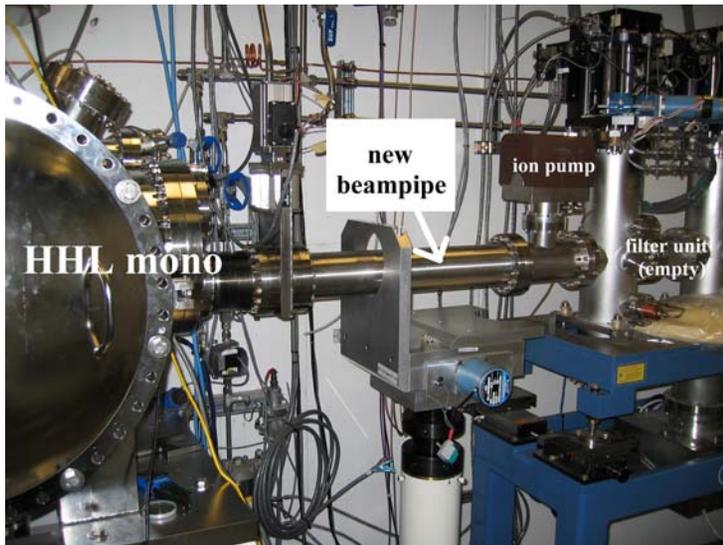
- During the APS User Meeting, several of the 7ID-D Partner Users met to provide input to the proposed "7ID-E" laser hutch to be built at the end of the sector. Eric Landahl is in charge of the project and he will collaborate with the Engineering group to design the hutch. Eric L. and Dohn Arms at the end of the shutdown procured a new heat exchanger for the Amplifier system. They found that the heat exchanger has greatly improved the amplified laser stability.
- We had a small water leak in 7ID-B on the exit Be window next to the P5 which was easily fixed.

# Shutdown in pictures

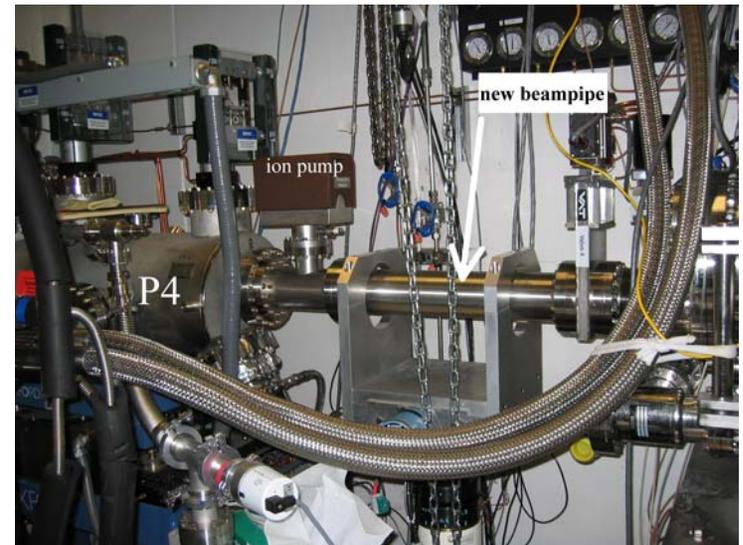
Control unit before



After tidying  
Up and securing  
power cable. O2  
monitor moved.



Removal  
of 2 Be  
Windows  
In 7ID-A



## Shutdown in pictures(cont.)

New regulating circuit.



New high res. pressure sensor in 7ID-A.



# News from first month of operations

- Our new 7ID-D crate caused several EPICS problems. It was found to be defective and was replaced by the 7BM-A crate temporarily. Very esoteric problem that required several EPICS guru to resolve.
- Dohn Arms and Eric Landahl with help from Harold installed a new Keithley 2010 multimeter (ten channel scanner) for use primarily on the laser diagnostic of 7ID-D. Several laser diagnostics were commissioned as well such as quad-diode beam position monitors.
- On June 7-9, Igor from Quantronics and EL performed a laser upgrade which was extremely successful! It greatly help the group of Linda young to collect some exciting data from the last two weeks run.
- Dohn Arms and Don Walko repaired the 7ID-A IP-330 installation. They provided the necessary 15V power supply and relocated the BPM signals to channels not sensitive to noise.
- A new portable motor crate with 16 motors, 8 with, and 8 without encoders was commissioned this month. It uses two racks of ACS StepPack. It works great!

## News from first month of operations(cont.)

- Our 7ID-C crate controller was upgraded to a Power PC board with lots of memory. The memory load dropped from 97% to 5%.
- Don Walko replaced the broken gear head on the two-theta arm of the Kappa. The two-theta motion is now much less noisy.
- Progress is being made on the new front-end Be window to be installed in 7ID-A in the next shutdown.
- A collaboration led by Paul Evans published some exciting results on fatigue in ferroelectrics in the June 6 issue of Nature Materials.
- ED started to work on completing the 7BM monochromator. Roy Clarke and Jim Penner-Hahn have made available some significant funds from the Michigan Life Science Initiative. The orders must be completed by the end of July and the funds available should complete the monochromator and provide a microprobe set up.
- All 7ID DI-water will be integrated into the APS DI water system during the next shutdown

# Proposed 7ID-E hutch(draft)

