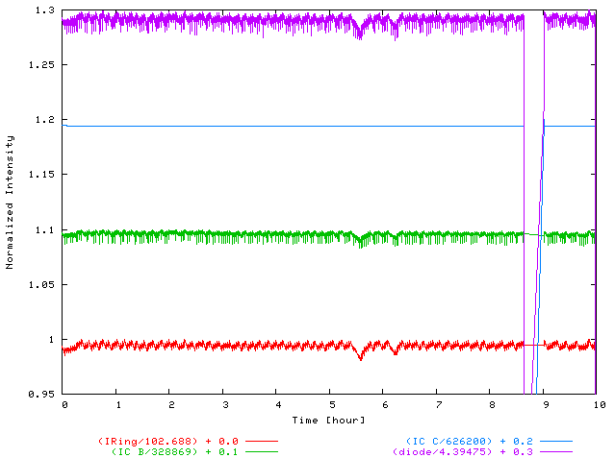
S7 operation update

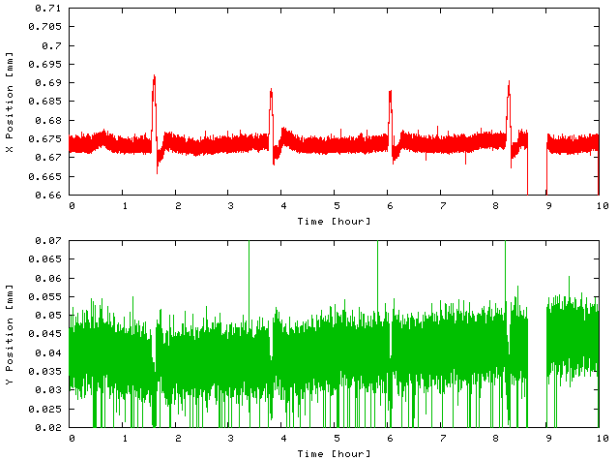
Eric Dufresne, TRR group meeting, April 6, 2004

- Within the last week, we have tested a new pressure stabilization circuit which has improved the beam stability 5 fold. For more details see http://www.mhatt.aps.anl.gov/operations/FY04/run2
- On 4/5/04, we prevented a catastrophy by replacing a broken solenoid on the cryogenic input lines to the cryocooler in 7ID-A.

Beam before stabilization circuit



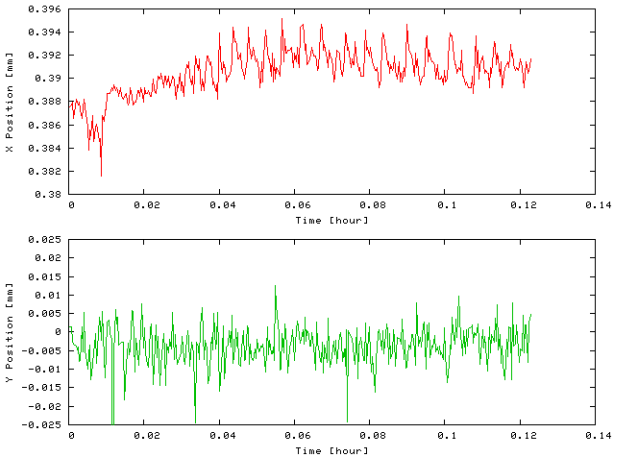
Intensity plots
On 3/21/04



Beam position

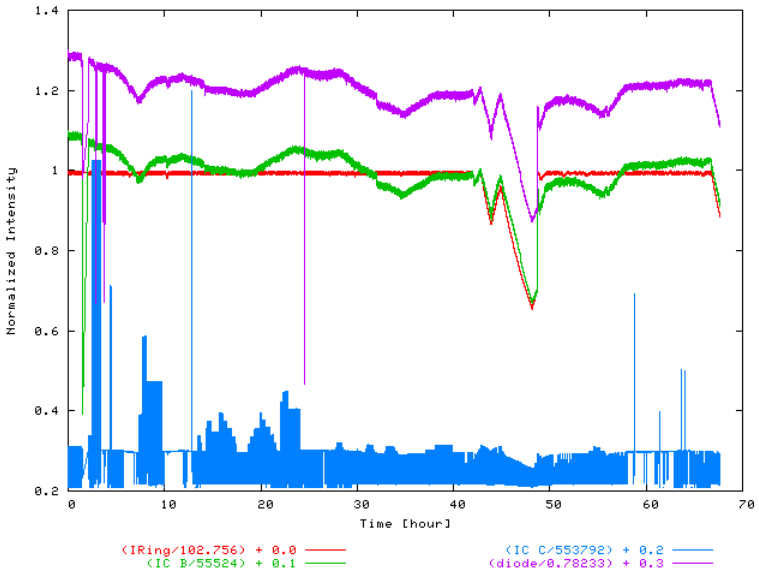
On 3/21/04.

3 hours period beam motion correlate with cryocooler fill.



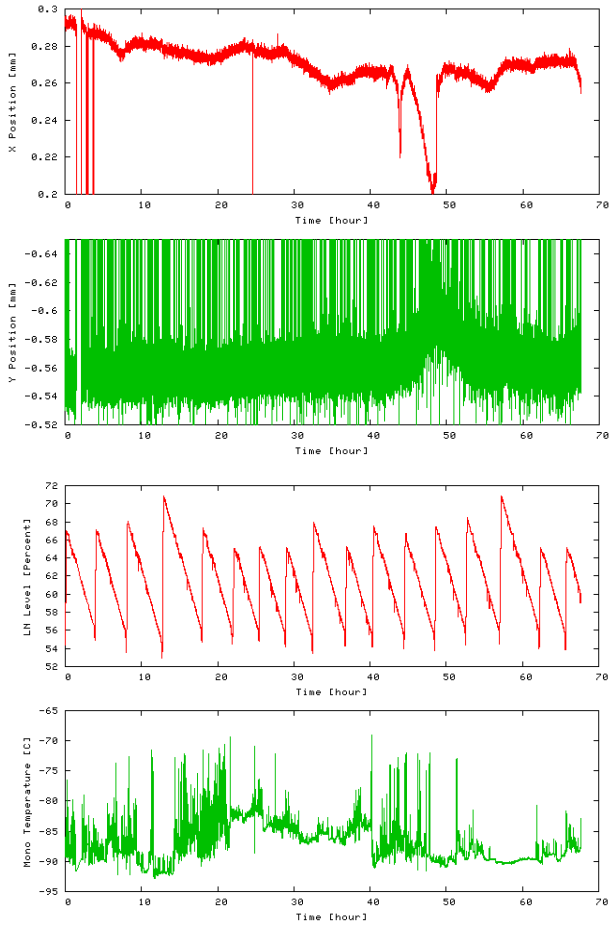
Short time scale Fluctuation, 5 um horizontal motion due to closed loop heater turning on/off.

Beam stabilized by constant pressure circuit



Intensities on week of 4/1/04 for 2.8 days. Note top-up failure Near t = 42hrs.

Beam position data week of 04/01. Note beam motion when top-up fails.



Cryocooler Level sensor data

Old rusted solenoid replaced on 4/5/04

Old rusted defective solenoid

New solenoid in 7ID-A