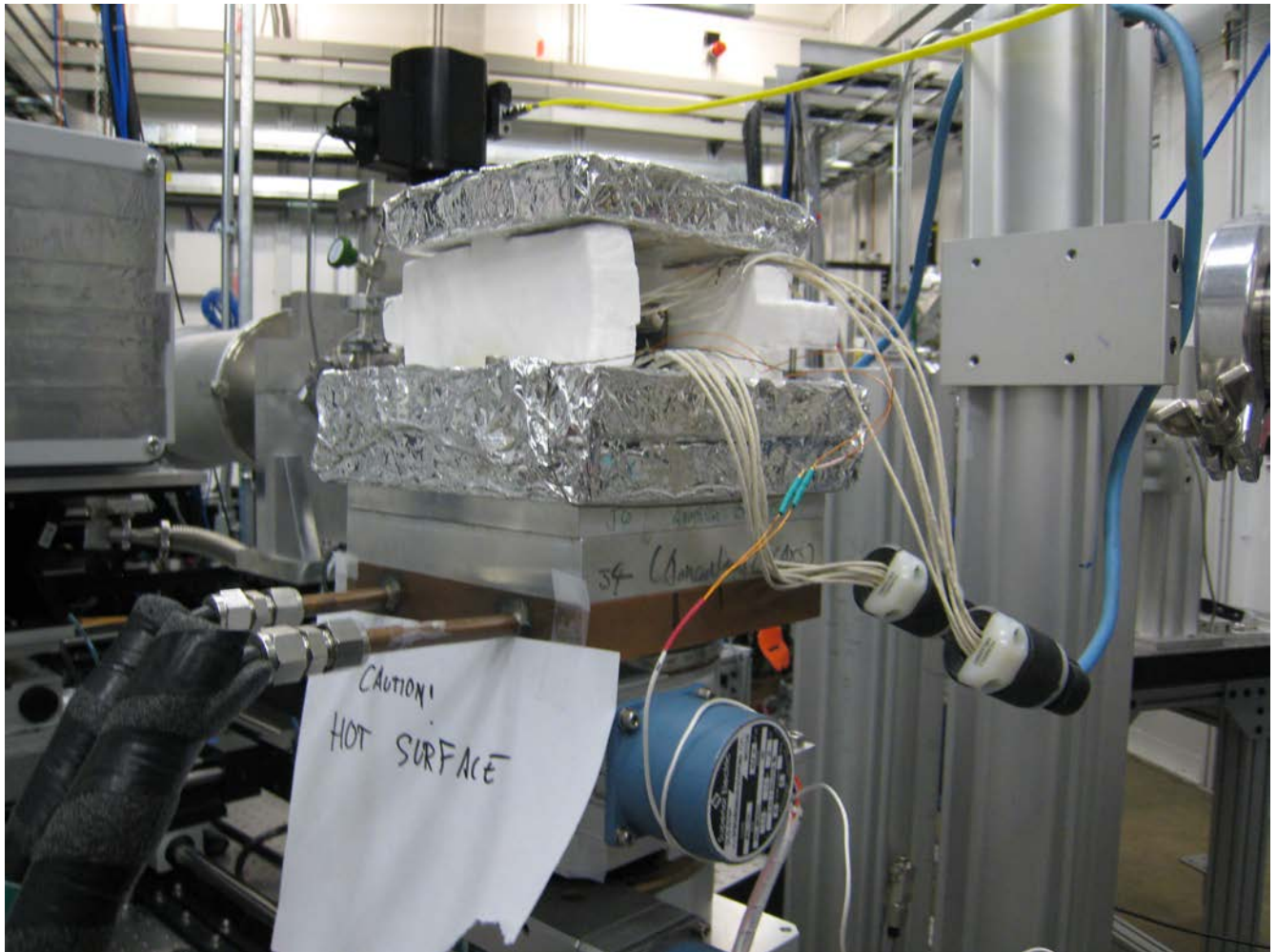


High Temperature Oven

I. Mounting the High Temperature Oven

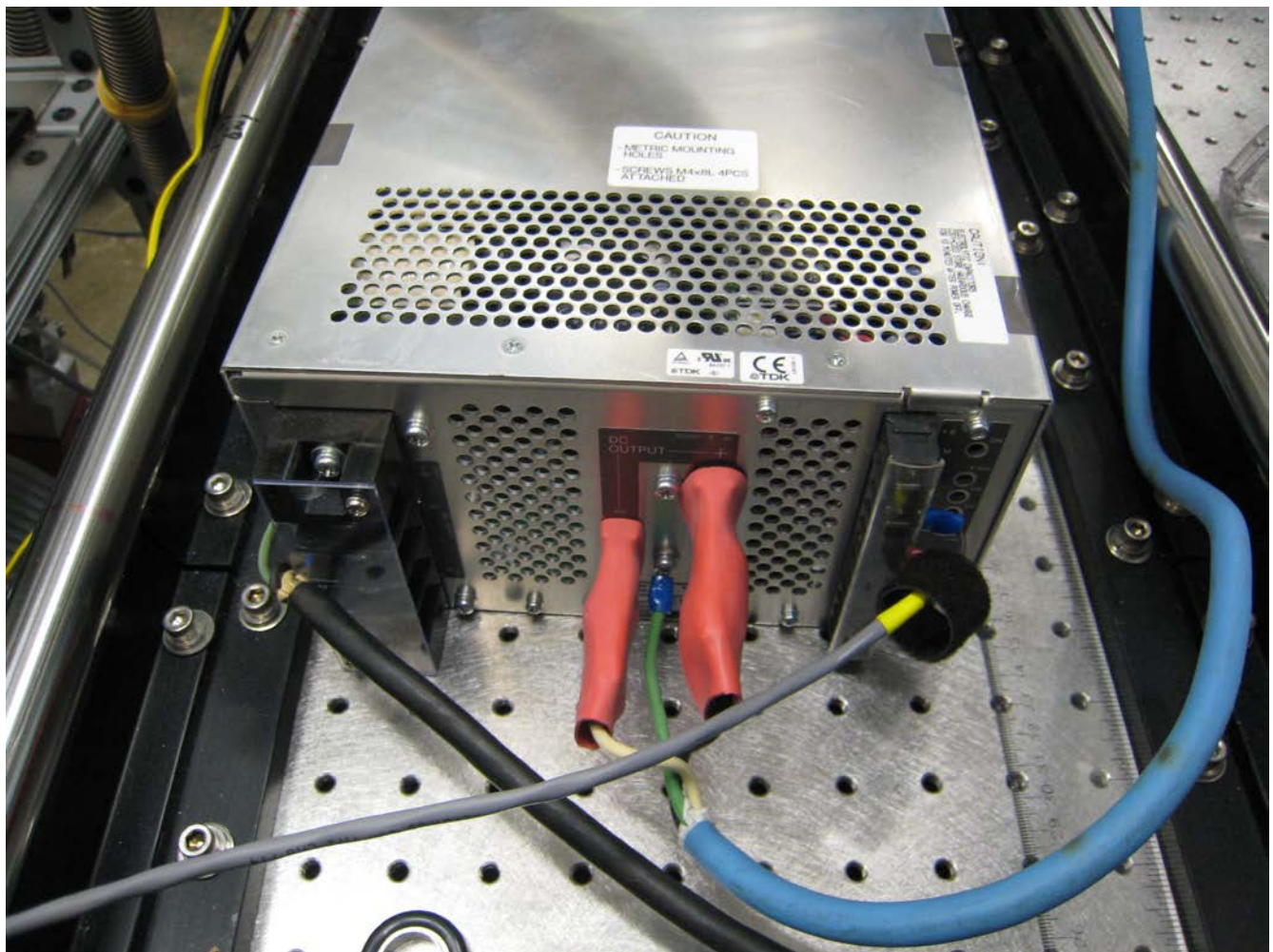
Starting from bare phi circle on GIXS sample stage, mount:

- Cu block [bottom]
- J4 (1 inch) spacer plate
- J0 (0.5 inch) spacer plate
- Ceramic base plate
- High temperature oven and ceramic side shields
- Ceramic top plate [top]



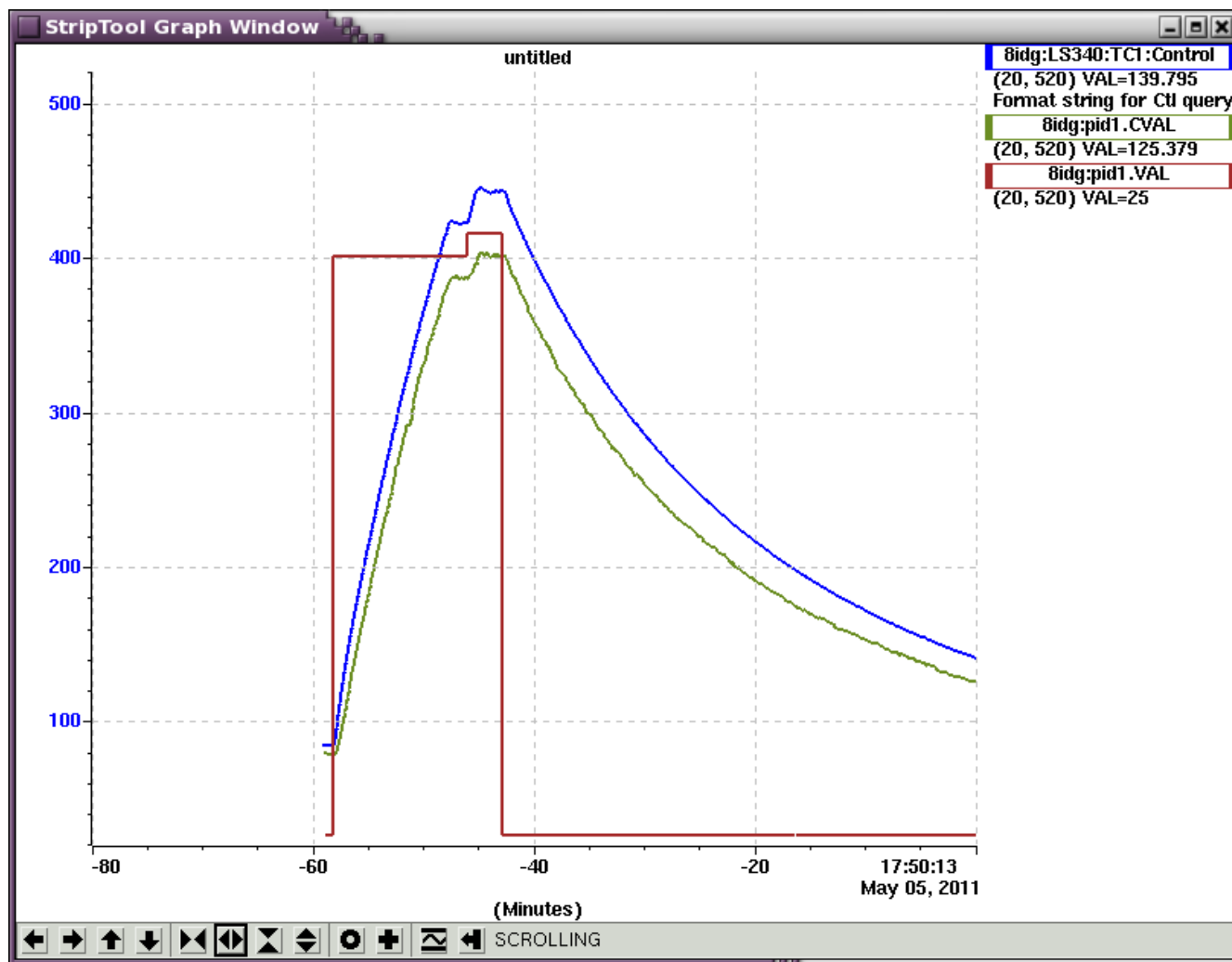
Connections and ancillary equipment:

- Cartridge heaters connect via blue extension cord to power supply
- Omega module connects to input on power supply
- Thermocouple on oven connects to omega module



Documentation on EPICS PID loop:

http://www.aps.anl.gov/About/Committees/InterCAT_Technical_Workgroup/2003/20030116_Rivers_of_d.pdf



pid_control.adl

8-ID-G:PIDLoop1

Readback PV

Control PV

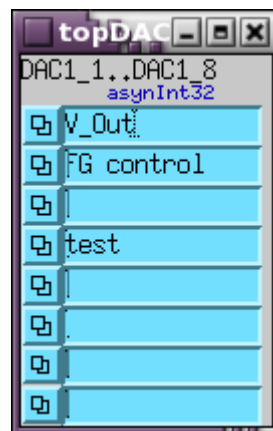
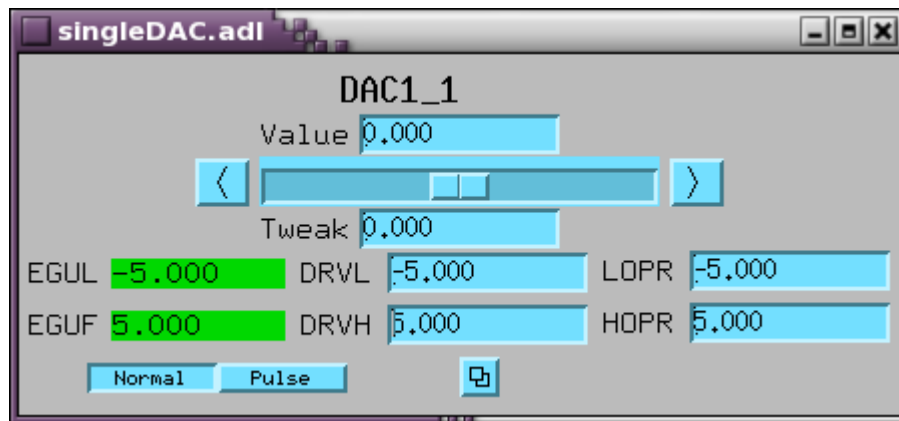
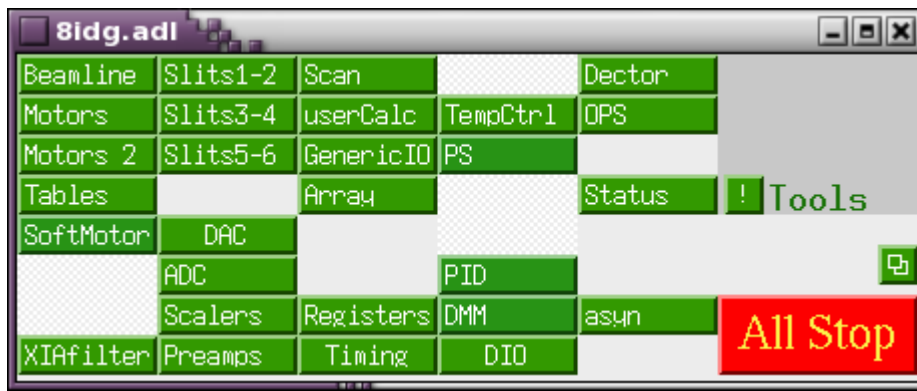
Setpoint	Readback
<input type="text" value="25.000"/>	<input type="text" value="122.395"/>
Feedback	Update rate
<input type="text" value="On"/>	<input type="text" value=".5 second"/>

More

pid_parameters.adl

PID feedback parameters

KP	<input type="text" value="0.180"/>	P	<input type="text" value="-17.348"/>
KI	<input type="text" value="0.000"/>	I	<input type="text" value="0.000"/>
KD	<input type="text" value="0.000"/>	D	<input type="text" value="0.000"/>
Delta time	<input type="text" value="0.500"/>		
Error	<input type="text" value="-96.375"/>		
Output	<input type="text" value="0.000"/>		
Low limit	<input type="text" value="0.000"/>		
High limit	<input type="text" value="4.000"/>		



Keithley2kDMM_mf.adl

KEITHLEY Model 2700 22 channels (D1)

Ch10: **0.0000 VDC**
Multi Ch. Mode, Reading INVALID

INIT Dmm Desc: Dmm raw desc Calc

FUNCTION SCAN RATE ONE SH. SINGLE DONE More
V DC 1 second CONT. MULT. READ

CHANNEL RANGE 11-22

Ch11 Ch12 Ch13 Ch14 Ch15 Ch16 Ch17 Ch18 Ch19 Ch20 Ch21 Ch22

Keithley2kDMM_full_mf.adl

SCAN RATE 1 second ONE SH. SINGLE DONE DMM: D1
CONT. MULT. READ INIT

STATUS: Multi-Channel Mode

CH	ON/OFF	V DC	RAW:	VALUE	UNIT
CH 1	ON	V DC	RAW:	4.1015	VDC
Hi-Vac	OFF		CALC:	1.2633e-07	torr
CH 2	ON	V DC	RAW:	4.0485	VDC
Hi Vac	OFF		CALC:	1.1182e-07	torr
CH 3	ON	V DC	RAW:	3.5431	VDC
Rough V:	OFF		CALC:	0.0003	torr
CH 4	ON	V DC	RAW:	4.1672	VDC
Rough V:	OFF		CALC:	0.0015	torr
CH 5	ON	V DC	RAW:	5.1181	VDC
tg2xu	OFF		CALC:	-20.3652	mm
CH 6	ON	V DC	RAW:	4.1950	VDC
tg2xd	OFF		CALC:	-20.3665	mm
CH 7	ON	V DC	RAW:	9.3403	VDC
tg2y	OFF		CALC:	9.3403	mm
CH 8	ON	V DC	RAW:	5.7422	VDC
tg2zd	OFF		CALC:	5.7422	mm
CH 9	ON	V DC	RAW:	5.7465	VDC
tg2zui	OFF		CALC:	5.7465	mm
CH 10	ON	V DC	RAW:	6.4698	VDC
tg2zuo	OFF		CALC:	6.4698	mm

Keithley2kDMM_11_22_mf.adl											
SCAN RATE						(D1)					
1 second						ONE SH.	SINGLE	DONE			
						CONT.	MULT.	READ			
STATUS: Multi-Channel Mode										INIT	
CH 11	ON	V DC	RAW:		VDC						
Ch11 BAD	OFF		CALC:		Ch11 Units:						
CH 12	ON	V DC	RAW:		VDC						
Ch12 BAD	OFF		CALC:		units						
CH 13	ON	V DC	RAW:	6.1049	VDC						
te2y	OFF		CALC:	-5.6942	mm						
CH 14	ON	V DC	RAW:	7.5210	VDC						
te2zu	OFF		CALC:	37.7925	mm						
CH 15	ON	V DC	RAW:	8.1385	VDC						
te2zdo	OFF		CALC:	33.6134	mm						
CH 16	ON	V DC	RAW:		VDC						
Ch16 BAD	OFF		CALC:		units						
CH 17	ON	V DC	RAW:	6.4103	VDC						
te2xu	OFF		CALC:	641.0264	mm						
CH 18	ON	V DC	RAW:	3.9727	VDC						
te2xd	OFF		CALC:	-26.9423	mm						
CH 19	ON	V DC	RAW:	8.1979	VDC						
te2zdi	OFF		CALC:	8.1979	mm						
CH 20	ON	V DC	RAW:	1.1838	VDC						
tao sun	OFF		CALC:	118.3839	°						
CH 21	ON	A DC	RAW:	8.2147e-08	ADC						
Ch21 desc	OFF		CALC:	8.2147e-08	Ch21 Units:						
CH 22	ON	A DC	RAW:	9.9521e-08	ADC						
Ch22 desc	OFF		CALC:	9.9521e-08	Ch22 Units:						