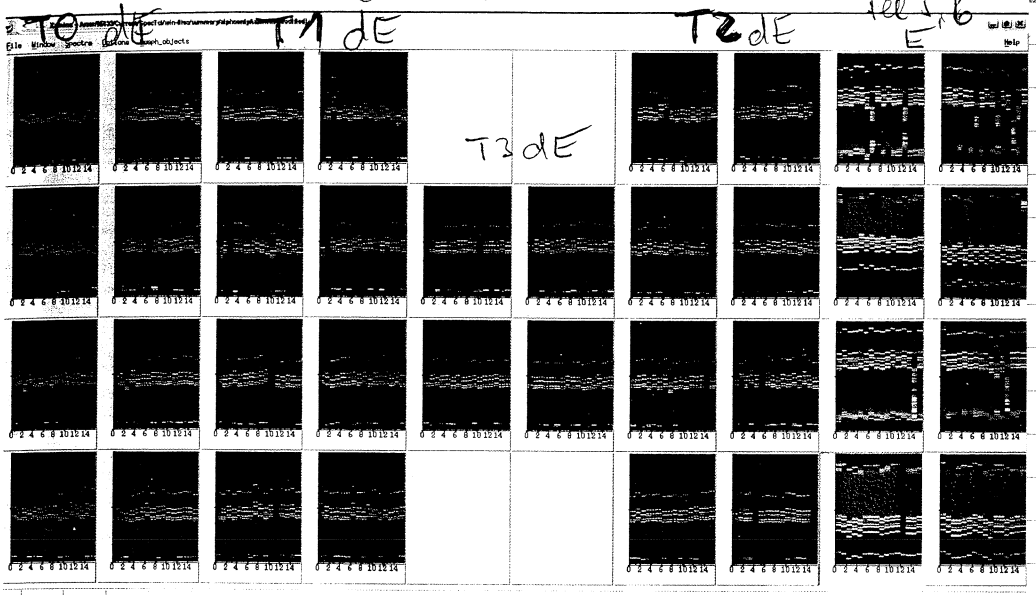
HiRA Lab
Logbook 2
Experiment 05133

BEFORE RUN PERFORMANCE CHECK

2-calibration 11/27/2007

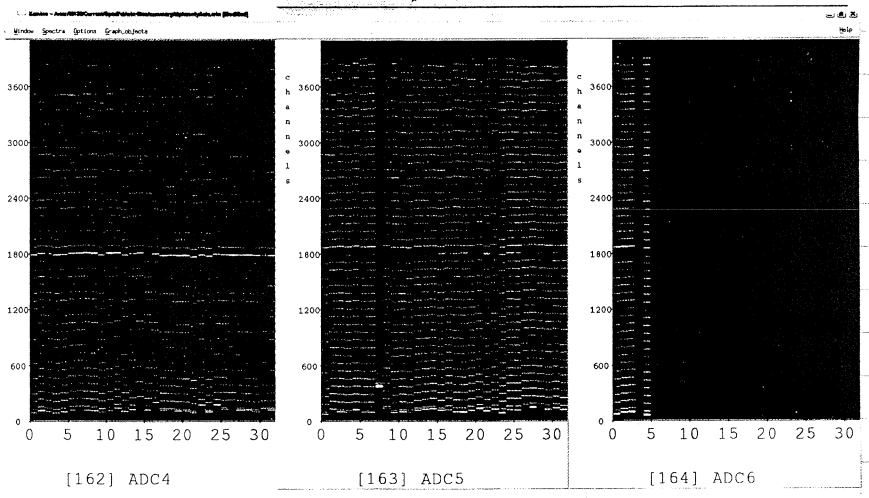
RUN 506



CSI pulser ramp

11/27/2007

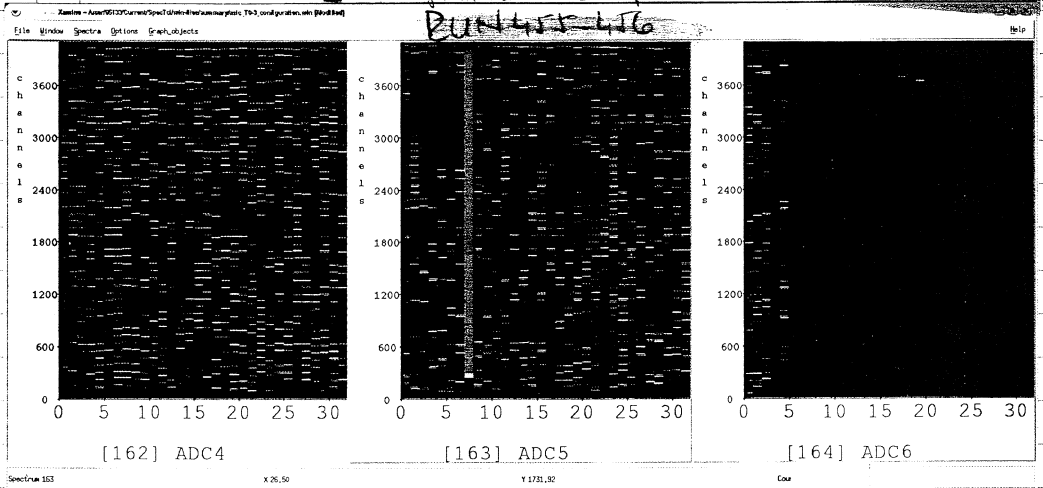
RUN 507-509



CSI pulser ramp

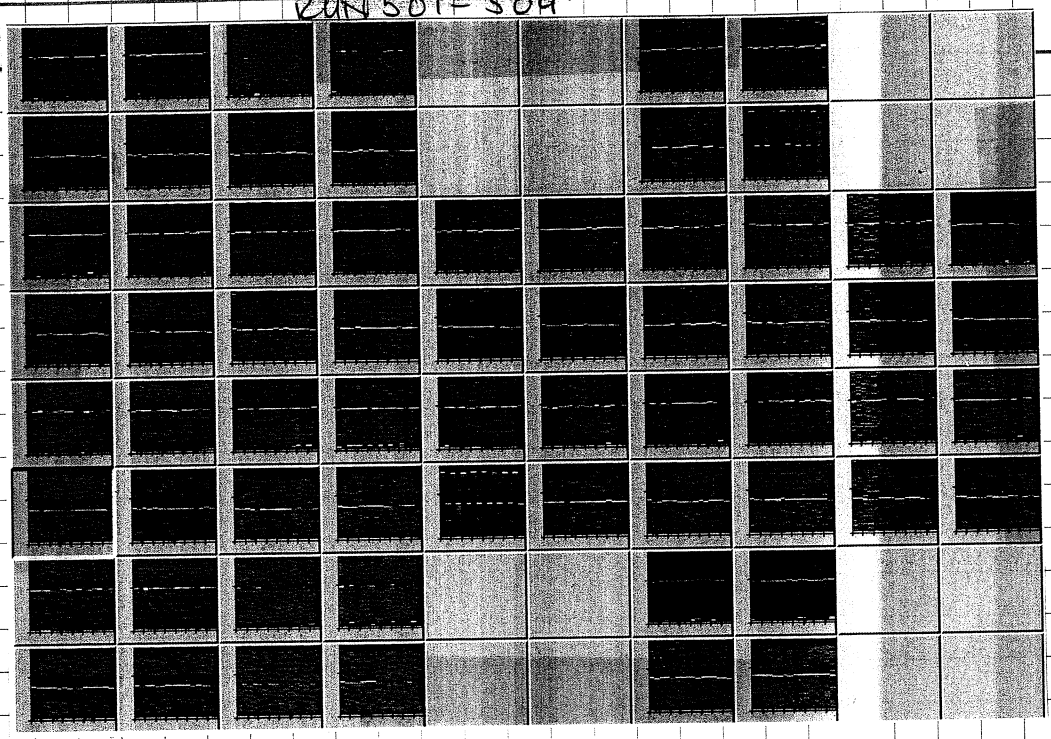
10/25/2007

RUN 455-456

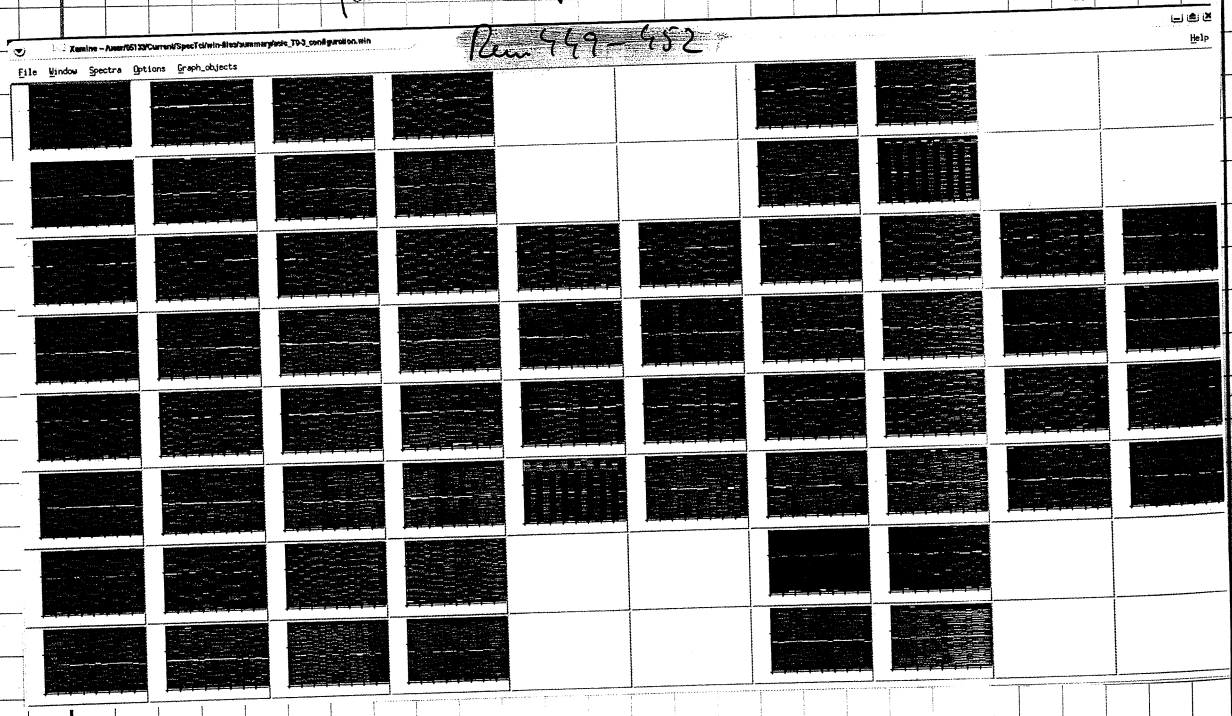


2

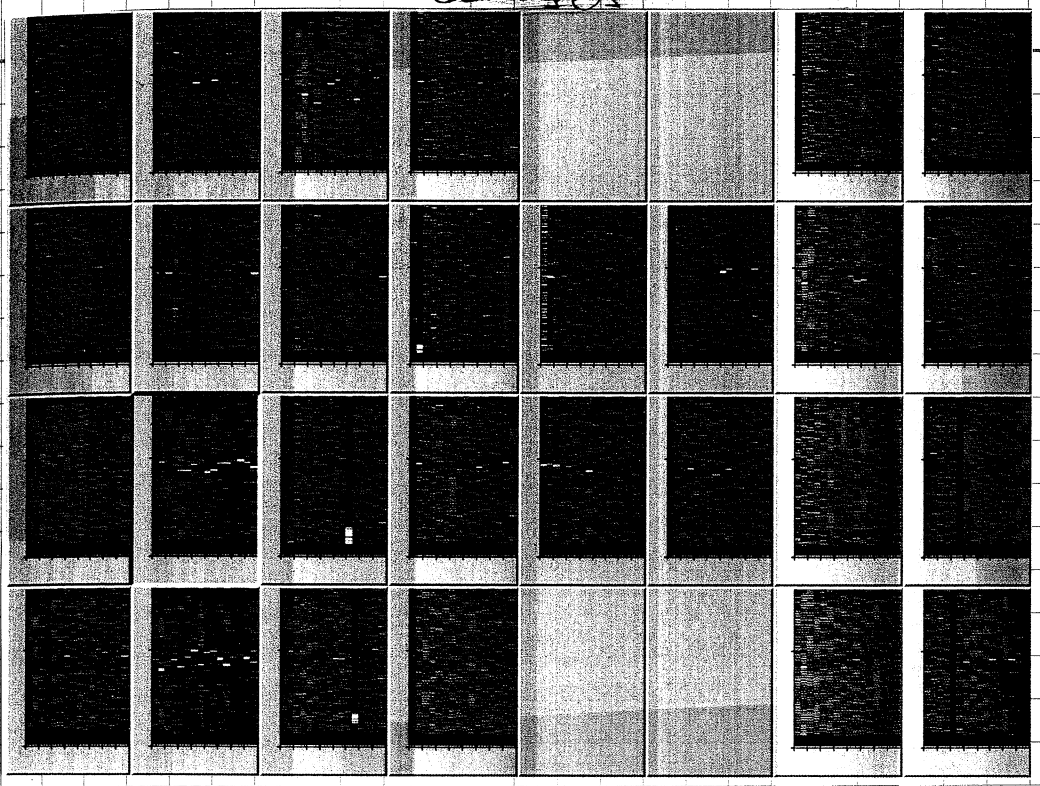
pulser ramp TO-3
RUN 501-504



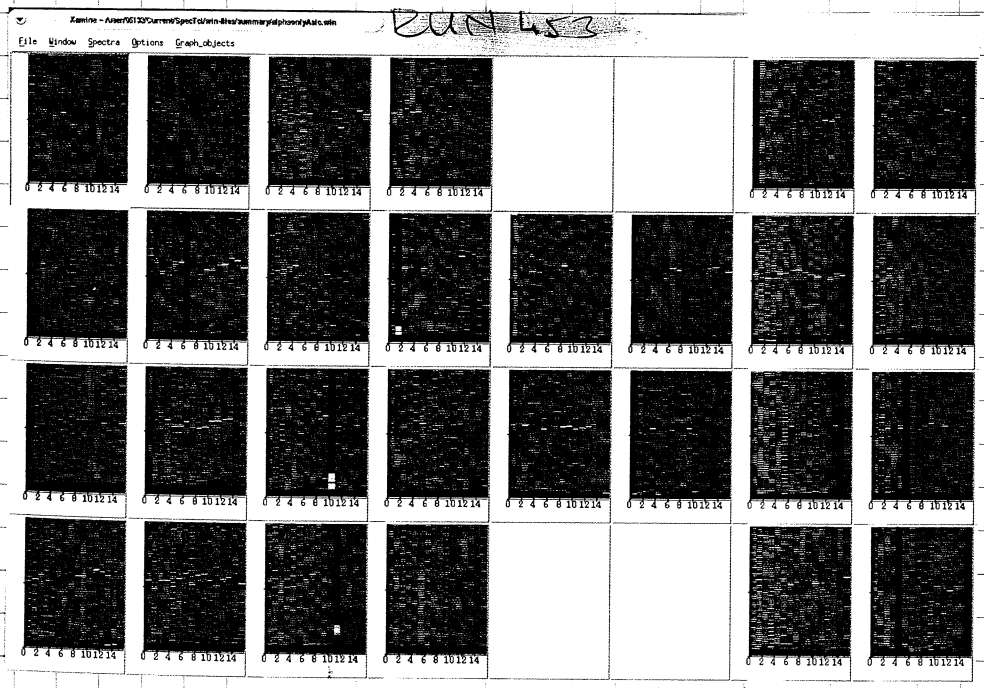
pulser ramp TO-3
Run 449-452



pulser ramps T4,5 4/23/2003



pulser ramps T4,5 10/28/2003



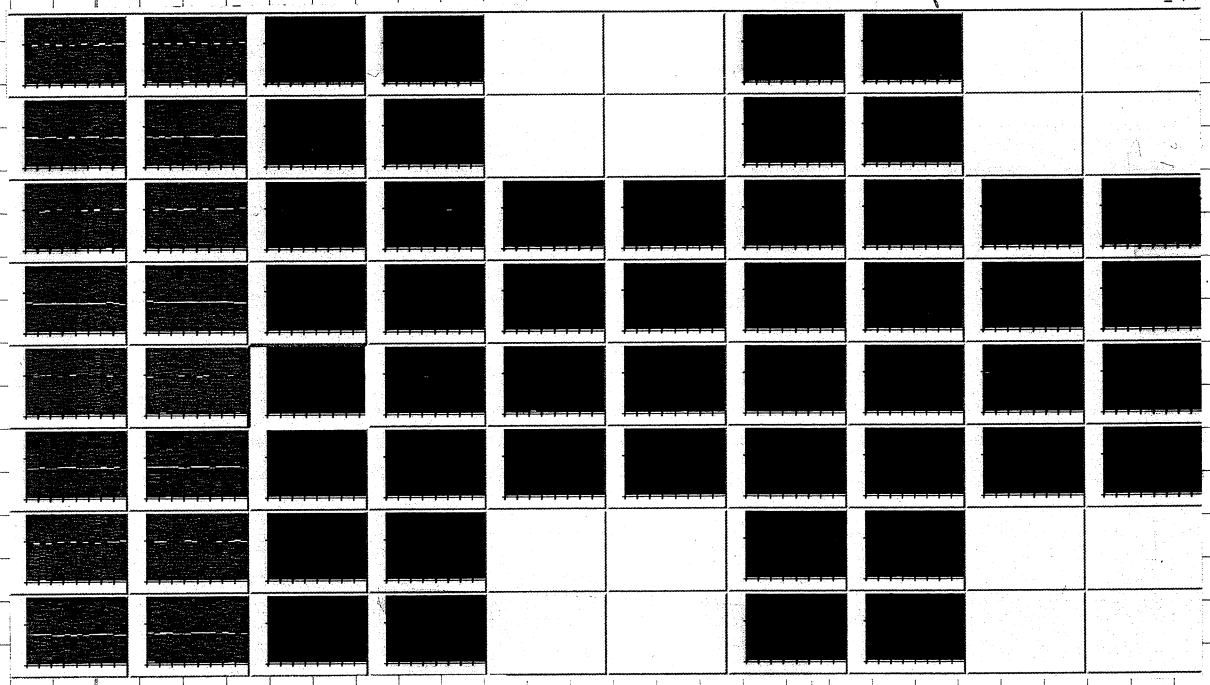
IMPROVEMENT NOTE:

- find fast channels does not work in case of less than 16 channels

11/29/07
- observe FADC/XLM mismatch on Tower 0 each time VME+ towers turned off and on
- stops after ~ 10 min of running by itself
- trying to swap XLM cable → spare XLM cable solves the problem

↳ TO XLM cable replaced with spare

RUN320 - pulser varies on TO after XLM cable change



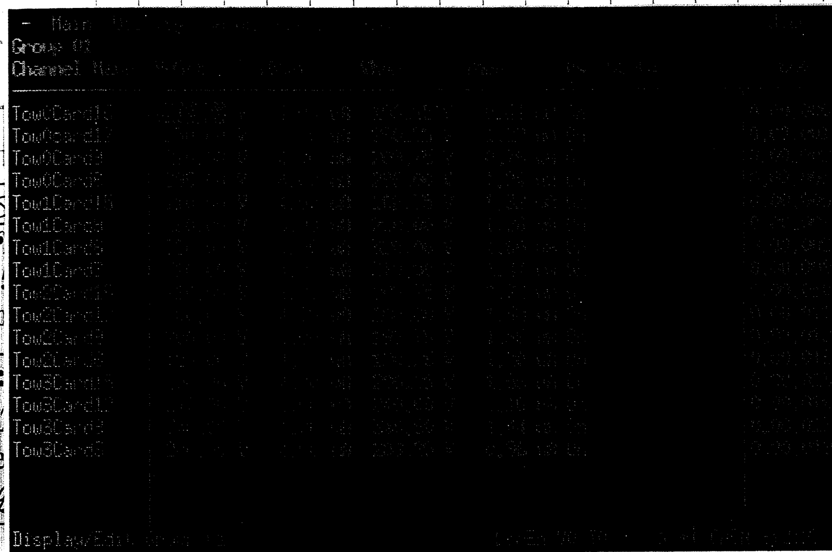
11/30/07 Temperature & Humidity check in vault
9:10 am, AC on, measuring with TDI sensor from desicator
23.4°C 18%
Dew point: -2°C

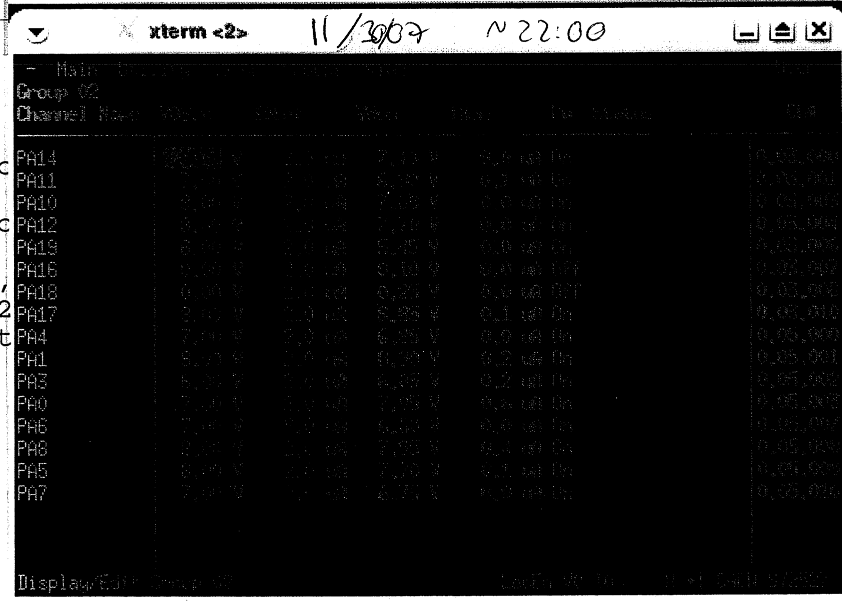
Interlock system is working, but the "vault is being secured" warning is played when the door is opened.

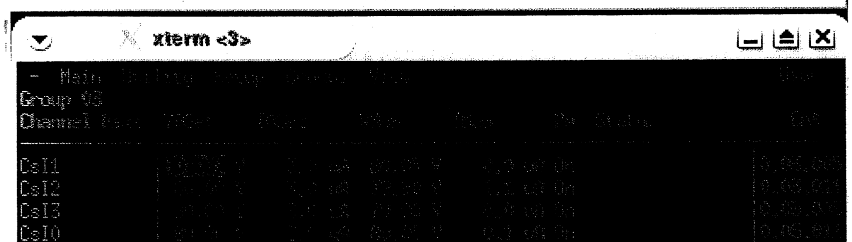
A1900 "Pri
Moe V3 *
Expt: 0603
Beam: 58 N
<Att 100>
K500 a,b:
A19
Rig
Seg 0: 4.
Seg 1: 2.
Seg 2: 2.
Seg 3: 1.
Seg 4: 1.
Seg 5: 1.
Seg 6: 1.
Seg 7: 1.
Seg 8: 1.
A116DS
A132DS
A165DS
I200DS
I205DS
I223DS
I228DS
I265DS
I269DS
Z001TL: ou
Z015TL: Be
Z030BC Bea
Z037L,R:
Z057MS: 1%
Z059DC: ou
Z082 XC,G,
Z103DC: ou
Z105TL: ou
Z104 XC,G;
Slits: I18
I187: out,
I213: out,
I214DC Dete
I259XM:

Run# S...
Beam: 56...
E/A=37....
Alpha sc...
MCP 1:
Bρ: 1.7...
Comme...
Barny...

.../ 07
Billy
...ndy, Jenny
...k. blank
251Y-R
MCP 0
Position (mm)








```
A1900 "Print30No...                                    ...00
Moe V3   ***
Expt: 06035 "Evc...                                    ...00  [8]
Beam: 58 Ni 11+
<Att  100>  ECR,...                                    0700 kV
K500 a,b:    622...                                    ...780 MHz
        A1900 Opt...
        Rigidity ...                                   Field*Radius)
Seg 0:   4.08915
Seg 1:   2.24460                                       %  (2.24459 Tm)
Seg 2:   2.24460                                       %  (2.24474 Tm)
Seg 3:   1.83789                                       %  (1.83783 Tm)
Seg 4:   1.83789                                       %  (1.83794 Tm)
Seg 5:   1.78120
Seg 6:   1.78120
Seg 7:   1.78120
Seg 8:   1.78120
A116DS                                                 %
A132DS                                                 %
A165DS                                                 %
I200DS                                                 %
I205DS                                                 %
I223DS                                                 %
I228DS                                                 %
I265DS          0.63523 T  2.80630 m    2.80402 m     0.08132 %
I269DS          0.63534 T  2.80597 m    2.80354 m     0.08674 %
Z001TL: out, Z013TL: out; Z014TL out
Z015TL: Be 1269, Z016TL out
Z030BC Beam Stop: -99.89 mm
Z037L,R:  -17.00,  17.00 mm or   -0.58,    0.58 width=   1.15 %; Z037DC:  out
Z057MS: 1%, Z061MS: out
Z059DC: out, Z062SC: out, Z059TL: Al 150
Z082 XC,G,YG:     0.06, 203.01, 202.05 mm Z082TL: out
Z103DC: out, Z104DC: 117 um BC 404; Z106DC: out, Z107DC_U/_L: out/out
Z105TL: out, Slits: nothing installed; PPACs: gas on; Z107 outlim: Y
Z104 XC,G;YC,G:     0.10,    5.79;     -0.01,     1.99 mm
Slits: I181 XC,G,YC,G:     0.97,   99.34;    0.02,   98.34
I187: out, I188: out, I189: out, I190: out
I213: out, i214: out, I215: out, I216: out
I214DC Detector Drive: out
I259XM:    0.1096 XP:    0.0000 YM:    0.0000 YP:    1.7232
```

Run# 522	Trigger					Date: 11/30/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: Bill, Betty, Andy, Jerry, Ali
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 5600 ; XFP: 12200 ; Live trigger: 280
Bρ: 17812 (segment 8); Attenuation: _____
Comments: MCP1 mask calibration

I250X-R Target: blank	I251Y-R MCP 0: foil
I250Y-R MCP 1: mask	Position (mm)

Run# ^{56}Ni 523	Trigger					Date: 11/30/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: Bill, Betty, Andy, Jerry, Ali
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 6000 ; XFP: 12000 ; Live trigger: 170
Bρ: 17812 (segment 8); Attenuation: _____
Comments: MCP 0 mask calibration

I250X-R Target: blank	I251Y-R MCP 0: mask
I250Y-R MCP 1: foil	Position (mm)

Run# 524	Trigger					Date: 11/__/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP: _____ ; Live trigger: _____
Bρ: ~~17812~~ (segment 8); Attenuation: _____
Comments: slit open

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

12:05 pm 12/01/07
thick target in (154.45 100 μm)

Run# 525	Trigger					Date: 12/01/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: Bill, Betty, Vlad, Daniela, Jenny, Ali
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 140k ; XFP: 300k; Live trigger: 190
Bρ: 1.80 (segment 8); Attenuation: 1
Comments: Tower 0 turned off

I250X-R Target 100 μm	I251Y-R MCP 0 foil
I250Y-R MCP 1 foil	Position (mm)

Run# 526	Trigger					Date: 12/01/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: Bill, Betty, Vlad, Daniela, Jenny, Ali
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP: _____; Live trigger: _____
Bρ: _____(segment 8); Attenuation: _____
Comments: Tower 0 on (High threshold settings)

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

1:55 am Dec 1, 07
High threshold on Tower 0.
Running without stabilization pulser.
We are putting stab. pulser in. (2:58 am Dec 1, 07)
We see stab. pulsers only on EF's, but not on EB's.
Went downstairs to put the XFP timing to the same TDC's.
→ EB pulser not plugged in — fixed

Run# 527	Trigger					Date: 12/01/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: D+V
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP: _____; Live trigger: _____
Bρ: _____(segment 8); Attenuation: _____
Comments: short run to check with threshold setting on T0

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run#	Trigger					Date: 11/01/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: D+V
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: _____
Bρ: _____(segment 8); Attenuation:_____
Comments: Short run to check Debuncher pulser – do not see Eb

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

- beam tuning finished
- plug Bfg Breiter back in

Run# 529	Trigger					Date: 11/01/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: D+V
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 184k ; XFP: 428k ; Live trigger: 217
Bρ: _____(segment 8); Attenuation:_____
Comments: $E_F + E_R$ pulser in (even channels only)
XFP delay in TDC

I250X-R Target 151.45	I251Y-R MCP 0 123.83
I250Y-R MCP 1 153.17	Position (mm)

- NSCL MB setup saved under 05133-setup
- original setup file that was used in the October experiment is saved under 05133_OCTOBER_RUN.setup

4:00AM beam intensity drops by ~40%, operator bars the key, he thinks something wrong with the beam

4:35AM Operator says that the problem was at ion source. He improved the IS but beam int is only about 320nA compared to ~480nAmp before and 520nA beam int. So we decide to ask to call I source physicist to give a quick try to bring it up.

5:00AM Operator informs us that the problem with ion source is caused by bad turbo pump. Gary Tobos is on his way to fix it. May take ~30-45 min.

12/01/'07 7:00 am

xterm

Main Utility Setup Groups View User

Group 01

Channel Name	VOSet	IOSet	VMon	IMon	Pw	Status	Ch#
Tow0Card15	190.00 V	4.00 uA	190.25 V	0.66 uA	On		0.00.000
Tow0Card12	250.00 V	4.00 uA	250.50 V	1.24 uA	On		0.00.001
Tow0Card9	210.00 V	4.00 uA	209.75 V	0.80 uA	On		0.00.002
Tow0Card6	295.00 V	4.00 uA	294.75 V	1.30 uA	On		0.00.004
Tow1Card15	110.00 V	4.00 uA	108.75 V	1.48 uA	On		0.00.006
Tow1Card9	250.00 V	4.00 uA	250.00 V	1.42 uA	On		0.00.007
Tow1Card6	320.00 V	4.00 uA	320.25 V	1.78 uA	On		0.00.008
Tow1Card3	310.00 V	4.00 uA	309.75 V	1.64 uA	On		0.00.009
Tow2Card15	210.00 V	4.00 uA	209.75 V	0.74 uA	On		0.00.010
Tow2Card12	100.00 V	4.00 uA	100.00 V	1.64 uA	On		0.00.011
Tow2Card9	200.00 V	4.00 uA	199.75 V	1.72 uA	On		0.00.012
Tow2Card6	120.00 V	4.00 uA	120.25 V	1.24 uA	On		0.00.014
Tow3Card15	200.00 V	4.00 uA	200.25 V	1.64 uA	On		0.00.015
Tow3Card12	240.00 V	5.00 uA	240.00 V	2.38 uA	On		0.00.016
Tow3Card9	340.00 V	4.00 uA	340.50 V	1.58 uA	On		0.00.017
Tow3Card3	200.00 V	4.00 uA	200.25 V	1.02 uA	On		0.00.019

Display/Edit Group 01 LocEn Vo Io N ◆ | CAEN SY2527

xterm <2>

Main Utility Setup Groups View User

Group 02

Channel Name	VOSet	IOSet	VMon	IMon	Pw	Status	Ch#
PA14	7.00 V	2.0 uA	7.10 V	0.0 uA	On		0.03.000
PA11	7.00 V	2.0 uA	6.90 V	0.1 uA	On		0.03.001
PA10	8.00 V	2.0 uA	7.80 V	0.0 uA	On		0.03.003
PA12	8.00 V	2.0 uA	7.70 V	0.0 uA	On		0.03.004
PA19	6.00 V	2.0 uA	5.45 V	0.0 uA	On		0.03.006
PA16	0.00 V	2.0 uA	0.10 V	0.0 uA	Off		0.03.007
PA18	0.00 V	2.0 uA	0.25 V	0.0 uA	Off		0.03.008
PA17	9.00 V	2.0 uA	8.85 V	0.1 uA	On		0.03.010
PA4	7.00 V	2.0 uA	6.85 V	0.0 uA	On		0.05.000
PA1	9.00 V	2.0 uA	8.90 V	0.2 uA	On		0.05.001
PA3	6.00 V	2.0 uA	6.00 V	0.2 uA	On		0.05.002
PA0	7.00 V	2.0 uA	7.05 V	0.7 uA	On		0.05.003
PA6	7.00 V	2.0 uA	6.80 V	0.0 uA	On		0.05.007
PA8	8.00 V	2.0 uA	7.95 V	0.4 uA	On		0.05.008
PA5	8.00 V	2.0 uA	7.70 V	0.1 uA	On		0.05.009
PA7	7.00 V	2.0 uA	6.75 V	0.0 uA	On		0.05.010

Display/Edit Group 02 LocEn Vo Io N ◆ | CAEN SY2527

xterm <3>

Main Utility Setup Groups View User

Group 03

Channel Name	VOSet	IOSet	VMon	IMon	Pw	Status	Ch#
CsI1	80.00 V	3.0 uA	80.05 V	0.0 uA	On		0.03.005
CsI2	80.00 V	3.0 uA	79.85 V	1.0 uA	On		0.03.011
CsI3	80.00 V	3.0 uA	79.90 V	0.0 uA	On		0.05.005
CsI0	80.00 V	3.0 uA	80.05 V	0.1 uA	On		0.05.011

7:05AM – turbo pump at ion source failed, was replaced and ramped up fine, beam line is being pumped, beam expected around ~8AM

7:40AM – beam is back, intensity is approx ~ 80-90% of beam list and could be increased by increasing the power on the ion source, but leave this for next shift to take what we have to get at least some data.

Run# 530	Trigger					Date:12/01/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: V+D+Medeu
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					
MCP 1: 190K ; XFP: 420K ; Live trigger: 200 Bρ: _____(segment 8); Attenuation: _____ Comments: data count - after turbo pump @ ion source repair						

I250X-R Target	I251Y-R MCP 0
151.45	123.84
I250Y-R MCP 1	Position (mm)
153.17	

Run# 531,2	Trigger					Date:12/01/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					
MCP 1: 163K ; XFP: 356K ; Live trigger: 140 Bρ: _____(segment 8); Attenuation: _____ Comments: data						

I250X-R Target	I251Y-R MCP 0
151.45	123.84
I250Y-R MCP 1	Position (mm)
153.17	

Run# 533	Trigger					Date:12/01/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					
MCP 1: _____ ; XFP: _____ ; Live trigger: _____ Bρ: _____(segment 8); Attenuation: _____ Comments: data						

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Got beam back, 615 enA

Run# 534	Trigger					Date: 12/01/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP: _____ ; Live trigger: _____
Bρ: _____ (segment 8); Attenuation: _____
Comments: data. Source tuning towards end

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 535, 6	Trigger					Date: 12/01/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP: _____ ; Live trigger: _____
Bρ: _____ (segment 8); Attenuation: _____
Comments: data after beam retune

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 537, 8	Trigger					Date: 12/01/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP: _____ ; Live trigger: _____
Bρ: _____ (segment 8); Attenuation: _____
Comments: junk. Very short

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 539	Trigger					Date: 12/01/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP: _____ ; Live trigger: _____
Bρ: _____ (segment 8); Attenuation: _____
Comments: Data

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 540	Trigger					Date: 12/01/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 1056 ; XFP: 4031 ; Live trigger: 220
Bρ: 1.69 (segment 8); Attenuation: _____
Comments: data

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 541	Trigger					Date:11/__/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: ____
Bρ: _____(segment 8); Attenuation:_____
Comments: Data Run

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 542	Trigger					Date:12/__/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: _____
Bρ: _____(segment 8); Attenuation:_____
Comments: CRDC 1 Calibration

I250X-R Target	I251Y-R MCP 0
15145	12385
I250Y-R MCP 1	Position (mm)
15352	

Run# 543	Trigger					Date:11/__/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: _____
Bρ: _____(segment 8); Attenuation:_____
Comments: CRDC2 mask calibration

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 544	Trigger					Date:12/01/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: _____
Bρ: _____(segment 8); Attenuation:_____
Comments: Charge State distributions
Barry Davids

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 545	Trigger					Date:12/__/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: _____
Bρ: _____(segment 8); Attenuation:_____
Comments: mcp1 mask calibration
Trigger changed downstairs

I250X-R Target	I251Y-R MCP 0
49.6	123.85
I250Y-R MCP 1	Position (mm)
229.45	

Run# 546	Trigger					Date:12/__/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: _____
Bρ: _____(segment 8); Attenuation: 30
Comments: mcp ϕ mask calibration

I250X-R Target	I251Y-R MCP 0
49.6	200.6
I250Y-R MCP 1	Position (mm)
153.2	

Barry print-out

Run# 547	Trigger					Date:12/__/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: Bill, Beta Andy, Jenny Ali,
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: _____
Bρ: _____(segment 8); Attenuation: 30
Comments: Target Mask Calibration

I250X-R Target	I251Y-R MCP 0
~~267.5~~	~~120~~ 123.85
I250Y-R MCP 1	Position (mm)
153.2	

Dec 1 2007 6:42 pm

	Vbias(V)	I(μA)
Back 0	100	4.02
Back 1	100	6.51
Back 2	100	5.40
Back 3	100	6.71
MCP 0	2280	71
MCP 1	2290	80

Faraday Plate out (slightly tune to center the beam)

Run# 548	Trigger					Date:12/__/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: _____
Bρ: 1.2499 (segment 8); Attenuation: 30
Comments: Mask Calibration run beam centred.

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 549	Trigger					Date:12/__/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 3000 ; XFP: 600 ; Live trigger: ~~8 1000~~ 132
Bρ: _____(segment 8); Attenuation: 1000
Comments: Check after beam ~~is~~ tuned to be centred.

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 550	Trigger					Date:12/10/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: _____
Bρ: _____(segment 8); Attenuation:_____
Comments: Carbon background calibration

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 551 ~~552~~ junk	Trigger					Date:12/__/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: _____
Bρ: _____(segment 8); Attenuation:_____
Comments: Carbon background calibration

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Noise channels were observed, spent more than 30 min on that, But no noise channel exist after reloading the setup file.

Run# 553	Trigger					Date: 12/1/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	(Coin)	(Secondary)	(Ext 2)	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, (carbon), viewer, mask, blank					

MCP 1: 3416 ; XFP: 3241C ; Live trigger: 340
Bρ: 1.6633 (segment 8); Attenuation: 1
Comments: Reload 05133. Set up. Barney printout.

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

~~Stop 553~~ Cannot Stop the Run 553, reload the godaq

Run# 554	Trigger					Date: 12/1/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	(Coin)	(Secondary)	(Ext 2)	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, (carbon), viewer, mask, blank					

MCP 1: 48K ; XFP: 3X05 ; Live trigger: 407
Bρ: 1.663 (segment 8); Attenuation: 1
Comments:

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Barney Pmt out → goes to (CH) on =100 target

Run# 555	Trigger					Date: 12/1/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	(Coin)	(Secondary)	(Ext 2)	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, (carbon), viewer, mask, blank					

MCP 1: ____ ; XFP: ____ ; Live trigger: ____
Bρ: 1.69 (segment 8); Attenuation: 1
Comments: Beam tuned up before this run.

I250X-R Target 151.45	I251Y-R MCP 0 123.85
I250Y-R MCP 1 153.2	Position (mm)

Daniel changed the Bρ from home.

	Vbias(V)	I(μA)
Back 0	100	4.03
Back 1	100	6.53
Back 2	100	5.49
Back 3	100	6.73
MCP 0	2280	72
MCP 1	2290	87

Run# 556	Trigger					Date:12/__/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	(Coin)	Secondary	(Ext 2)	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: ______ ; XFP:______; Live trigger: _____
Bρ: 1.69 (segment 8); Attenuation: 1
Comments: Data Run after Beam is tuned up. Trigger changed (forgot to remove Wall plug)

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

~~Sometimes some cha~~
~~Every time and then, dE increases suddenly~~, and ~~Bot~~

Every so often, Eor is firing like crazy, seems ~~Board 4 Chip~~ (Slot 15, chip 1, Channel 11). So what we did is turn off that channel, and make sure it runs well, then turn it on. // or reload the motherboard control program.

Nothing

Run# 557	Trigger					Date:12/__/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	(Coin)	Secondary	(Ext 2)	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 188k ; XFP: 435k ; Live trigger: ~~0~~ 40
Bρ: 1.69 (segment 8); Attenuation: 1
Comments: Data Run.

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Good!

Run# 558	Trigger					Date:12/__/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	(Coin)	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 175k ; XFP: 410k ; Live trigger: 30 (LT: 95%)
Bρ: ______(segment 8); Attenuation:______
Comments: Data taking with different trigger.

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Data from
RUN559 -
RUN560 →
RUN561 →
Note:

Data from 556 – 559 probably fine

RUN559 – very short run with coincidences only (other conditions same as for previous runs)

RUN560 → trigger secondary only → short run

RUN561 → trigger – coincidences + ext 2 + secondary

Note: trigger logic is being debugged (since deadtime is too high)
↳ all runs are very short and generally fine

Run# 362	Trigger					Date:12/02/ 07
Beam: ^{56}Ni (circled) E/A=37.5 MeV Alpha source	Coin (circled)	Secondary	Ext 2 (circled)	Ext 1	S800	On shift: B+B+V+D+ Jenny Ali
	Target =(CH2)n: 25um; 75um; 100um (circled), carbon, viewer, mask, blank					

MCP 1: 170K ; XFP: 413K ; Live trigger: ~30
Bρ: _______(segment 8); Attenuation: 1
Comments: still a bit trouble shooting

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run363 – ~~continue~~ with 362 but route out Ext 2 signal ~~from~~ trigger GUI.
~~otherwise~~
364 – change (EXT2) to inspec3 since inspec1 does not work.

363+364 are fine

Run# 365	Trigger					Date:12/2 / 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin (circled)	Secondary	Ext 2 (circled)	Ext 1	S800	On shift: B+B+V+D Jenny Ali
	Target =(CH2)n: 25um; 75um; 100um (circled), carbon, viewer, mask, blank					

MCP 1: 165K ; XFP: 400K ; Live trigger: ~30
Bρ: _______(segment 8); Attenuation: 1
Comments: still trouble ~~sh~~ shooting

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

- working on QDC gate vs. live trigger problem
  ↳ to increase data taking efficiency decided to remove HiRA singles from trigger
  ↳ as a consequence no unique correspondence between QDC gate and live trigger observed
    ↳ we see ~~more~~ QDC gates issued more frequently than daq is triggered

- after some troubleshooting it turns out that HiRA OR going into QDC gate coincidence was directly from E_OR, w/o width modification => occasionally very wide HiRA OR (~130 μs) occurs causing fake QDC gate
  ↳ reduced HiRA OR width to 500 ns before sending it into QDC gate coincidence
  → solves the problem

↳ from now on trigger only on S800+HiRA coinc. and External 2

Run# 568	Trigger					Date:12/__/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	~~Coin~~	Secondary	(Ext 2)	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; (100um), carbon, viewer, mask, blank					

MCP 1: 280k; XFP: 720k; Live trigger: 70
Bρ: 1.69 (segment 8); Attenuation: 1
Comments: Data taking; turn off ~~box~~ Ch0 in Slot12, Chip 2, board 4

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	**Position (mm)**

Run# 569	Trigger					Date:12/2/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	(Coin)	Secondary	(Ext 2)	Ext 1	S800	On shift: D+V
	Target =(CH2)n: 25um; 75um; (100um), carbon, viewer, mask, blank					

MCP 1: ______; XFP: ~~500k~~ 780k; Live trigger: 66
Bρ: ______(segment 8); Attenuation: ______
Comments: ______

I250X-R Target	I251Y-R MCP 0
151.449	123.837
I250Y-R MCP 1	**Position (mm)**
151.173	

A1900 Beam tune for ^{56}Ni

160 MeV/A ^{56}Ni degrade to

E	Purity	Rate
33 MeV	38%	40k /pnA
36	60%	4k
(37.5)	66%	20k
39	60%	30k

(37.5) → final tune.

Run# 570	Trigger					Date:12/2/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	(Coin)	Secondary	(Ext 2)	Ext 1	S800	On shift: D+V
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 150k ; XFP: ~~340k~~ 500k ; Live trigger: 30
Bρ: _______(segment 8); Attenuation:_______
Comments:_______

I250X-R Target 151.449	I251Y-R MCP 0 123.837
I250Y-R MCP 1 153.173	Position (mm)

5:28am beam intensity drops down to ~ 340 000 @ XFP
ask operators to tune up the beam

5:54am beam is back however XFP rate "only" around 430K
we could call Larry Tobos and loose possibly up to an hour or try running with this tune
↳ we take the beam, if it starts dropping again we would call Larry

Run# 571 (572 = ...)	Trigger					Date:12/ 2/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	(Coin)	Secondary	(Ext 2)	Ext 1	S800	On shift: V+D
	Target =(CH2)n: 25um; 75um; (100um), carbon, viewer, mask, blank					

MCP 1: 170k ; XFP: ~400k ; Live trigger: ~35
Bρ: _______(segment 8); Attenuation: 1
Comments: freshly retuned beam but XFP intensity not that great

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

7:00AM Beam intensity drops steadily to ~ 340K at XFP again. We ask the operator to call Larry Tobos to crank-up the ion source

7:25AM Beam is back; XFP ~ 500K but decreasing rapidly to 470K

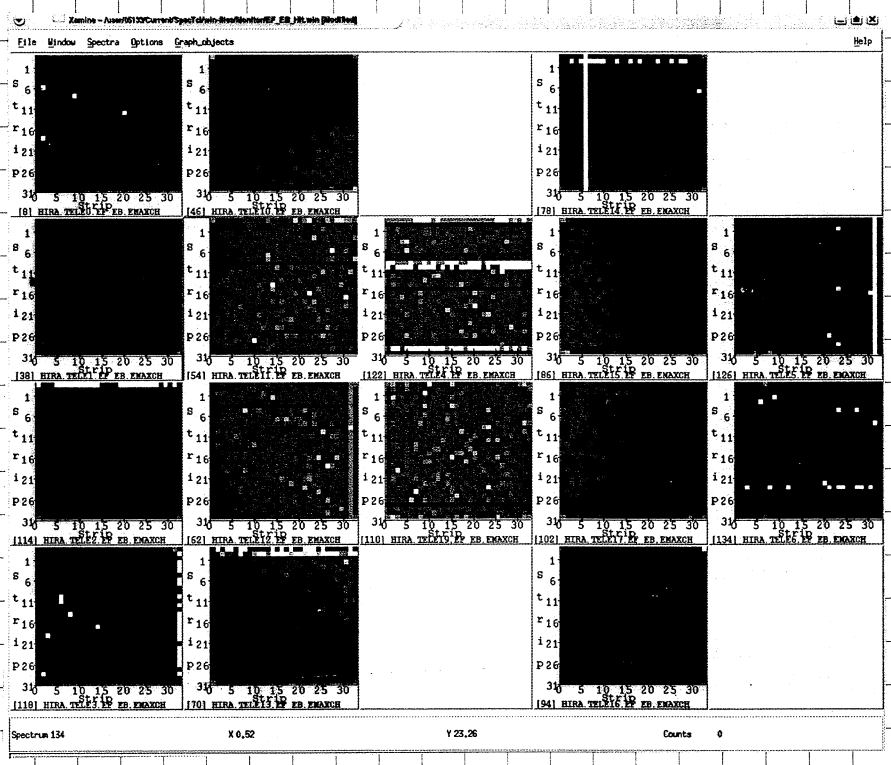
Run# 5734	Trigger					Date:12/02/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: V+D
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 215K ; XFP: 475K; Live trigger: 40

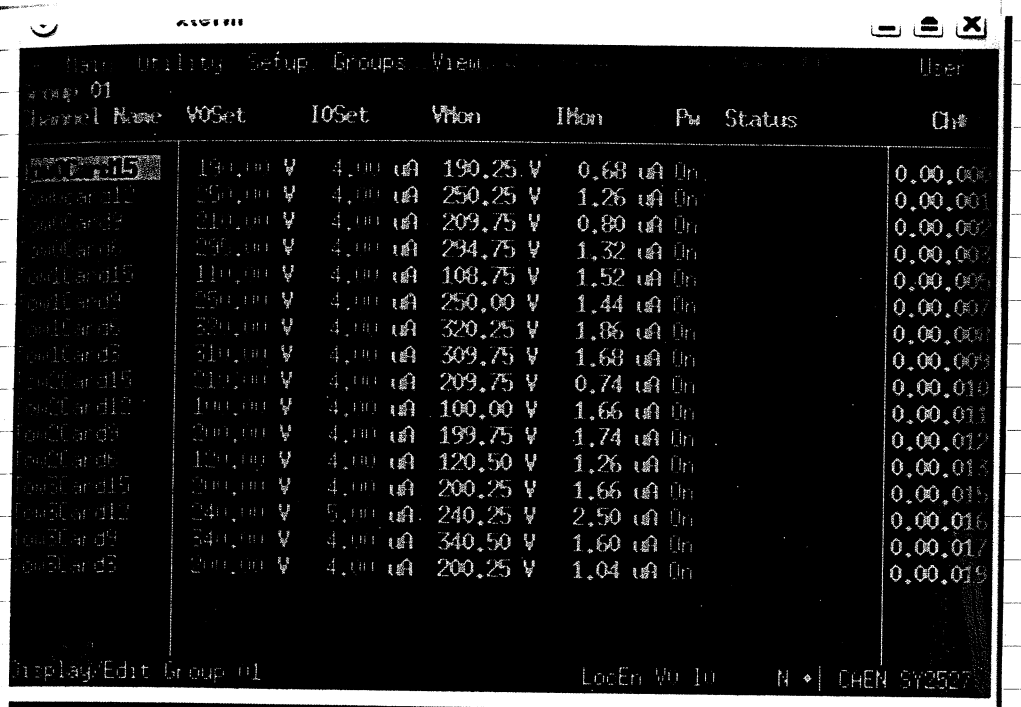
Bρ: _____(segment 8); Attenuation:_____

Comments:_____

I250X-R Target 151.45	I251Y-R MCP 0 123.84
I250Y-R MCP 1 153.17	Position (mm)



12/02/07 7:30 am



xterm

Main Utility Setup Groups View User

Group 01

Channel Name	VOSet	IOSet	VMon	IMon	Pw	Status	Ch#
[illegible]	190.00 V	4.00 uA	190.25 V	0.68 uA	On		0.00.000
[illegible]	250.00 V	4.00 uA	250.25 V	1.26 uA	On		0.00.001
[illegible]	210.00 V	4.00 uA	209.75 V	0.80 uA	On		0.00.002
[illegible]	295.00 V	4.00 uA	294.75 V	1.32 uA	On		0.00.003
[illegible]	110.00 V	4.00 uA	108.75 V	1.52 uA	On		0.00.005
[illegible]	250.00 V	4.00 uA	250.00 V	1.44 uA	On		0.00.006
[illegible]	320.00 V	4.00 uA	320.25 V	1.86 uA	On		0.00.008
[illegible]	310.00 V	4.00 uA	309.75 V	1.68 uA	On		0.00.009
[illegible]	210.00 V	4.00 uA	209.75 V	0.74 uA	On		0.00.010
[illegible]	100.00 V	4.00 uA	100.00 V	1.66 uA	On		0.00.011
[illegible]	200.00 V	4.00 uA	199.75 V	1.74 uA	On		0.00.012
[illegible]	120.00 V	4.00 uA	120.50 V	1.26 uA	On		0.00.013
[illegible]	200.00 V	4.00 uA	200.25 V	1.66 uA	On		0.00.015
[illegible]	240.00 V	5.00 uA	240.25 V	2.50 uA	On		0.00.016
[illegible]	340.00 V	4.00 uA	340.50 V	1.60 uA	On		0.00.017
[illegible]	200.00 V	4.00 uA	200.25 V	1.04 uA	On		0.00.019

Display/Edit Group 01 LocEn VU In N +| CHEN SY2527

xterm <2>

Main Utility Setup Groups View User

Group 02

Channel Name	VOSet	IOSet	VMon	IMon	Pw	Status	Ch#
PA14	7.00 V	2.0 uA	7.10 V	0.0 uA	On		0.03.000
PA11	7.00 V	2.0 uA	6.90 V	0.1 uA	On		0.03.001
PA10	8.00 V	2.0 uA	7.80 V	0.0 uA	On		0.03.003
PA12	8.00 V	2.0 uA	7.70 V	0.0 uA	On		0.03.004
PA19	6.00 V	2.0 uA	5.45 V	0.0 uA	On		0.03.006
PA16	0.00 V	2.0 uA	0.10 V	0.0 uA	Off		0.03.007
PA18	0.00 V	2.0 uA	0.25 V	0.0 uA	Off		0.03.008
PA17	9.00 V	2.0 uA	8.85 V	0.2 uA	On		0.03.010
PA4	7.00 V	2.0 uA	6.85 V	0.0 uA	On		0.05.000
PA1	9.00 V	2.0 uA	8.90 V	0.2 uA	On		0.05.001
PA3	6.00 V	2.0 uA	6.00 V	0.2 uA	On		0.05.002
PA0	7.00 V	2.0 uA	7.05 V	0.7 uA	On		0.05.003
PA6	7.00 V	2.0 uA	6.80 V	0.0 uA	On		0.05.007
PA8	8.00 V	2.0 uA	7.95 V	0.4 uA	On		0.05.008
PA5	8.00 V	2.0 uA	7.70 V	0.1 uA	On		0.05.009
PA7	7.00 V	2.0 uA	6.75 V	0.0 uA	On		0.05.010

Display/Edit Group 02 LocEn VU In N +| CHEN SY2527

xterm <3>

Main Utility Setup Groups View User

Group 03

Channel Name	VOSet	IOSet	VMon	IMon	Pw	Status	Ch#
PA11	80.00 V	3.0 uA	80.05 V	0.0 uA	On		0.03.005
PA12	80.00 V	3.0 uA	79.85 V	1.1 uA	On		0.03.011
PA13	80.00 V	3.0 uA	79.90 V	0.1 uA	On		0.05.005
PA10	80.00 V	3.0 uA	80.05 V	0.1 uA	On		0.05.011

Run# 575	Trigger					Date:12/02/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: M, D, Bill
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 198K ; XFP: 421K ; Live trigger: 45
Bρ: _____(segment 8); Attenuation:_____
Comments: After beam retune

I250X-R Target 151.45	I251Y-R MCP 0 123.84
I250Y-R MCP 1 157.17	Position (mm)

Run# 576	Trigger					Date:12/02/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 190K ; XFP: 390K ; Live trigger: 40
Bρ: _____(segment 8); Attenuation:_____
Comments:_____

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 577	Trigger					Date:12/02/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 190K ; XFP: 362K ; Live trigger: 45
Bρ: _____(segment 8); Attenuation:_____
Comments: ended run early to consider beam tune.

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 578	Trigger					Date:12/02/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 190K ; XFP: 380K ; Live trigger: 45
Bρ: _____(segment 8); Attenuation:_____
Comments: Continue running while waiting for A1900 person to come in

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

XFP/MCP ratio has shown significant decrease since 8:00 am this morning. At 12:55pm, Tom Ginter came to do some diagnostics & probably shim the XFP

Run# 579	Trigger					Date:12/02/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 205K ; XFP: 504K; Live trigger: 50
Bρ: _____(segment 8); Attenuation: _____
Comments: XFP biases raised,

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 580,1,2	Trigger					Date:12/02/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 213K ; XFP: 515K; Live trigger: 50
Bρ: _____(segment 8); Attenuation: _____
Comments: data

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 583	Trigger					Date:12/02/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: Bill, Betty, Andy, Jenny, Aly,
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP: _____; Live trigger: _____
Bρ: _____(segment 8); Attenuation: _____
Comments: more data. XFP HV dropped to 475K

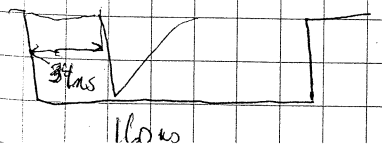
I250X-R Target 151.45	I251Y-R MCP 0 123.85
I250Y-R MCP 1 151.200	Position (mm)

Run#^{56}Ni 584	Trigger					Date:12/__/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 240K ; XFP: 580K; Live trigger: 50
Bρ: _____(segment 8); Attenuation: _____
Comments: Data taking after the beam ~~turned up~~ (Beam stopped and restarted run)

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

went into vault before run 584 and cabled at the gate as the QDC inputs for high gain mcp ∅. The relative timing is shown below



this is for the 100 um CH_2 target

Run# 585	Trigger					Date:12/__/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: Betty, Andy, Jenny, Alisher
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 220k ; XFP: 530k ; Live trigger: 55
Bρ: 1.69 (segment 8); Attenuation: 1
Comments: Data

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 586	Trigger					Date:12/__/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 218K ; XFP: 535k ; Live trigger: 50
Bρ: _____(segment 8); Attenuation: _____
Comments: _____
Data

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 587-588	Trigger					Date:12/__/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP: _____; Live trigger: _____
Bρ: _____(segment 8); Attenuation: _____
Comments: _____

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

1:00 am - giving key to the operator to tune up the beam

1:17 beam back - XFP ~ 530k

Run# 590	Trigger					Date:12/23/ 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: V+J
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: 230 ; XFP: 535k ; Live trigger: _____
Bρ: 1.69 (segment 8); Attenuation: _____
Comments: Data. After beam tune up

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 591	Trigger					Date:12/3/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: U+D
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: ~225 ; XFP: 520k ; Live trigger: ~50
Bρ: _____(segment 8); Attenuation: _____
Comments: more data

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 592	Trigger					Date:12/3/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: U+D
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: ~220 ; XFP: 515k ; Live trigger: ~50
Bρ: _____(segment 8); Attenuation: _____
Comments: more data

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 593~	Trigger					Date:12/3/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift: U+D
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP: _____; Live trigger: _____
Bρ: _____(segment 8); Attenuation: _____
Comments: _____

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Run# 596, 597, 598	Trigger					Date:12/__/07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP: _____; Live trigger: _____
Bρ: _____(segment 8); Attenuation: _____
Comments: Alpha

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

• dead time investigations

1/ trigger by coinc + Ext 2
trigger live ... 45 CsI live/raw ... ~0.91
E_GR ... ~560

2/ trigger by coinc + Ext 2 + secondary (RUN 5769)
trigger live ... 230 CsI live/raw ... 0.41
E_GR ... 220

3/ increasing buffer size to 30x1024
trigger live ... 230 CsI live/raw ... 0.41
↳ dead time does not change
evts in buffer ~ 50
buffer transfer ~ 5ms !
↳ the reason being scaling of buffer transfer time with buffer size
↳ will be fixed by Eric + Ron

To summarize for the CC'd recipients. We played with the size of the DAQ buffer this a.m. and things did not behave the way I expected. I had thought that Spectrodaq client performance was not dependent on the buffer size. My reasoning was that we could increase the buffer size, and better amortize the per-buffer overhead you're seeing over more events, significantly improving the average dead time.

As we changed the event size, we saw that the long dead time blocks were quite clearly periodic, and the time between them grew supporting my guess that they are due to per buffer processing. What was not expected, however is that the long dead-times also increased in proportion to the buffer size (since spectrodaq buffers are shared memory I expected the time required to route or get a buffer to be fixed as no data transfer is required), meaning there would be no gain in increasing the buffer size.

I've had a chance to chat with Eric about why this is and I think we'll have a solution late Dec. (actually written and ready to deploy but my next shot at updating the DAQ software is December 27). The issue is that Spectrodaq organizes buffers into chains of 'pages'. Each page is a fixed size, buffers can be any size and therefore will be composed of a group of pages.

· Starting IU pulser ramp of dE Gopulser IU

ramp setting: 0-0.368 V

47 steps

3 sec per step

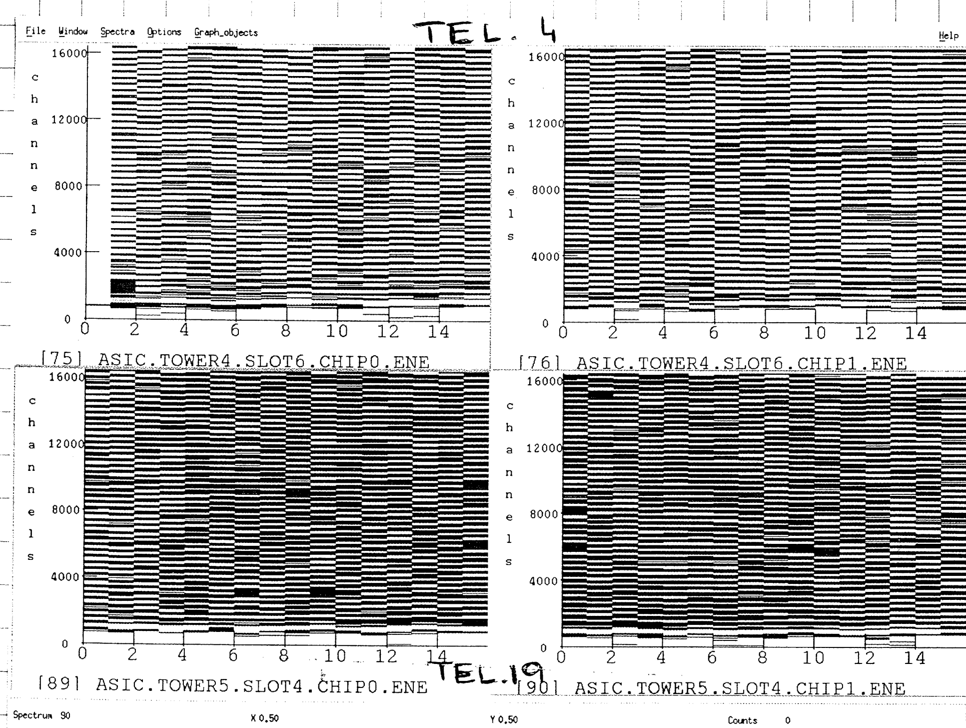
Run# 600, 601	Trigger					Date: 12/04/07
Beam: ^{56}Ni ~~E/A=37.5 MeV~~ ~~Alpha source~~ pulser	Coin	Secondary	Ext 2	Ext 1	S800	On shift: U+D
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: ______ ; XFP:______; Live trigger: _____

Bρ: _______(segment 8); Attenuation:___________

Comments: tel. 4 and 19

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)



Run# 602, 603	Trigger					Date: 12/04/07
Beam: ^{56}Ni E/A=~~37.5~~ MeV Alpha source pulser	Coin	Secondary	Ext 2	Ext 1	S800	On shift: D+U + Sylvie
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: _____

Bρ: _____(segment 8); Attenuation:_____

Comments: Tel 14 and 17

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Integrations for spectrum 193

Id	Name	Centroid	FWHM	Area	
Summing regions:					
3	Summing Region 003	4217.14	[redacted]	867.000000	
4	Summing Region 004	4650.51		877.000000	14
5	Summing Region 005	5070.70		843.000000	
6	Summing Region 006	5500.93		862.000000	

Cuts:

Integrations for spectrum 209

Id	Name	Centroid	FWHM	Area	
Summing regions:					
7	Summing Region 007	4281.76	51.33	867.000000	
8	Summing Region 008	4647.03	52.47	854.000000	17
9	Summing Region 009	5018.40	51.69	853.000000	
10	Summing Region 010	5382.04	49.79	870.000000	

Cuts:

Integrations for spectrum 185

Id	Name	Centroid	FWHM	Area	
Summing regions:					
11	Summing Region 011	4494.38	54.76	877.000000	
12	Summing Region 012	4888.56	55.59	868.000000	14
13	Summing Region 013	5289.45	55.58	858.000000	
14	Summing Region 014	5683.59	53.62	872.000000	

Cuts:

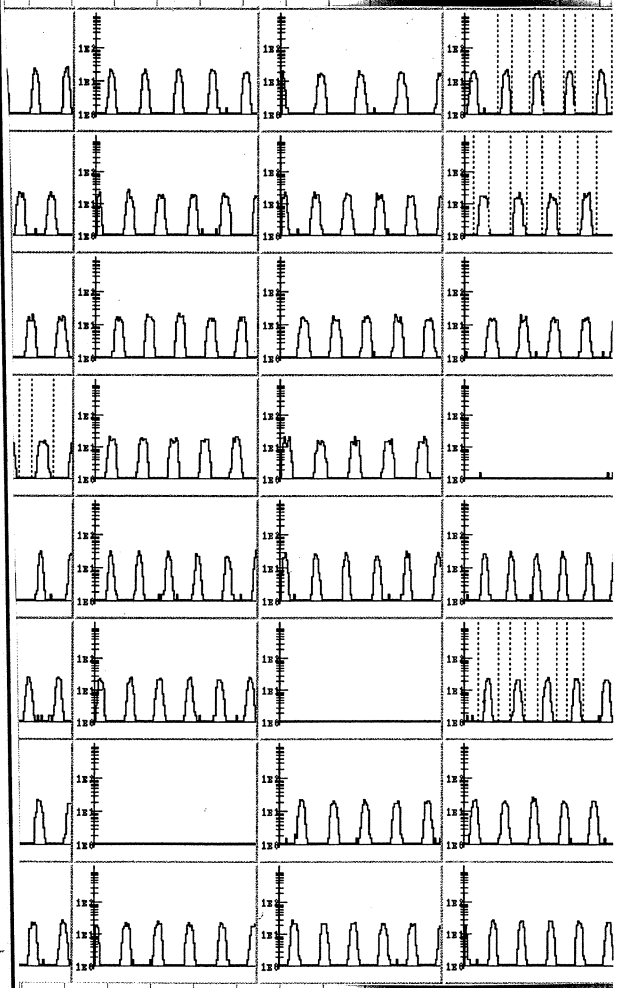
Integrations for spectrum 174

Id	Name	Centroid	FWHM	Area	
Summing regions:					
15	Summing Region 015	4415.00	[redacted]	879.000000	
16	Summing Region 016	4825.05		881.000000	14
17	Summing Region 017	5223.61		884.000000	
18	Summing Region 018	5635.31		881.000000	

Cuts:

Integrations for spectrum 218

Id	Name	Centroid	FWHM	Area	
Summing regions:					
19	Summing Region 019	4372.68	56.40	879.000000	
20	Summing Region 020	4730.06	56.04	885.000000	
21	Summing Region 021	5097.31	55.74	885.000000	17
22	Summing Region 022	5453.40	54.70	879.000000	



Run# 604-606	Trigger					Date: 12/4/07
Beam: ^{56}Ni E/A=~~37.5~~ MeV Alpha source ~~Pulser~~	Coin	Secondary	Ext 2	Ext 1	S800	On shift: Sylvie + Micha.
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: _____

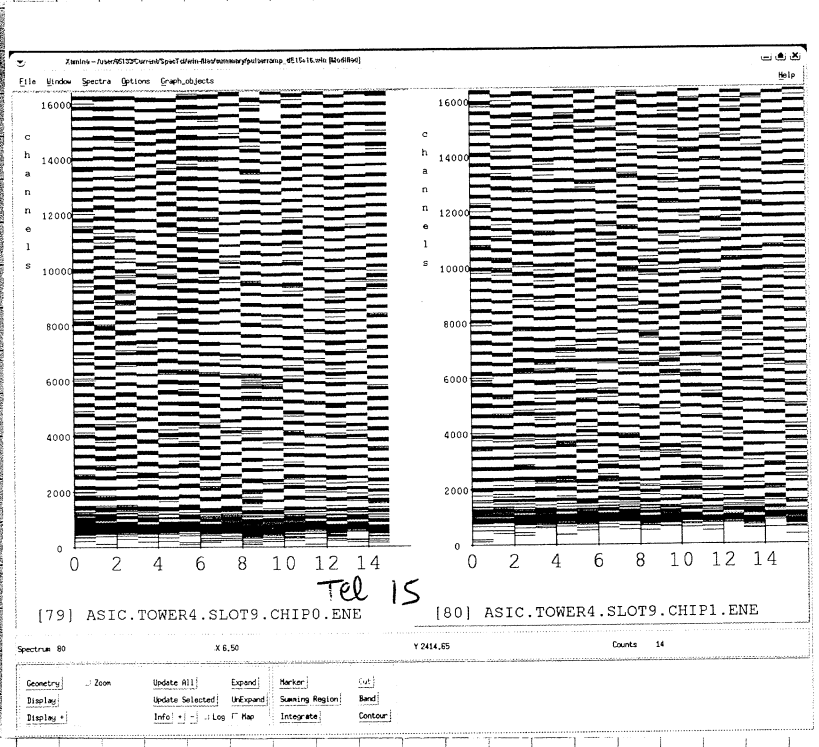
Bρ: _____(segment 8); Attenuation:_____

Comments:_____

Tel 15 + 16

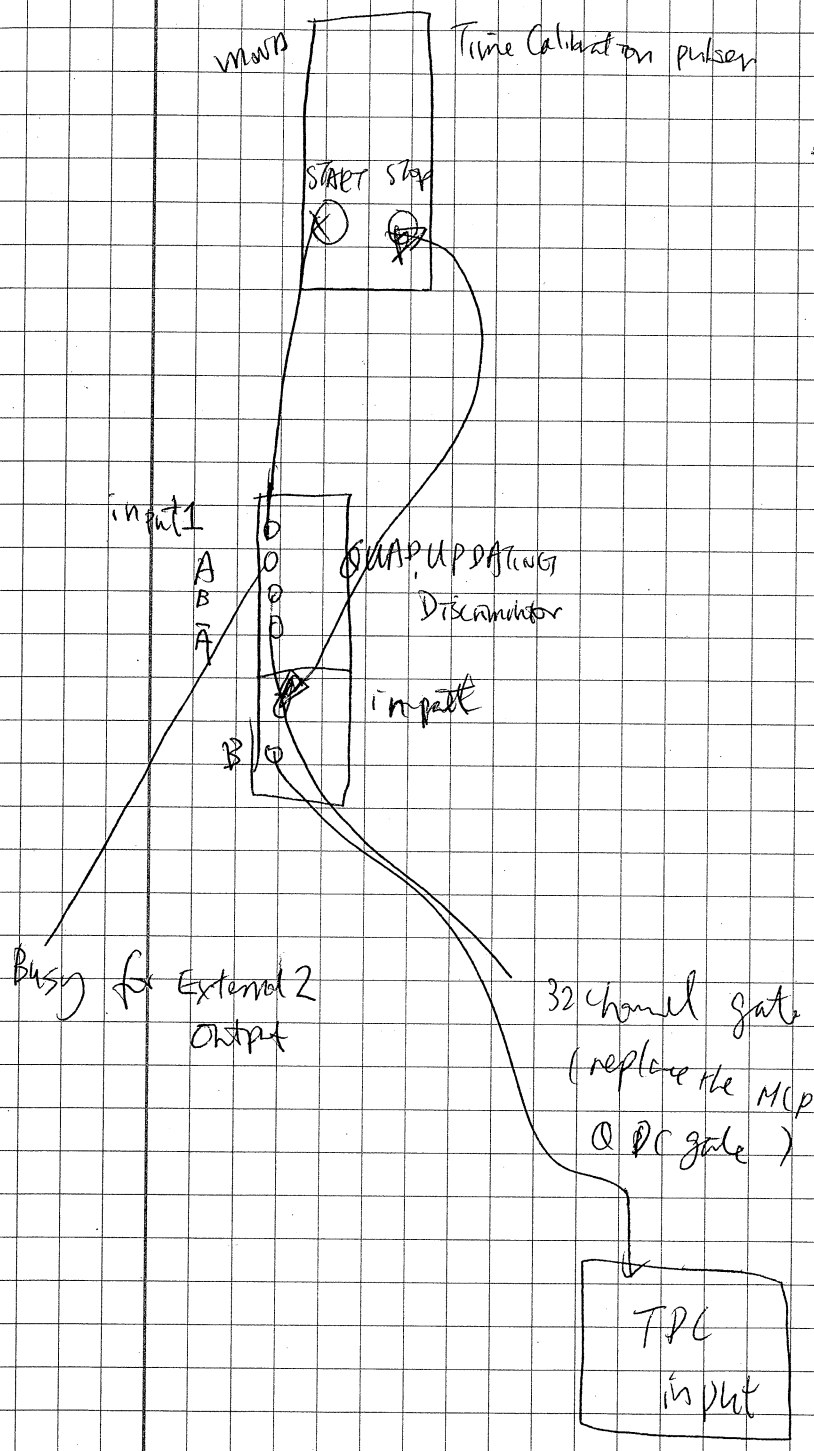
I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

Tel 19 was noisy. (thru IU pulser box # 2). Finish telescope 15 alone.



Tel 16: noise (> 2300 3color /s) - Swapping detector didn't help. Still same level of noise. Changing the cable on the atside rems to make the noise level lower. Sensitivity to external noise (welder?)

TDC Calibration



LABS, ' Three positions, four reference points

→ new point array (new)

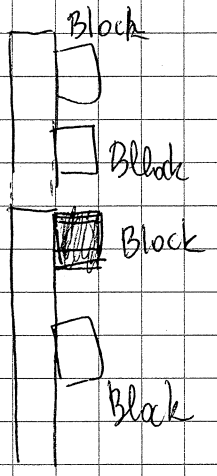
Ar

LASER measurement.

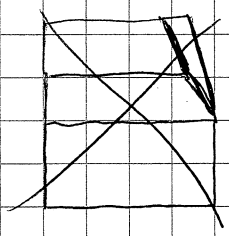
LBBS.

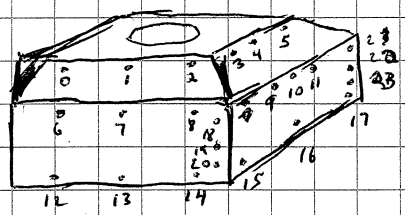
1) Calibration.

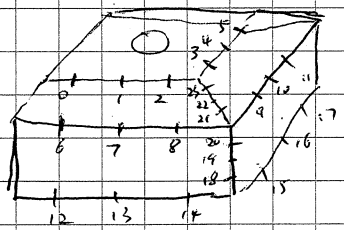
* Posts + blocks on left side of the beam



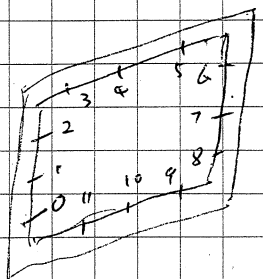
Block:



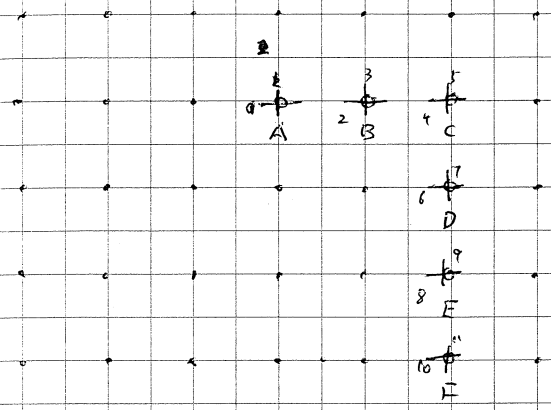




MCPO Foil



MCPO Mask



	Y	Θ	Φ
A	238.75	-0.4	-180.45
B	240.10	-0.35	-179.85
C	245.55	-0.45	-179.25
D	244.36	-1.55	-179.30
E	~~245~~ 245.29	-2.75	-179.30
F	245.09	-3.9	-179.35

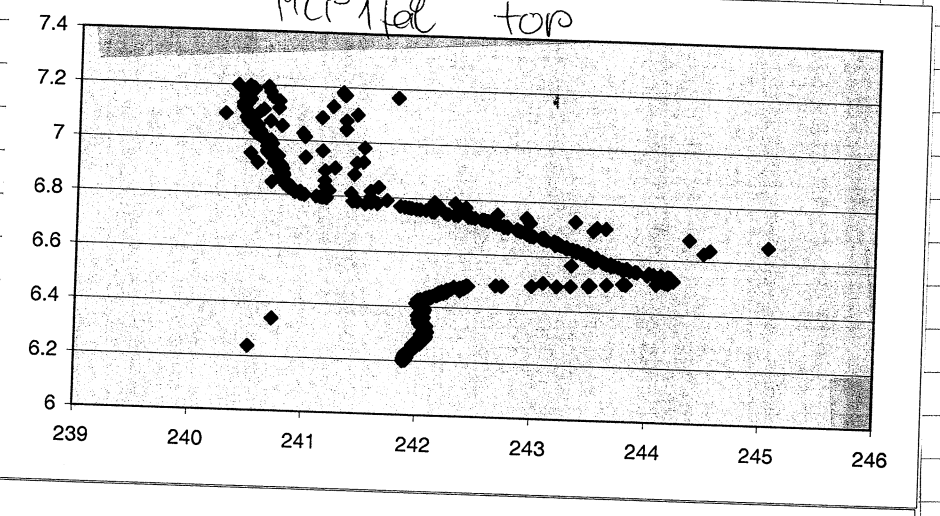
Measurements

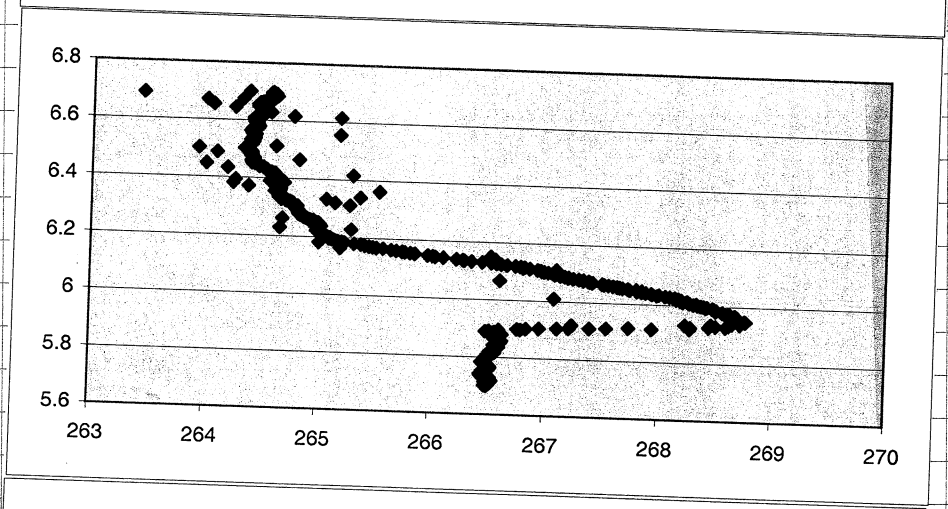
Position Φ
- MCP0 : mask & foil
- MCP1 : foil1, foil2
- Target :
- References: REFΦ, REF1, REF2

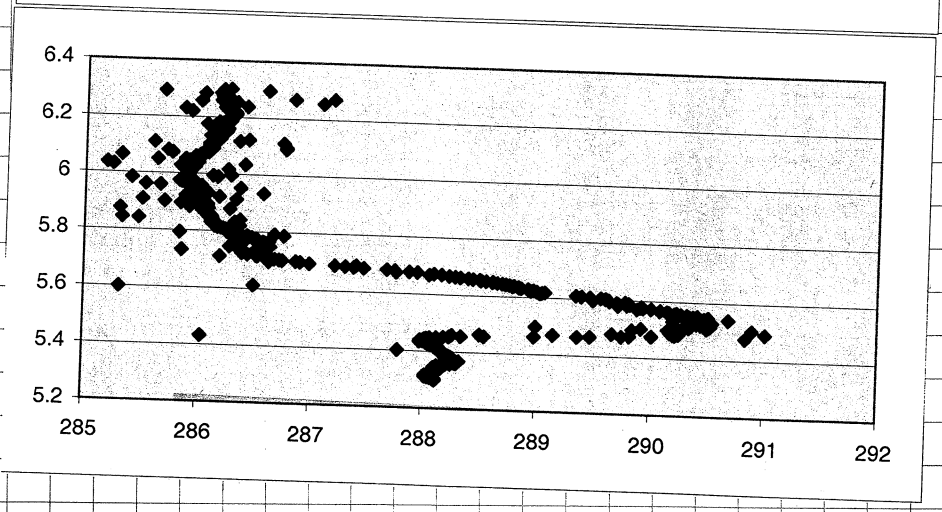
Position 1
- MCP1 : mask
- References:- REFΦ, REF2

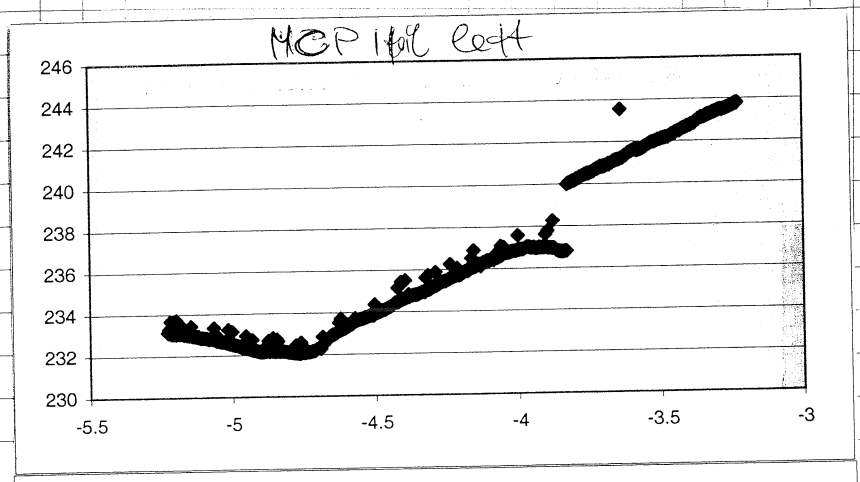
Position 2
- HRA
- References: REF1, REF3

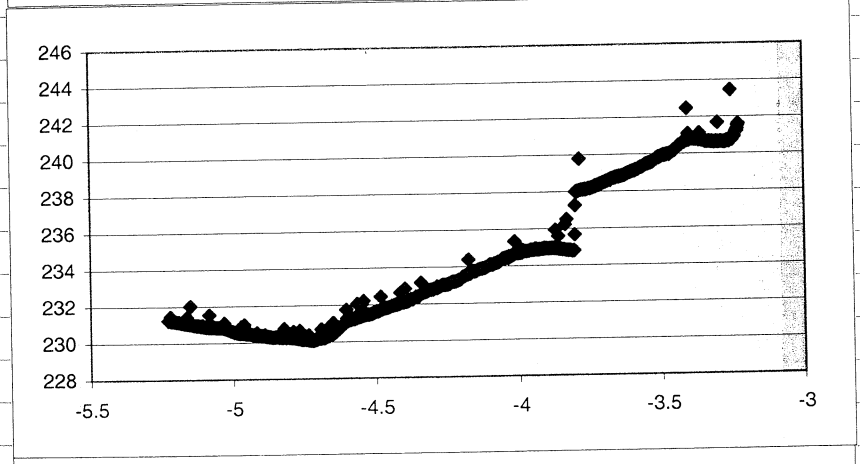
MCP 1 tdc top

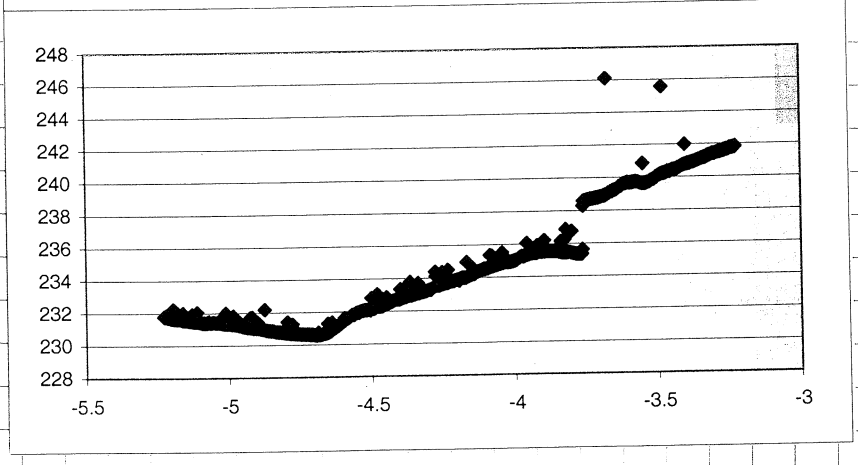

7.4
7.2
7
6.8
6.6
6.4
6.2
6
239
240
241
242
243
244
245
246


6.8
6.6
6.4
6.2
6
5.8
5.6
263
264
265
266
267
268
269
270


6.4
6.2
6
5.8
5.6
5.4
5.2
285
286
287
288
289
290
291
292


MCP left
246
244
242
240
238
236
234
232
230
-5.5
-5
-4.5
-4
-3.5
-3

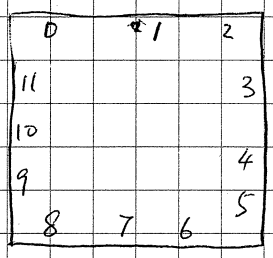

246
244
242
240
238
236
234
232
230
228
-5.5
-5
-4.5
-4
-3.5
-3


248
246
244
242
240
238
236
234
232
230
228
-5.5
-5
-4.5
-4
-3.5
-3

lpstat -a

a2ps file -P ub_color

MCP 1 Foil



⊗ Beam

Array File

→ MCP1LFoil_obj - INT.array

Large Foil:

Scan done: 1.00° ; step= 0.002°

Cross direction

1 → 7 ; 10 → 4

	theta	phi
Large foil Pos 1 =	58	-0.5
Pos 10 =	-0.25784	-3.7

$\Delta\theta \sim 14°$

$\Delta\phi \sim 7°$

Vertical Cross: MCP1LFoilVCross.obj $\Delta\theta = 14°$; step= 0.05°

Horizontal Cross: MCP1LFoilHCross.obj $\Delta\phi = 7°$; step= 0.025°

Small Foil:

- MCP1SFoil_obj - INT.array (Same parts as Large Foil) + Same scan.
- MCP1SFoilVCross.obj Vertical Scan of the surface
- MCP1SFoilHCross.obj Horizontal Scan of the surface

Large Frame

Dec 05, 07 14:27 **MCP1LFoilObj_INT.ary** Page 1/1

```
MCP1LFOIL
1        12        1        1        1
0        90
1        90
2        90
3        0
4        0
5        0
6        270
7        270
8        270
9        180
10       180
11       180
0        0         242.58900         6.10000 -3.50000
0        1         263.45900         5.80000 -0.50000
0        2         287.18400         5.30000 2.30000
0        3         292.95100         4.60000 2.60000
0        4         287.94600         0.10000 2.60000
0        5         287.76900         -5.90000          2.60000
0        6         287.28500         -6.70000          2.50000
0        7         261.13600         -7.20000          -0.50000
0        8         240.52200         -7.70000          -3.50000
0        9         239.10800         -7.30000          -3.70000
0        10        238.58700         -0.25784          -3.70000
0        11        240.97700         5.74216 -3.70000
```

theta phi

.02°

Small Port

Dec 05, 07 18:29 **MCP1SFoilObj_INT.ary** Page 1/1

```
MCP1SFOIL
1        12        1        1        1
0        90
1        90
2        90
3        0
4        0
5        0
6        270
7        270
8        270
9        180
10       180
11       180
0        0         242.58900         6.10000 -3.50000
0        1         263.45900         5.80000 -0.50000
0        2         287.18400         5.30000 2.30000
0        3         292.95100         4.60000 2.40000
0        4         287.94600         0.10000 2.40000
0        5         287.76900         -5.90000          2.40000
0        6         287.28500         -6.70000          2.30000
0        7         261.13600         -7.20000          -0.50000
0        8         240.52200         -7.70000          -3.50000
0        9         239.10800         -7.30000          -3.70000
0        10        238.58700         -0.25784          -3.70000
0        11        240.97700         5.74216 -3.70000
```

.5°

.025°

Sten-

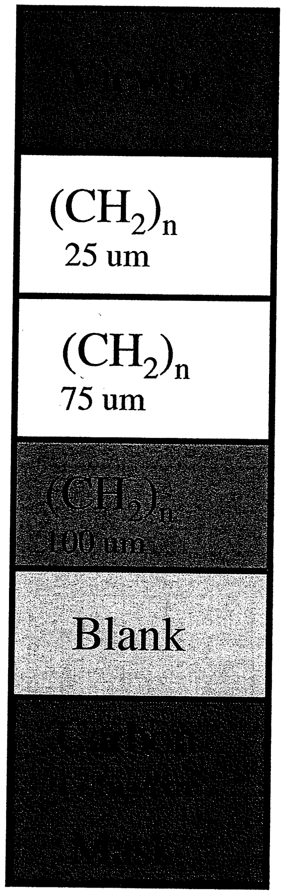
face

face

Target – distance from the laser setup

Dec 5,
William

8.6821X 10^{-3}

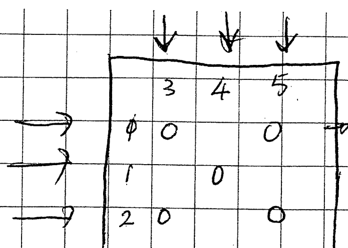


0 mm	365.6573 (9.378…
49.6 mm	366.7832 (1.3783…
100.55 mm	366.3452 (1.462…
151.45 mm	365.1449 (2.1952×…
202.15 mm	?
243.88 mm	364.7980 (9.7881…
267.65 mm	362.8493 (5.53…

3/4"x3/4"

beam ⊗

ole size: 2mm



$\Delta\phi = 2.5°$, step = 0.002°
$\Delta\theta = 2.5°$

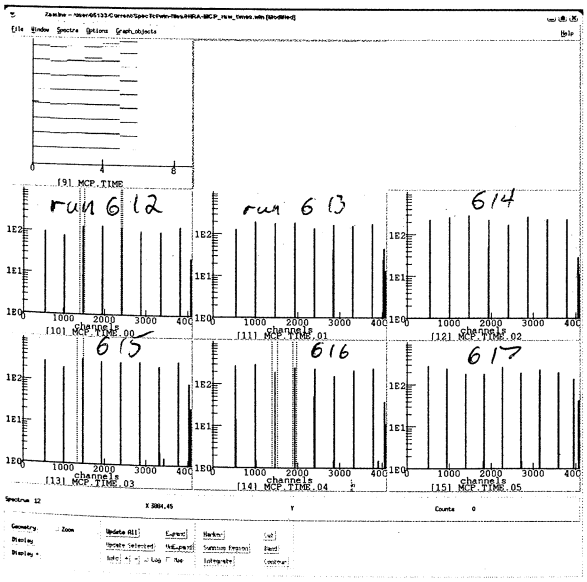
file = TargetMask

Dec 5, 2007
William Aeters

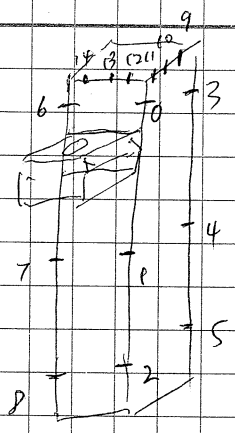
TDC Calibration Runs

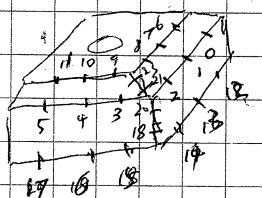
40 ns between peaks

Run 608	s800 TDC	fp.el. time-up trigger
Run 609	s800 TDC	fp.el. time-down trigger
Run 610	s800 TDC	el. time-down ~~trigger~~ w/ XFP
Run 611	s800 TDC	el. time-up trigger ~~w/RF~~
Run 612	HiRA TDC	ext 2 trigger MCP.time.00
Run 613	HiRA TDC	MCP. time. 01
Run 614	HiRA TDC	MCP. time. 02
Run 615	HiRA TDC	MCP. time. 03
Run 616	HiRA TDC	MCP. time. 04
Run 617	HiRA TDC	MCP. time. 05



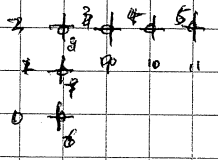
REF-2.





Move to Position 1.

MCP1 Mask



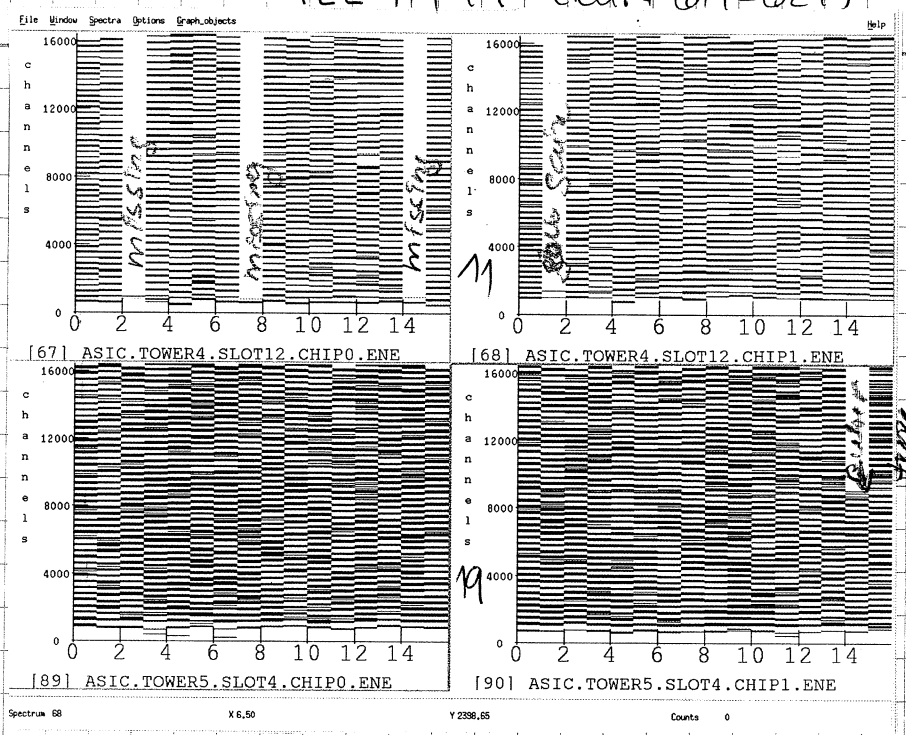
IV-pulser calibration

Ramp: 0 - 0.368 Volts in 47 steps for 3 sec. each.

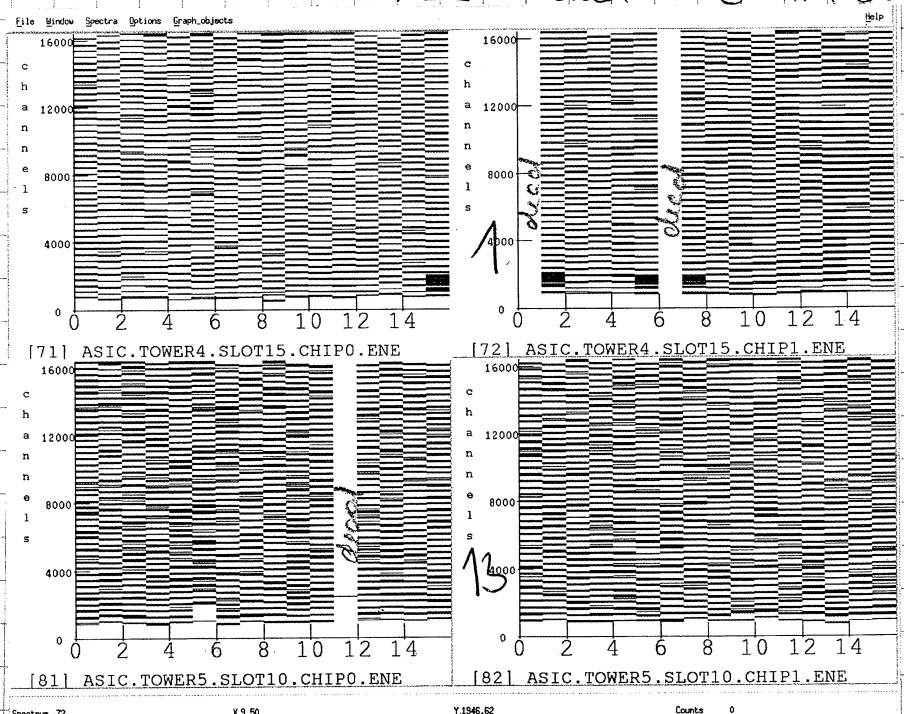
Run	Tel.	Trigger
601	4, 19	~~EN~~DG: itself
602	14, 17	
603	~~19~~, ~~16~~ 17	
604	15, 16	
605	15, 16	
606	15, 16	
~~607~~ SPDAQ29		As in expt. pulser DAQ triggered on.
619	11, 19	
620	11, 19	
621	11, 19	
622	11, 19	
624	11, 19	
625	0, 12	
626	0, 12	
627	1, 13	
628	1, 13	
629	1, 13	
630	10, #	
631	10, #	
632	10, #	
633	3, 16	
634	3, 16	
635	3, 16	
636	3, 16	
637	3, 16	
638	3, 16	
639	2, 4	
640	2, 4	
641	2, 4	

by mistake we hooked up ~~PA~~ 3 into tel 3 as pulser ramp for ~~tower~~ 5, ~~slot~~ 15 is JUNK & but tower 4, slot 13 is O.K.

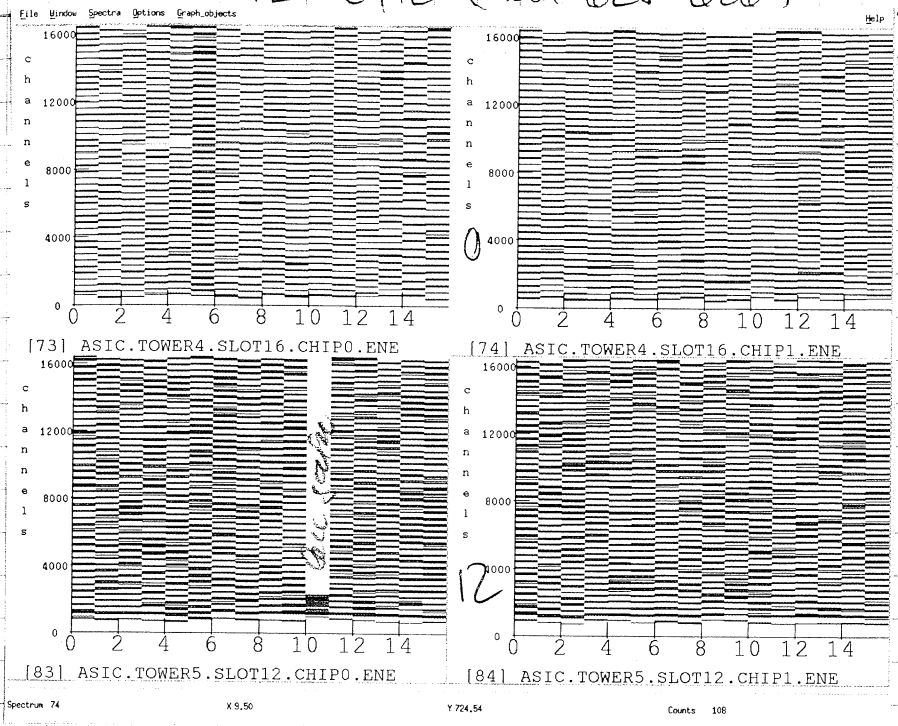
TEL 11, 19 (RUN 619-624)



TEL 1 and 13 (RUN 627-629)



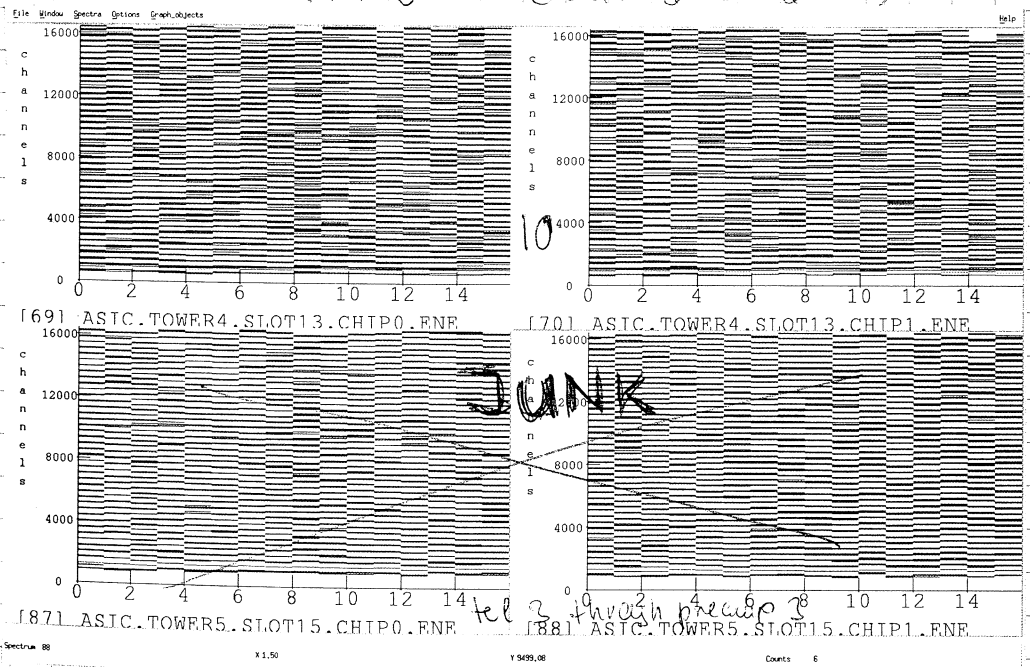
TEL 0,12 (RUN 625-626)



0
12

(629)

TEL 10 (RUN 630-632)



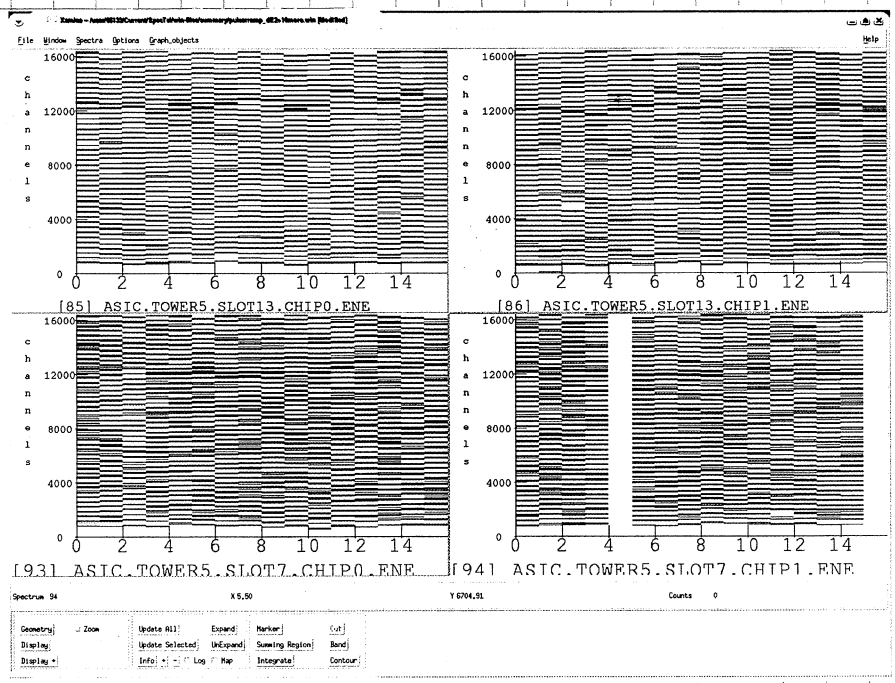
10

JUNK

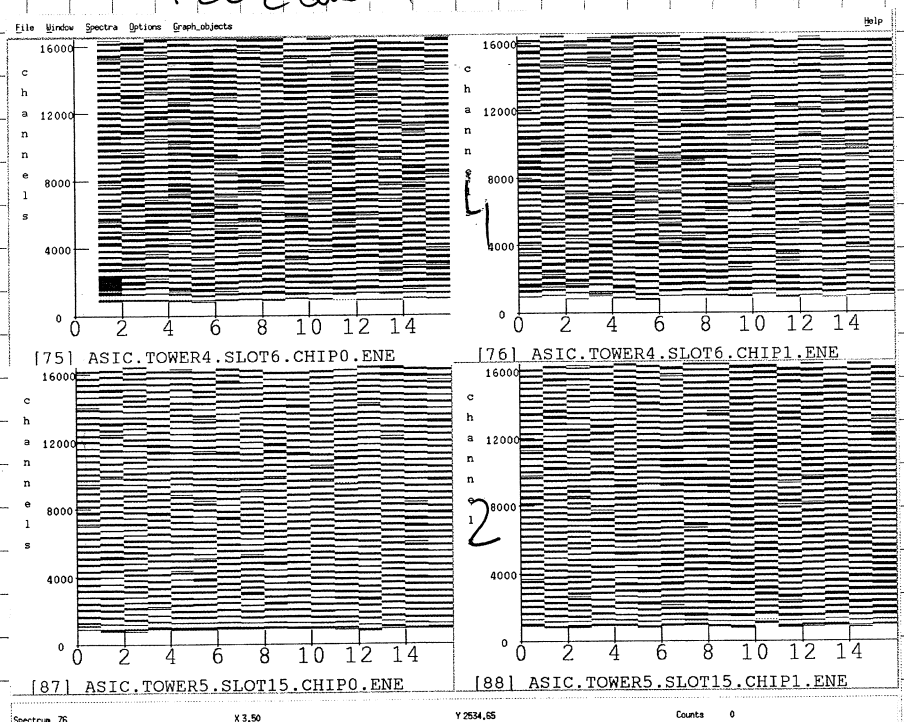
tel 3 through preamp 8

Feb 3 16

runs 633-638



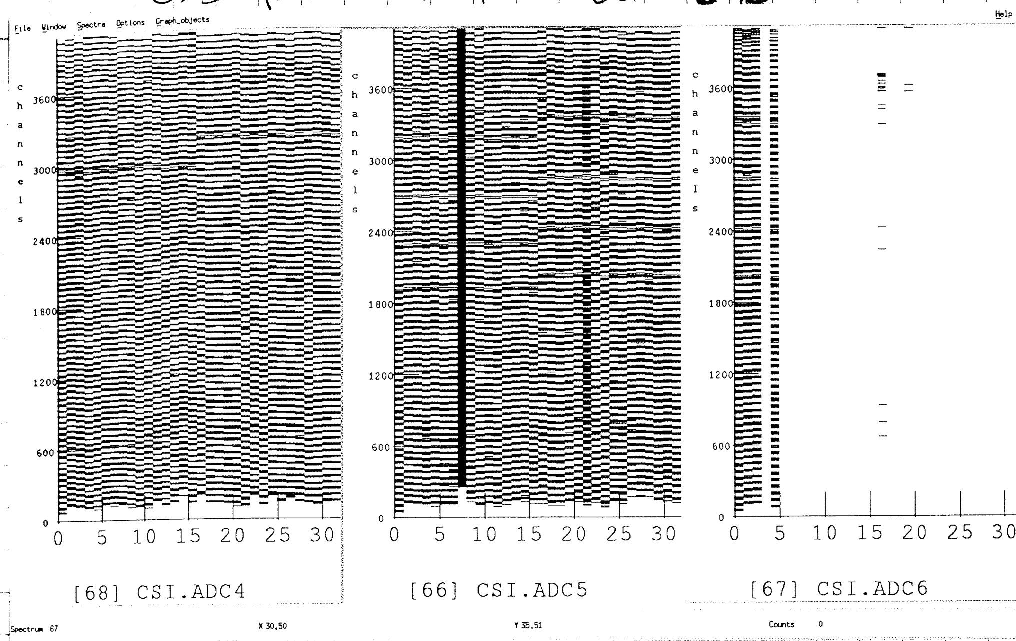
TEZ 2 and 4



Run 642 (junk)?

CsI pulser ramp RUN 643

0-05V
10 steps



note: during pulser ramp observed very different rates on ADC 4 than on ADC 5, 6 (daq triggered by pulser)

↳ "ADC 4" counts almost factor of 10 less than the other two, but scalers for CsI Ch 1 and 2, 3 (gate free)
↳ checked pulser trigger out vs. shaper (CsI 1) output and gate; analog signals and gates are coming in sync. with pulser
↳ when swapped ADC 4 and 5 inputs result still the same
↳ ADC 5 is gated from ADC 4

Run# 649, 650	Trigger					Date:12/07 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source pin source	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: _____
Bρ: _____(segment 8); Attenuation:_____
Comments: ~~1 Alpha run~~ pin source run

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

1pm 12/07/07
Tower 1 leakage current is jumping between 5.70 and 6.20 μA.

~ 5:00 pm. Sylvie & Michael got the pulser working
Run 649, 650

Run#	649, 650	Trigger				Date:12/07 07
Beam: ^{56}Ni E/A=37.5 MeV Alpha source pin	Coin	Secondary	Ext 2	Ext 1	S800	On shift:
	Target =(CH2)n: 25um; 75um; 100um, carbon, viewer, mask, blank					

MCP 1: _____ ; XFP:_____; Live trigger: _____
Bρ: _____(segment 8); Attenuation:_____
Comments:_____

I250X-R Target	I251Y-R MCP 0
I250Y-R MCP 1	Position (mm)

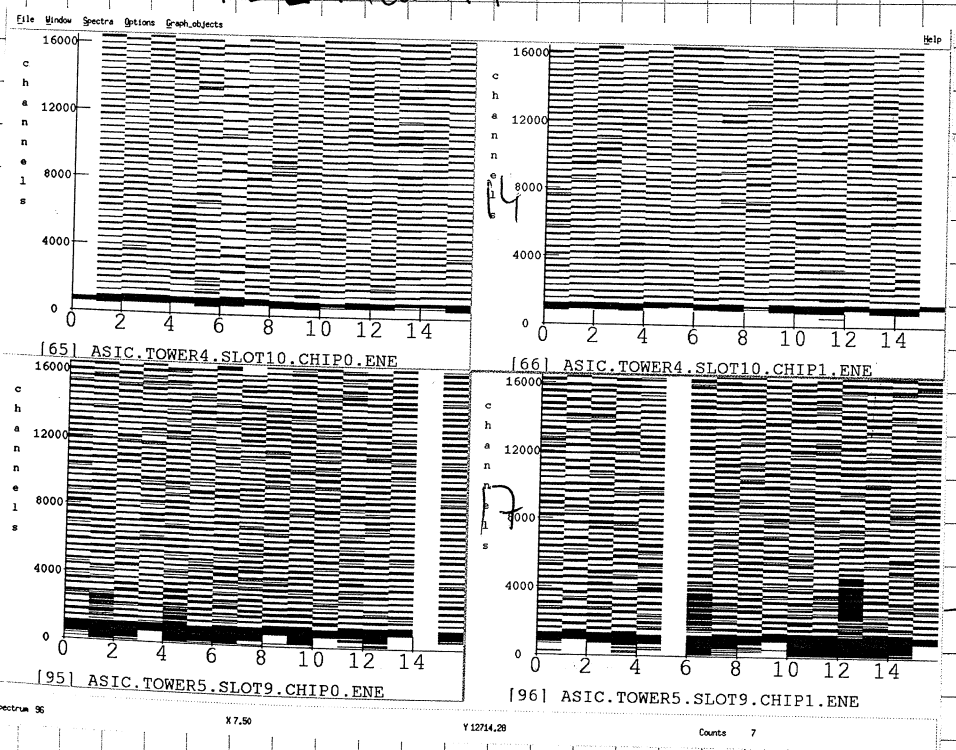
21pin 250K cpm				
12/06/07 taken out at 7:45pm				
	12/06/07 7:45pm		12/07/07 8:45am	
Frame #	Activity(x1K cpm)		Activity(x1K cpm)	
-1	4.6		2.8	8
0	17.5		8	
1	27		12.8	
2	12.5		6.3	/ 10
3	4.7		2.3	/ 11
4	5.8		2.67	/ 12
5	14.7		8.1	
6	12.3		6.2	/ 13
7	1.1		0.58	
8	6.3		3.21	/ 4
9	3.1		1.66	/ 2
10	2		1.15	/ 1
11	3.5		1.72	/ 3
12	1.75		0.95	
13	6.3		2.94	/ 19
14	10.4		4.87	/ 14
15	7.6		3.93	/ 15
16	4.3		2.36	/ 17
17	7.1		3.9	/ 16
19	4.5		1.9	/ 0

after 12min

total Telescope #

21000	62745
16000	37574
7545	17582
33000	75984
14800	33692
6408	15062
6286	14671
6590	15059
8261	19068
23500	54141
15400	35528
6767	15426
12150	27758
11400	26722

TEL 14 and 17



→ 1) spectra look O.K

projects/proj4/nira/05133/IUpulser

IUpulserRamp.txt

****

HOW TO RUN A PULSER RAMP USING IU PULSER BOX - NOISE ISSUES

Plugging IU pulser into external preamps can introduce quite a bit of noise, thus some caution is needed when setting up the IU pulser system to maintain the noise as low as possible

1/ to prevent noise from getting to the system on +5V, use a filter box, which was made to filter out high frequencies and has to be plugged in addition on the 5V input into the IU pulser boxes.

2/ keep the filter box as well as the IU cable (the one with molex connector) inside the preamp box; grounding the IU cable to the preamp box may be needed

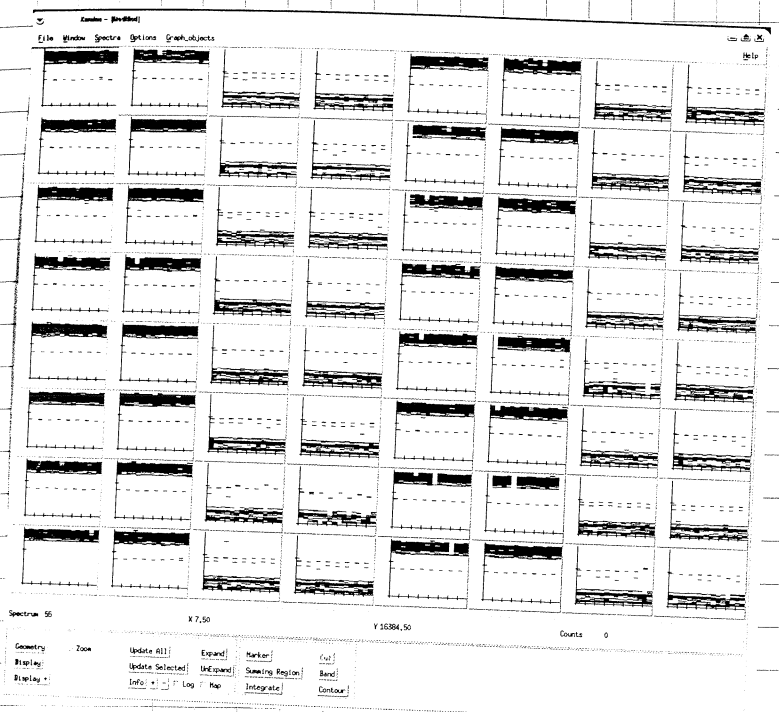
3/ use BNC cables whenever possible rather than lemo cables

4/ add ferrite ring on the IU pulser box end of the cable carying TTL signal as well as BNC pulse

5/ when switching channels from data-U using TTL signal make sure that the signal coming from data-U is regenerated in the vault rather than sent to the IU pulser box directly (i.e. use additional LeCroy222 latch or level adapter in the vault, which will accept the signal created in the data-U and create TTL sent to IU pulser box)

6/ set the daq trigger to the pulser trigger output - this way self triggering on noise is prevented

Alpha Calibration w/ 4V pulser



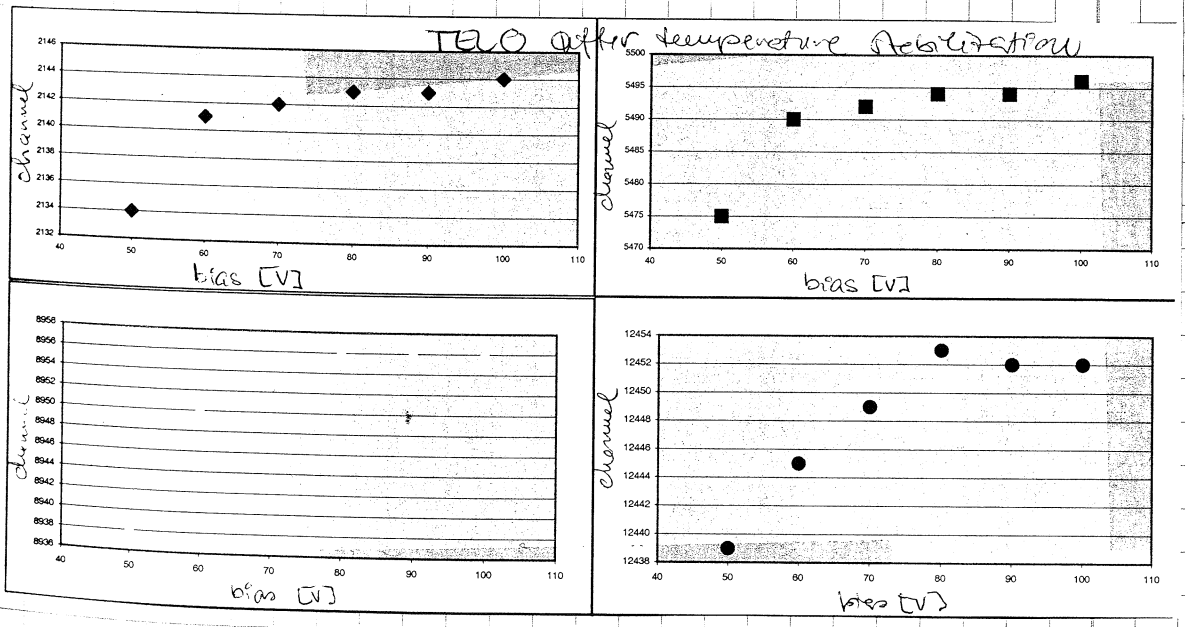
~~HV pulser + detector~~

checking bias dependence of HV Pulser

EB	pulse [V]	channel (50V)	60V	70V	80V	90V	100V
	0.1	14116	14110	14110	14108	14110	14109
	0.3	10637	10603	10607	10604	10607	10605
	0.5	7073	7072	7074	7074	7075	7074
	0.7	3528	3529	3530	3531	3532	3532

EF

TEC0 after temperature stabilization

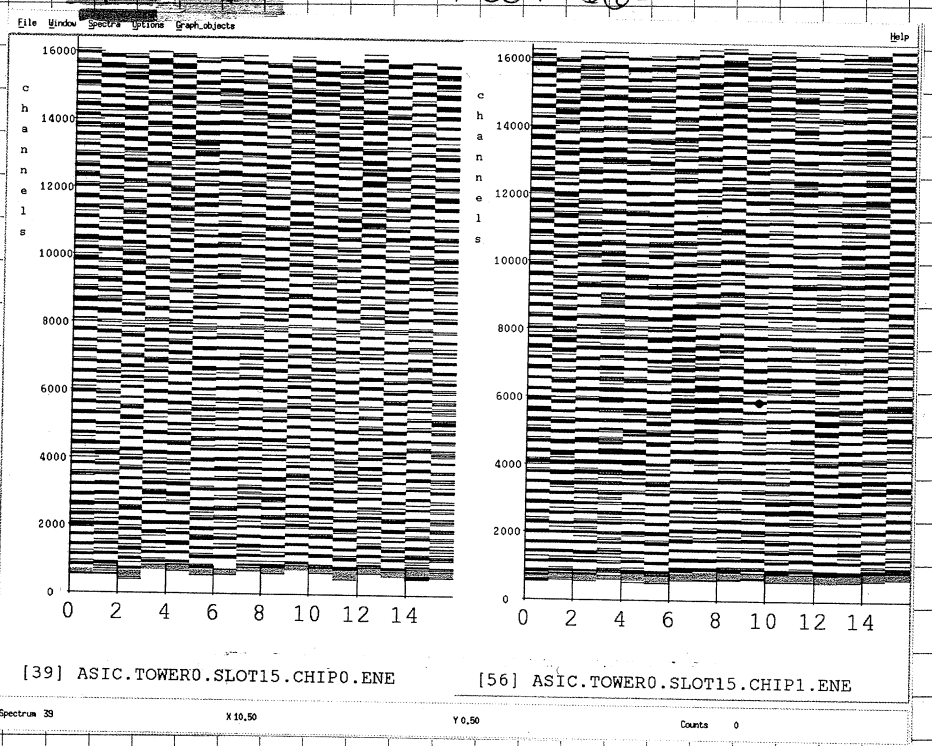


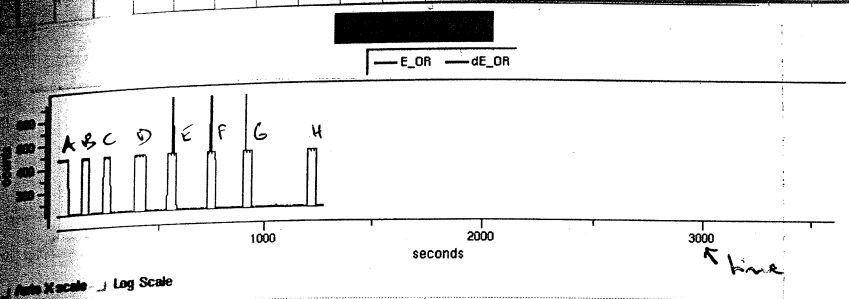
100V
2147
5519
8994
12499

Starting IR pulser ramps at E_F

- IR Pulser #1 into E_F
- IR Pulser #2 into E_B
- bias E_F to -100 V on CAEN, keep TENNELECs ON, but on 0 V
- [redacted] E_B [redacted] kept @ 0.2 V to prevent cross talk
- take ramps for each chip into separate runs

TEL 0 RUN 661-663





Integration Results

Integrations for spectrum 98

Id	Name	Centroid		FWHM	Area
Summing regions:					
22	Summing Region 022	1989.39	A	25.35	5546.000000
23	Summing Region 023	5008.12		26.08	5791.000000
24	Summing Region 024	8056.32		26.72	5366.000000
25	Summing Region 025	11098.16		26.78	8816.000000

Date:

Integrations for spectrum 98

Id	Name	Centroid		FWHM	Area
Summing regions:					
22	Summing Region 022	1986.48	B	25.64	3815.000000
23	Summing Region 023	5001.52		25.93	4150.000000
24	Summing Region 024	8047.93		26.79	4088.000000
25	Summing Region 025	11089.96		25.36	4162.000000

Date:

Integrations for spectrum 98

Id	Name	Centroid		FWHM	Area
Summing regions:					
22	Summing Region 022	1985.37	C	25.37	4028.000000
23	Summing Region 023	4998.43		25.81	4016.000000
24	Summing Region 024	8043.04		26.21	4185.000000
25	Summing Region 025	11083.91		26.43	4196.000000

Date:

Integrations for spectrum 98

Id	Name	Centroid		FWHM	Area
Summing regions:					
22	Summing Region 022	1984.60	D	25.13	6282.000000
23	Summing Region 023	4995.39		25.98	4260.000000
24	Summing Region 024	8039.00		26.29	5624.000000
25	Summing Region 025	11077.06		27.16	8076.000000

Date:

Integrations for spectrum 98

Id	Name	Centroid		FWHM	Area
Summing regions:					
22	Summing Region 022	1983.49	E	25.33	4880.000000
23	Summing Region 023	4991.58		26.41	5179.000000
24	Summing Region 024	8033.86		26.56	5020.000000
25	Summing Region 025	11072.25		26.79	5180.000000

Date:

Integrations for spectrum 98

Id	Name	Centroid		FWHM	Area
Summing regions:					
22	Summing Region 022	1982.43	F	24.69	4915.000000
23	Summing Region 023	4990.49		25.75	5203.000000
24	Summing Region 024	8031.22		26.95	5080.000000
25	Summing Region 025	11069.08		27.80	2741.000000

Date:

Integrations for spectrum 98

Id	Name	Centroid		FWHM	Area
Summing regions:					
22	Summing Region 022	1983.08	G	25.55	4497.000000
23	Summing Region 023	4990.53		25.48	4139.000000
24	Summing Region 024	8031.47		25.78	4829.000000
25	Summing Region 025	11068.43		25.83	4536.000000

Date:

Integrations for spectrum 98

Id	Name	Centroid		FWHM	Area
Summing regions:					
22	Summing Region 022	1983.05	H	25.87	4715.000000
23	Summing Region 023	4992.14		26.26	4669.000000
24	Summing Region 024	8031.95		25.76	4632.000000
25	Summing Region 025	11068.32		27.29	4701.000000

Date:

Note:

Gain sensitive probably to bias and/or temperature.

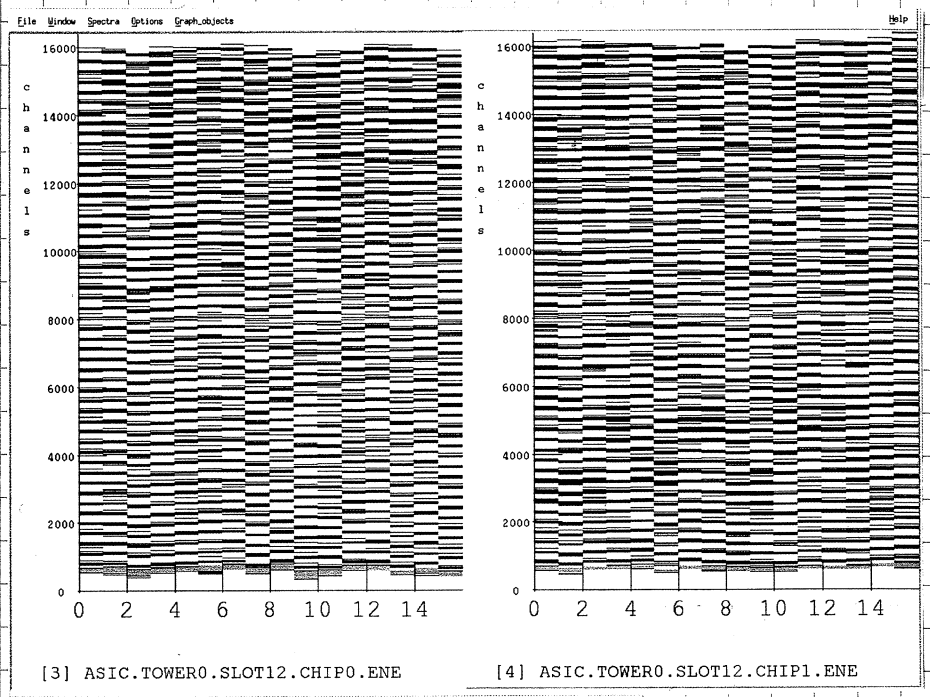
↳ it takes 15-20 minutes to let the gain stabilize

left + above:

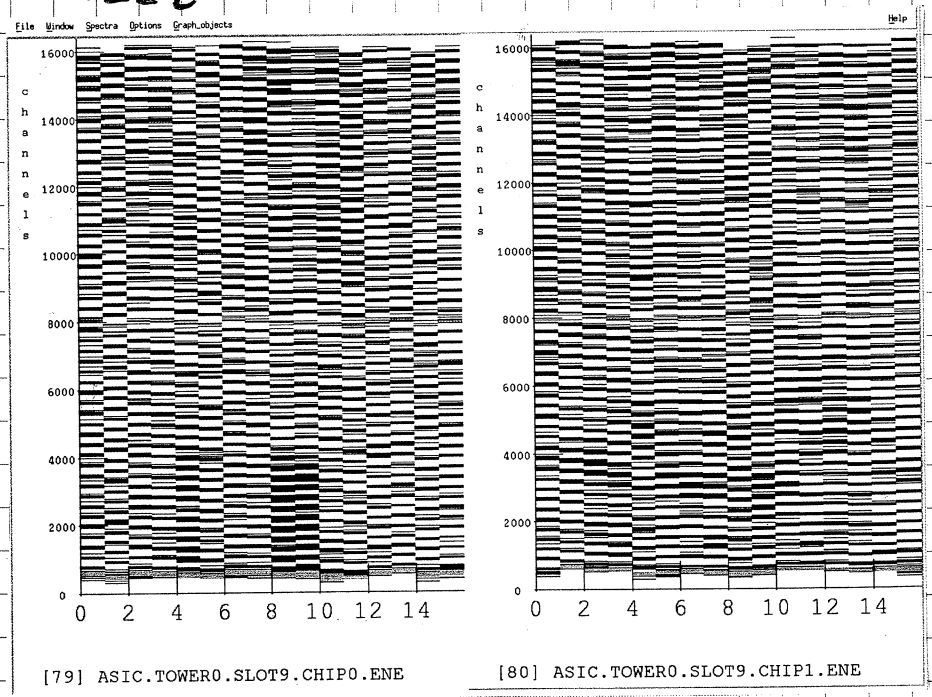
positions of peaks corresponding to ~~0.1, 0.3, 0.5~~ 0.1, 0.3, 0.5 and 0.7 Volts taken within 20 minutes after Tek 1 biased to 100V.

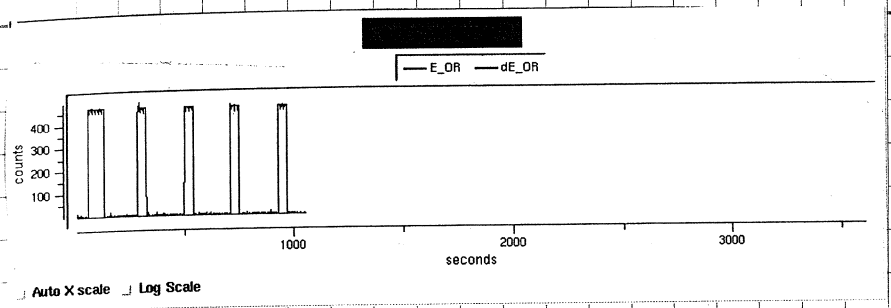
See the shifts !!!

TEL1 RUN 664-666



TEL2 RUN 667-668





Integration Results

Integrations for spectrum 232

Id	Name	Centroid	FWHM	Area
Summing regions:				
34	Summing Region 034	1983.29	29.02	3175.000000
35	Summing Region 035	5048.27	73.85	4187.000000
36	Summing Region 036	8168.34	28.48	3605.000000
37	Summing Region 037	11238.19	30.21	4846.000000
Cuts:				

Integrations for spectrum 232

Id	Name	Centroid	FWHM	Area
Summing regions:				
34	Summing Region 034	1978.78	28.99	4302.000000
35	Summing Region 035	5037.53	74.04	5074.000000
36	Summing Region 036	8156.67	29.13	4749.000000
37	Summing Region 037	11225.05	28.27	4674.000000
Cuts:				

Integrations for spectrum 232

Id	Name	Centroid	FWHM	Area
Summing regions:				
34	Summing Region 034	1976.49	29.34	4582.000000
35	Summing Region 035	5031.44	73.95	4979.000000
36	Summing Region 036	8149.81	28.44	4539.000000
37	Summing Region 037	11217.45	28.62	4841.000000
Cuts:				

Integrations for spectrum 232

Id	Name	Centroid	FWHM	Area
Summing regions:				
34	Summing Region 034	1976.38	28.88	4485.000000
35	Summing Region 035	5026.41	74.61	4925.000000
36	Summing Region 036	8145.15	28.83	4799.000000
37	Summing Region 037	11211.60	29.19	4625.000000
Cuts:				

Integrations for spectrum 232

Id	Name	Centroid	FWHM	Area
Summing regions:				
34	Summing Region 034	1976.82	29.49	4760.000000
35	Summing Region 035	5025.20	72.88	4068.000000
36	Summing Region 036	8144.30	28.53	4953.000000
37	Summing Region 037	11210.17	29.47	4775.000000
Cuts:				

Tel 3.

Dismiss

Integration Results

30 min

Id	Name	Centroid	FWHM	Area
Summing regions:				
46	Summing Region 046	1656.95	18.99	9055.000000
47	Summing Region 047	4523.93	19.83	10867.000000
48	Summing Region 048	7436.07	21.27	2939.000000
49	Summing Region 049	10420.30	22.11	3366.000000
Cuts:				

Integrations for spectrum 976

Id	Name	Centroid	FWHM	Area
Summing regions:				
46	Summing Region 046	1648.32	18.82	2837.000000
47	Summing Region 047	4499.11	18.89	3708.000000
48	Summing Region 048	7403.42	19.61	3367.000000
49	Summing Region 049	10380.08	22.32	2558.000000
Cuts:				

Integrations for spectrum 976

Id	Name	Centroid	FWHM	Area
Summing regions:				
46	Summing Region 046	1644.58	18.43	4362.000000
47	Summing Region 047	4485.81	19.29	3944.000000
48	Summing Region 048	7383.37	20.85	4580.000000
49	Summing Region 049	10355.58	20.62	4592.000000
Cuts:				

Integrations for spectrum 976

Id	Name	Centroid	FWHM	Area
Summing regions:				
46	Summing Region 046	1641.32	18.00	3376.000000
47	Summing Region 047	4478.16	19.07	4021.000000
48	Summing Region 048	7372.82	19.70	4244.000000
49	Summing Region 049	10341.28	24.33	4171.000000
Cuts:				

Integrations for spectrum 976

Id	Name	Centroid	FWHM	Area
Summing regions:				
46	Summing Region 046	1641.16	18.37	4272.000000
47	Summing Region 047	4475.86	19.32	4101.000000
48	Summing Region 048	7368.52	22.14	4830.000000
49	Summing Region 049	10336.57	23.62	4256.000000
Cuts:				

Integrations for spectrum 976

Id	Name	Centroid	FWHM	Area
Summing regions:				
46	Summing Region 046	1639.94	18.81	4777.000000
47	Summing Region 047	4472.17	19.87	4278.000000
48	Summing Region 048	7363.39	20.20	4303.000000
49	Summing Region 049	10330.38	22.91	4991.000000
Cuts:				

Integrations for spectrum 976

Id	Name	Centroid	FWHM	Area
Summing regions:				
46	Summing Region 046	1639.61	18.39	5577.000000
47	Summing Region 047	4470.16	20.03	5499.000000
48	Summing Region 048	7360.24	20.82	5455.000000
49	Summing Region 049	10325.31	22.07	5606.000000
Cuts:				

Integrations for spectrum 976

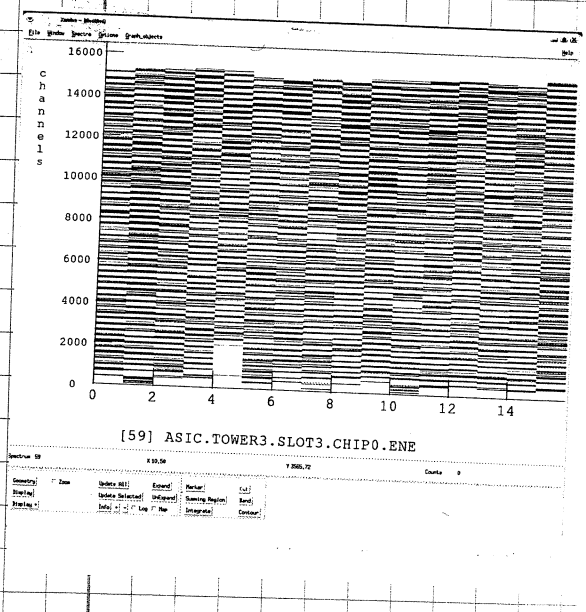
Id	Name	Centroid	FWHM	Area
Summing regions:				
46	Summing Region 046	1641.99	18.25	3005.000000
47	Summing Region 047	4472.19	20.09	2524.000000
48	Summing Region 048	7363.50	20.88	3011.000000
49	Summing Region 049	10328.36	23.93	2422.000000
Cuts:				

Dismiss

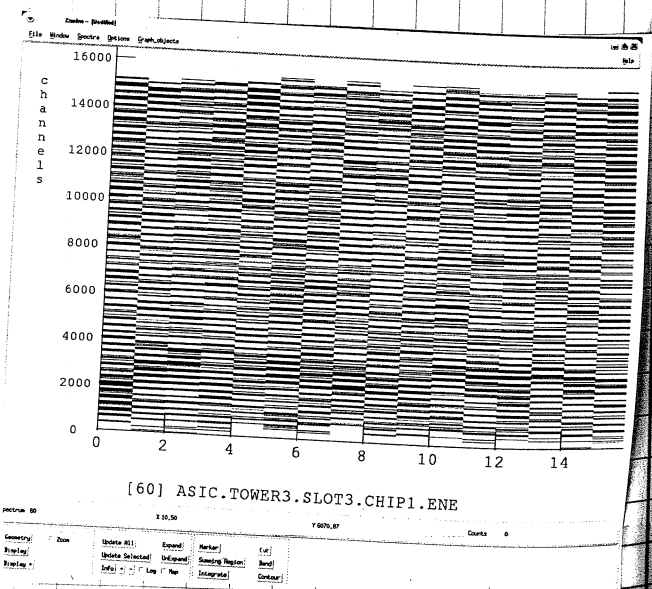
Tel 19

Temp ~ 17°C

Run 671-672



[59] ASIC.TOWER3.SLOT3.CHIP0.ENE



[60] ASIC.TOWER3.SLOT3.CHIP1.ENE

Prev (673-674) EF. Tele 6, chip 0, Ch. 14 → cross talk with Chip 1 ch. 12

Tele 6 chip 1 ch. 1 → very noisy compared to the others.

Tele 6 chip 1 Ch. 10 + Ch 12 → cross talk Chip 0 Ch. 14

Run (675-677) EF. Tele 5 ~~chip 0~~ - Slot 12, Chip 2, channel 6 + 8 are noisy ↔ ~~turned off~~ change the threshold. (Mother board notation)

Slot 12, chip 0 Ch. 6, → cross talk (or shorten ?)

Ch. 12 & ~~Ch~~ Chip 1, Ch. 6 & 13.

~~Slot 2~~ Slot 12, Chip 1, ch. 6 is ~~noisy~~ noisy, skip this.

Slot 12, Chip 1, ch 8 is noisy, skipped (even thought they were okay ~~after~~ when we raised the threshold to -9 in the MB program.

found

Integrations for spectrum 882

Tele 4

Id	Name	Centroid	FWHM	Area
Summing regions:				
58	Summing Region 058	1778.90	24.93	3672.000000
59	Summing Region 059	4561.81	24.04	2972.000000
60	Summing Region 060	7461.33	25.49	5228.000000
61	Summing Region 061	10421.24	26.72	10505.000000
Cuts:				

Integrations for spectrum 882

Id	Name	Centroid	FWHM	Area
Summing regions:				
58	Summing Region 058	1772.51	26.69	4604.000000
59	Summing Region 059	4543.26	24.33	4288.000000
60	Summing Region 060	7430.40	25.97	4404.000000
61	Summing Region 061	10379.00	25.56	9497.000000
Cuts:				

Integrations for spectrum 882

Id	Name	Centroid	FWHM	Area
Summing regions:				
58	Summing Region 058	1772.74	24.39	4493.000000
59	Summing Region 059	4544.06	23.31	4189.000000
60	Summing Region 060	7433.05	25.25	4365.000000
61	Summing Region 061	10381.57	26.84	3391.000000
Cuts:				

Integrations for spectrum 882

Id	Name	Centroid	FWHM	Area
Summing regions:				
58	Summing Region 058	1774.27	27.34	3744.000000
59	Summing Region 059	4547.02	23.46	4716.000000
60	Summing Region 060	7436.72	25.71	5445.000000
61	Summing Region 061	10387.52	24.31	4737.000000
Cuts:				

Integrations for spectrum 882

Id	Name	Centroid	FWHM	Area
Summing regions:				
58	Summing Region 058	1774.44	26.51	5299.000000
59	Summing Region 059	4548.52	24.17	18325.000000
60	Summing Region 060	7439.25	24.71	6809.000000
61	Summing Region 061	10389.95	25.86	4649.000000
Cuts:				

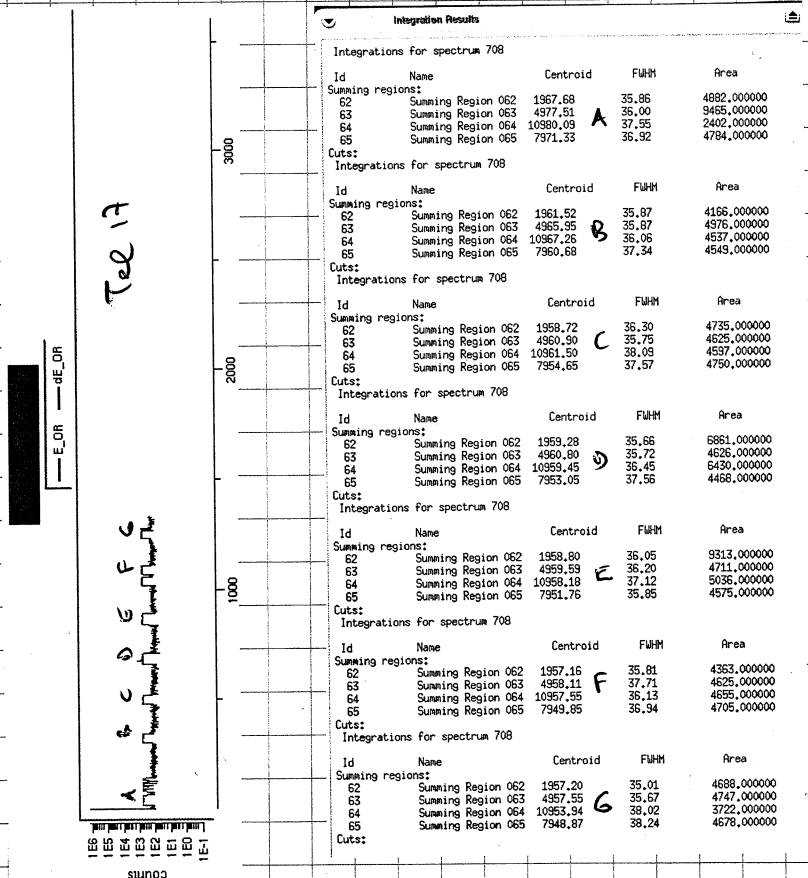
At the end of Run 677 we found Rechiller temperature set to 19°C.

Reset it back to 17° before pulsing Tel 4.

How to do IU pulser ramp for Es

1. Make sure the cables are plugged in correctly and close the chamber.
2. Turn ON ± 12 V, VME and then power for Tower 4.
3. Bias detector by 10V and look at the leakage current of EB to check the connection, BIAS to 20V and check again.
4. Bias detector by 100V and wait till I read on CAEN module value Tenelec
5. Turn ON sparky, then load the MotherBoard control program (XLM default ~~load, default load~~) load 0533 - setup file ?!? config
6. Do the global shutoff, then turn ON the chipboards.
7. Godaq
8. Wait 20 mins after biasing before taking data on DISC (so that the pulser amplitude stabilizes)
9. Check the peak centroid for 0.1, 0.3, 0.5 and 0.7 V every 3-4 mins
10. Ramp EF only: 0-1.0V, 51steps, 2 sec
11. Pulse EB with 0.2 at the same time
12. Each chip into separate run
13. After the pulser ramp is finished for one telescope, exit DAQ and close the MB control, then sparky.
14. Unbias detector (make sure the leaking current readout is 0A) at Tenelec ! (not CAEN)
15. Turn off Tower4, VMW and then ± 12 V
16. Go to the next telescope.

TEL 16



Integration Results

Integrations for spectrum 708

Id	Name	Centroid	FWHM	Area	
Summing regions:					
62	Summing Region 062	1967.68	35.86	4882.000000	
63	Summing Region 063	4977.51	36.00	9465.000000	A
64	Summing Region 064	10980.09	37.55	2402.000000	
65	Summing Region 065	7971.33	36.92	4784.000000	
Cuts:					

Integrations for spectrum 708

Id	Name	Centroid	FWHM	Area	
Summing regions:					
62	Summing Region 062	1961.52	35.87	4166.000000	
63	Summing Region 063	4965.95	35.87	4976.000000	B
64	Summing Region 064	10967.26	36.06	4537.000000	
65	Summing Region 065	7960.68	37.34	4549.000000	
Cuts:					

Integrations for spectrum 708

Id	Name	Centroid	FWHM	Area	
Summing regions:					
62	Summing Region 062	1958.72	36.30	4735.000000	
63	Summing Region 063	4960.90	35.75	4625.000000	C
64	Summing Region 064	10961.50	38.09	4597.000000	
65	Summing Region 065	7954.65	37.57	4750.000000	
Cuts:					

Integrations for spectrum 708

Id	Name	Centroid	FWHM	Area	
Summing regions:					
62	Summing Region 062	1959.28	35.66	6861.000000	
63	Summing Region 063	4960.80	35.72	4626.000000	D
64	Summing Region 064	10959.45	36.45	5430.000000	
65	Summing Region 065	7953.05	37.56	4468.000000	
Cuts:					

Integrations for spectrum 708

Id	Name	Centroid	FWHM	Area	
Summing regions:					
62	Summing Region 062	1958.80	36.05	9313.000000	
63	Summing Region 063	4959.59	36.20	4711.000000	E
64	Summing Region 064	10958.18	37.12	5036.000000	
65	Summing Region 065	7951.76	35.95	4575.000000	
Cuts:					

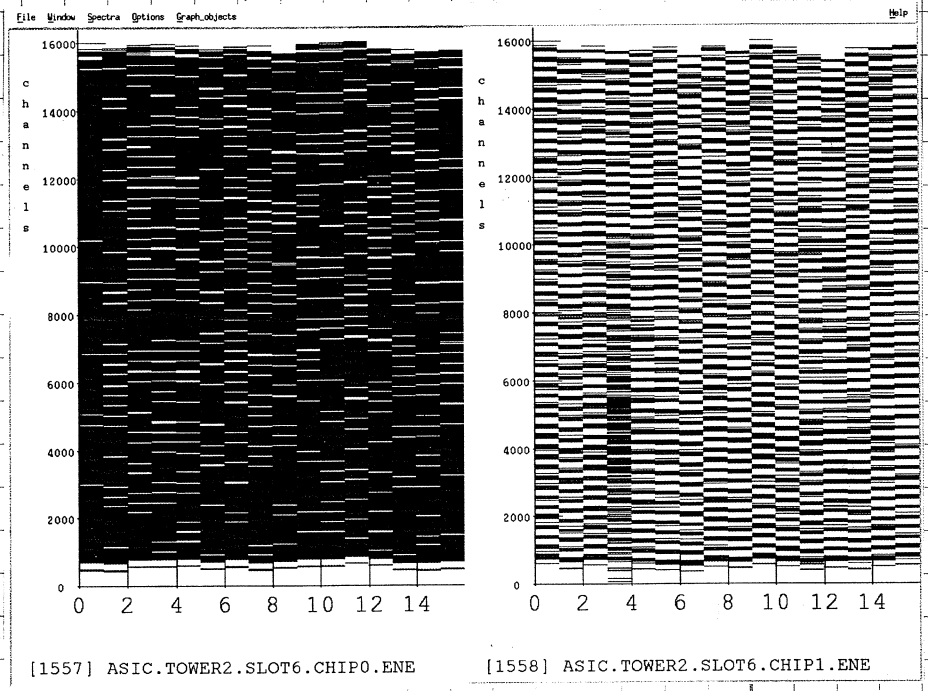
Integrations for spectrum 708

Id	Name	Centroid	FWHM	Area	
Summing regions:					
62	Summing Region 062	1957.16	35.81	4363.000000	
63	Summing Region 063	4958.11	37.71	4625.000000	F
64	Summing Region 064	10957.55	36.13	4655.000000	
65	Summing Region 065	7949.85	36.94	4705.000000	
Cuts:					

Integrations for spectrum 708

Id	Name	Centroid	FWHM	Area	
Summing regions:					
62	Summing Region 062	1957.20	35.01	4688.000000	
63	Summing Region 063	4957.55	35.67	4747.000000	G
64	Summing Region 064	10953.94	38.02	3722.000000	
65	Summing Region 065	7948.87	38.24	4678.000000	
Cuts:					

TEL 16 RUN 683-684



[1557] ASIC.TOWER2.SLOT6.CHIP0.ENE [1558] ASIC.TOWER2.SLOT6.CHIP1.ENE

Integration Results

Integrations for spectrum 770 Tel 17

Id	Name	Centroid	FWHM	Area
Summing regions:				
	Summing Region 066	2153.27	28.10	4986.000000
	Summing Region 067	5223.15	27.89	4682.000000
	Summing Region 068	8264.65	28.41	4587.000000
	Summing Region 069	11304.07	29.06	4829.000000

Cube:

Integrations for spectrum 770

Id	Name	Centroid	FWHM	Area
Summing regions:				
	Summing Region 066	2143.45	28.87	5568.000000
	Summing Region 067	5202.22	27.53	4585.000000
	Summing Region 068	8239.21	28.45	4688.000000
	Summing Region 069	11276.97	30.49	5022.000000

Cube:

Integrations for spectrum 770

Id	Name	Centroid	FWHM	Area
Summing regions:				
	Summing Region 066	2143.98	29.96	4624.000000
	Summing Region 067	5197.07	27.80	4331.000000
	Summing Region 068	8230.15	28.40	5079.000000
	Summing Region 069	11265.24	28.56	4759.000000

Cube:

Integrations for spectrum 770

Id	Name	Centroid	FWHM	Area
Summing regions:				
	Summing Region 066	2135.37	28.25	5375.000000
	Summing Region 067	5184.33	29.34	4733.000000
	Summing Region 068	8214.64	27.73	4980.000000
	Summing Region 069	11251.04	27.19	4766.000000

Cube:

Integrations for spectrum 770

Id	Name	Centroid	FWHM	Area
Summing regions:				
	Summing Region 066	2128.78	27.50	5041.000000
	Summing Region 067	5177.53	28.67	5092.000000
	Summing Region 068	8208.70	29.20	5301.000000
	Summing Region 069	11244.21	26.96	4943.000000

Cube:

Integrations for spectrum 770

Id	Name	Centroid	FWHM	Area
Summing regions:				
	Summing Region 066	2126.00	27.35	5140.000000
	Summing Region 067	5173.82	27.23	5017.000000
	Summing Region 068	8202.85	28.37	5063.000000
	Summing Region 069	11237.45	28.16	5097.000000

Cube:

Integrations for spectrum 770

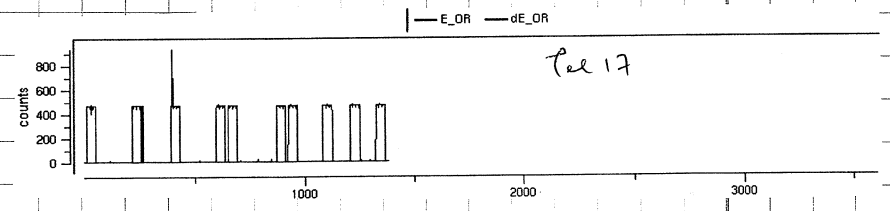
Id	Name	Centroid	FWHM	Area
Summing regions:				
	Summing Region 066	2136.55	29.28	5223.000000
	Summing Region 067	5182.44	27.95	5033.000000
	Summing Region 068	8212.56	31.11	5009.000000
	Summing Region 069	11248.12	28.15	5073.000000

Cube:

Integrations for spectrum 770

Id	Name	Centroid	FWHM	Area
Summing regions:				
	Summing Region 066	2136.21	29.02	5085.000000
	Summing Region 067	5182.24	27.27	5026.000000
	Summing Region 068	8211.53	28.55	5171.000000
	Summing Region 069	11246.19	29.96	5066.000000

Cube:

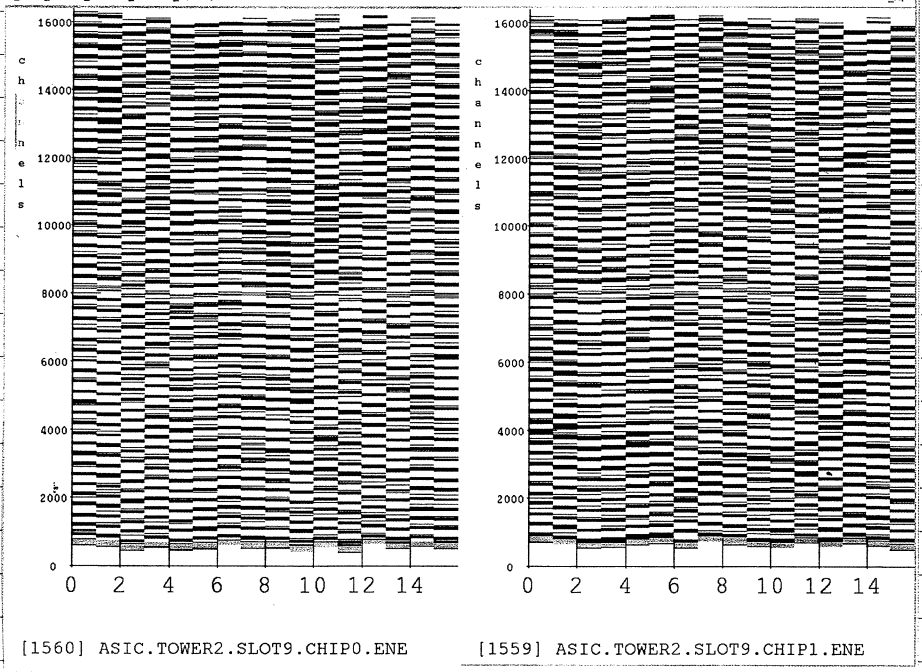


Tel 17

TEL 17 685-686

RUN

Xamine - [Modified]



[1560] ASIC.TOWER2.SLOT9.CHIP0.ENE [1559] ASIC.TOWER2.SLOT9.CHIP1.ENE

pulser Rate by deck (Tel. 16, Run 685 6)

Integrations for spectrum 770

Id	Name	Centroid	FWHM	Area
Summing regions: beginning of Run 685				
73	Summing Region 073	11241.64	29.09	972.000000
72	Summing Region 072	8203.85	27.95	3701.000000
71	Summing Region 071	5172.86	27.97	956.000000
70	Summing Region 070	2124.38	26.17	946.000000
Cuts:				

Integrations for spectrum 770

Id	Name	Centroid	FWHM	Area
Summing regions: end of run 685				
73	Summing Region 073	11242.94	27.60	5153.000000
72	Summing Region 072	8205.60	28.27	5122.000000
71	Summing Region 071	5176.00	27.50	5086.000000
70	Summing Region 070	2128.41	28.45	4979.000000
Cuts:				

?? change in offset by ~ 5 chns during the course of the ramp ??

TEL 15 RUN 687-8

Integrations for spectrum 562 Tel 15

Id	Name	Centroid	FWHM
Summing regions:			
74	Summing Region 074	1958.50	25.33
75	Summing Region 075	4949.96	21.93
76	Summing Region 076	7984.96	22.62
77	Summing Region 077	11019.99	23.68
Cuts:			

Integrations for spectrum 562

Id	Name	Centroid	FWHM
Summing regions:			
74	Summing Region 074	1950.34	25.55
75	Summing Region 075	4931.28	22.16
76	Summing Region 076	7960.91	22.35
77	Summing Region 077	10995.41	21.78
Cuts:			

Integrations for spectrum 562

Id	Name	Centroid	FWHM
Summing regions:			
74	Summing Region 074	1946.22	24.96
75	Summing Region 075	4922.68	22.23
76	Summing Region 076	7950.66	23.16
77	Summing Region 077	10983.70	23.43
Cuts:			

Integrations for spectrum 562

Id	Name	Centroid	FWHM
Summing regions:			
74	Summing Region 074	1943.93	25.07
75	Summing Region 075	4916.87	22.30
76	Summing Region 076	7941.46	22.96
77	Summing Region 077	10972.17	22.59
Cuts:			

Integrations for spectrum 562

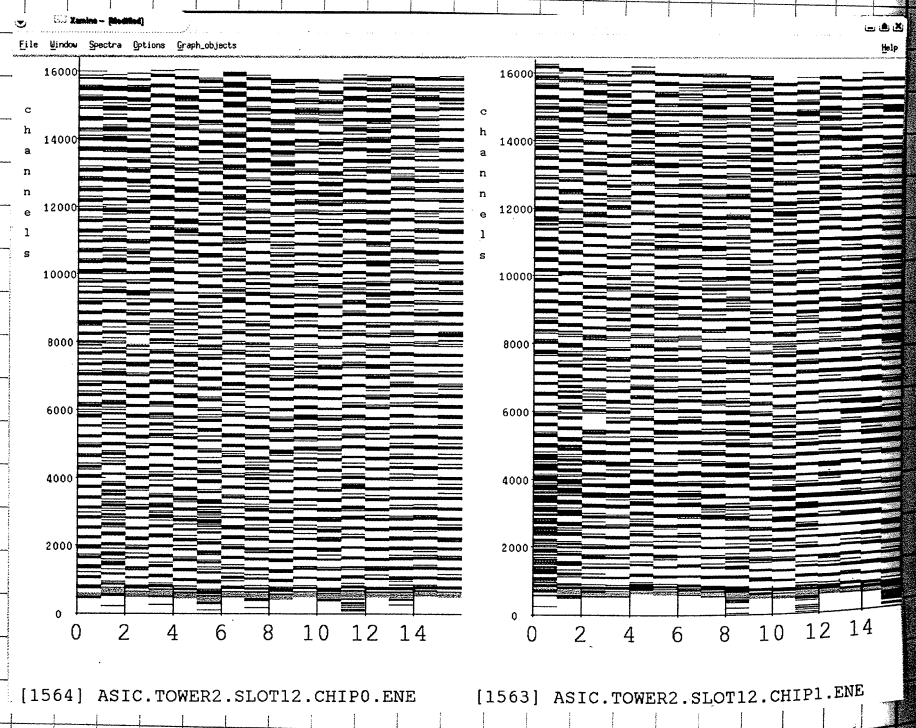
Id	Name	Centroid	FWHM
Summing regions:			
74	Summing Region 074	1943.48	25.66
75	Summing Region 075	4912.96	22.44
76	Summing Region 076	7938.45	23.82
77	Summing Region 077	10969.08	22.67
Cuts:			

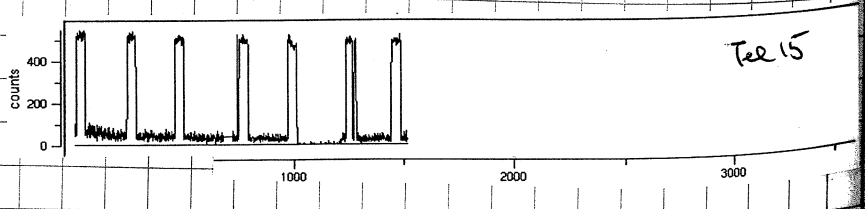
Integrations for spectrum 562

Id	Name	Centroid	FWHM
Summing regions:			
74	Summing Region 074	1940.96	25.38
75	Summing Region 075	4910.96	22.40
76	Summing Region 076	7934.11	23.72
77	Summing Region 077	10962.22	23.09
Cuts:			

Integrations for spectrum 562

Id	Name	Centroid	FWHM
Summing regions:			
74	Summing Region 074	1942.02	24.84
75	Summing Region 075	4912.79	22.35
76	Summing Region 076	7937.36	23.54
77	Summing Region 077	10970.05	23.06
Cuts:			





Tel 15

Integrations for spectrum 562

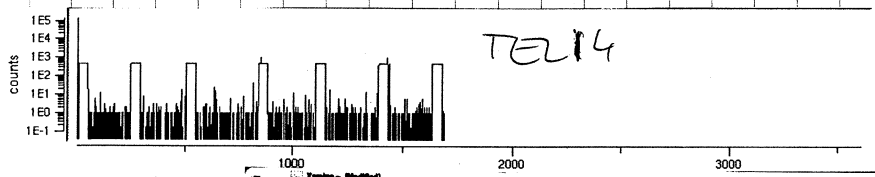
Id	Name	Centroid	FWHM	Area
Summing regions: start of RUN 687				
74	Summing Region 074	1941.48	24.95	955.000000
75	Summing Region 075	4913.88	23.37	938.000000
76	Summing Region 076	7940.72	23.63	3708.000000
77	Summing Region 077	10978.28	25.69	952.000000

Cuts:

Integrations for spectrum 562

Id	Name	Centroid	FWHM	Area
Summing regions: end of RUN 688				
74	Summing Region 074	1940.42	25.00	4804.000000
75	Summing Region 075	4910.72	22.93	4800.000000
76	Summing Region 076	7937.71	23.06	5080.000000
77	Summing Region 077	10971.90	22.20	4709.000000

Cuts:



Integration Results

TEL14

Integrations for spectrum 626

Id	Name	Centroid	FWHM	Area
Summing regions:				
78	Summing Region 078	1952.84	28.70	5748.000000
79	Summing Region 079	4867.46	29.21	5170.000000
80	Summing Region 080	7848.51	30.24	4605.000000
81	Summing Region 081	10846.73	31.47	4449.000000

Cuts:

Integrations for spectrum 626

Id	Name	Centroid	FWHM	Area
Summing regions:				
78	Summing Region 078	1939.88	28.64	4857.000000
79	Summing Region 079	4838.75	30.52	5206.000000
80	Summing Region 080	7812.00	29.87	5109.000000
81	Summing Region 081	10807.63	31.38	4669.000000

Cuts:

Integrations for spectrum 626

Id	Name	Centroid	FWHM	Area
Summing regions:				
78	Summing Region 078	1932.93	29.13	5103.000000
79	Summing Region 079	4823.37	29.05	5071.000000
80	Summing Region 080	7793.16	28.85	5062.000000
81	Summing Region 081	10787.66	31.23	6133.000000

Cuts:

Integrations for spectrum 626

Id	Name	Centroid	FWHM	Area
Summing regions:				
78	Summing Region 078	1928.59	29.58	5030.000000
79	Summing Region 079	4814.61	29.19	4923.000000
80	Summing Region 080	7781.81	29.66	5268.000000
81	Summing Region 081	10774.07	30.10	5035.000000

Cuts:

Integrations for spectrum 626

Id	Name	Centroid	FWHM	Area
Summing regions:				
78	Summing Region 078	1927.88	28.80	5008.000000
79	Summing Region 079	4811.54	28.73	5165.000000
80	Summing Region 080	7777.56	29.62	5068.000000
81	Summing Region 081	10769.43	29.33	5010.000000

Cuts:

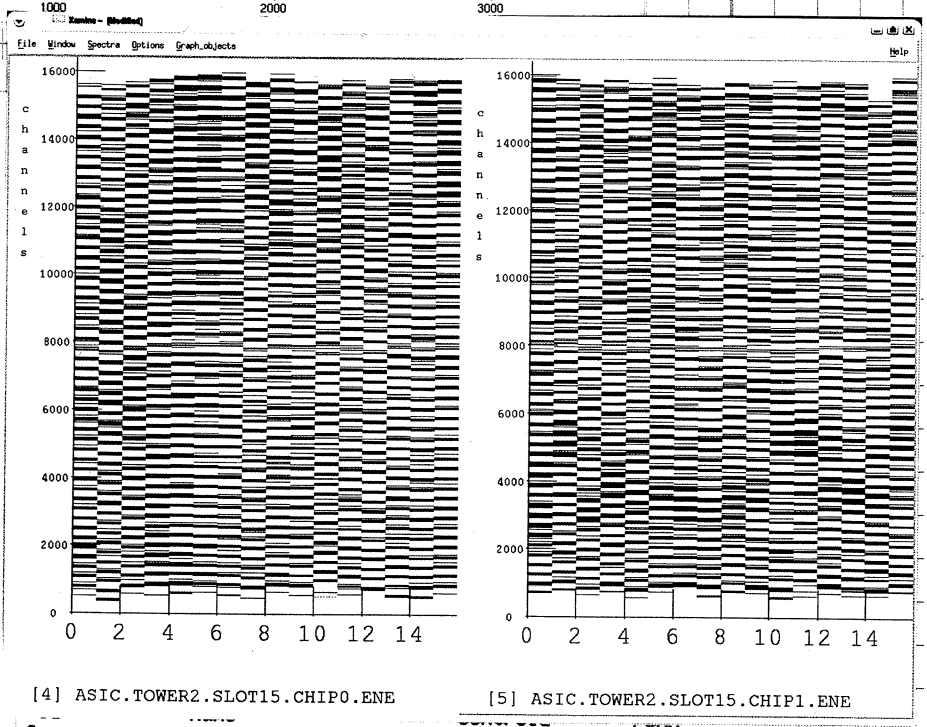
Integrations for spectrum 626

Id	Name	Centroid	FWHM	Area
Summing regions:				
78	Summing Region 078	1926.99	28.27	4998.000000
79	Summing Region 079	4809.23	28.92	5063.000000
80	Summing Region 080	7773.99	28.33	5176.000000
81	Summing Region 081	10764.74	30.07	5445.000000

Cuts:

Integrations for spectrum 626

Id	Name	Centroid	FWHM	Area
Summing regions:				
78	Summing Region 078	1926.51	29.83	5276.000000
79	Summing Region 079	4808.40	29.29	5035.000000
80	Summing Region 080	7772.60	29.96	5020.000000
81	Summing Region 081	10764.88	30.82	4923.000000



[4] ASIC.TOWER2.SLOT15.CHIP0.ENE

[5] ASIC.TOWER2.SLOT15.CHIP1.ENE

Id	Name	Centroid	FWHM	Area
Summing regions:				
84	Summing Region 084	7778.99	31.33	3686.000000
82	Summing Region 082	4810.60	29.69	938.000000
83	Summing Region 083	1927.33	31.28	958.000000
85	Summing Region 085	10773.89	31.49	976.000000

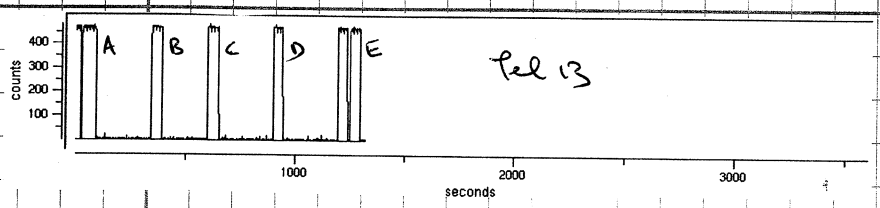
Cuts:

Integrations for spectrum 626

Id	Name	Centroid	FWHM	Area
Summing regions:				
84	Summing Region 084	7767.77	27.91	5105.000000
82	Summing Region 082	4802.31	27.16	4952.000000
83	Summing Region 083	1921.94	28.30	5132.000000
85	Summing Region 085	10760.98	28.58	4979.000000

60

December 11th, 2007 2AM



Tel 13

Integrations for spectrum 376 — Tel 13

Id	Name	Centroid	FWHM	Area
Summing regions:				
0	Summing Region 000	1981.49	19.54	4317.000000
1	Summing Region 001	4950.32	19.15	3978.000000
2	Summing Region 002	7976.45	20.33	4413.000000
3	Summing Region 003	11019.24	21.62	3424.000000
4	Summing Region 004	14052.67	19.79	3111.000000

A

Cuts:

Integrations for spectrum 376

Id	Name	Centroid	FWHM	Area
Summing regions:				
0	Summing Region 000	1976.85	19.34	5049.000000
1	Summing Region 001	4938.44	19.16	4586.000000
2	Summing Region 002	7958.03	19.38	4103.000000
3	Summing Region 003	10997.78	22.38	4152.000000
4	Summing Region 004	14030.50	23.82	4022.000000

B

Cuts:

Integrations for spectrum 376

Id	Name	Centroid	FWHM	Area
Summing regions:				
0	Summing Region 000	1975.85	19.20	4151.000000
1	Summing Region 001	4933.52	20.03	4121.000000
2	Summing Region 002	7949.98	20.33	4039.000000
3	Summing Region 003	10988.60	21.97	4205.000000
4	Summing Region 004	14020.27	21.83	4009.000000

C

Cuts:

Integrations for spectrum 376

Id	Name	Centroid	FWHM	Area
Summing regions:				
0	Summing Region 000	1973.17	18.83	3952.000000
1	Summing Region 001	4928.10	20.32	4047.000000
2	Summing Region 002	7941.82	21.57	4070.000000
3	Summing Region 003	10979.01	20.34	4062.000000
4	Summing Region 004	14009.48	24.67	4207.000000

D

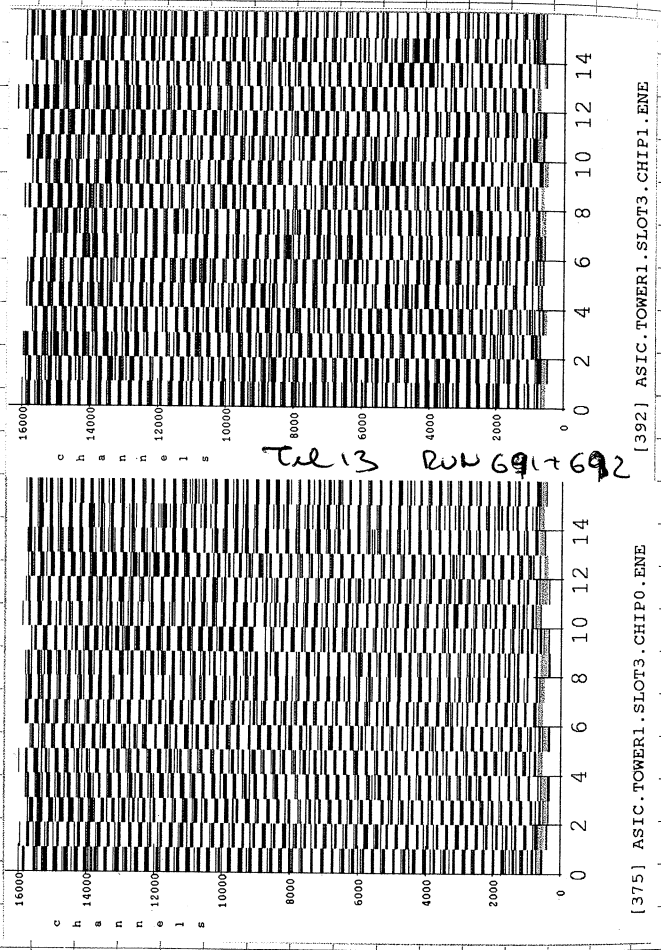
Cuts:

Integrations for spectrum 376

Id	Name	Centroid	FWHM	Area
Summing regions:				
0	Summing Region 000	1973.20	19.07	4146.000000
1	Summing Region 001	4928.95	19.08	4126.000000
2	Summing Region 002	7944.52	21.30	4009.000000
3	Summing Region 003	10983.32	20.31	4247.000000
4	Summing Region 004	14017.21	22.47	3916.000000

E

Cuts:



Id	Name	Centroid	FWHM	Area
Summing regions:				
7	Summing Region 007	14025.76	25.70	970.000000
1	Summing Region 001	4930.62	19.91	955.000000
2	Summing Region 002	7948.28	20.75	3757.000000
6	Summing Region 006	10990.16	21.45	951.000000
5	Summing Region 005	1972.64	19.17	955.000000

Cuts:

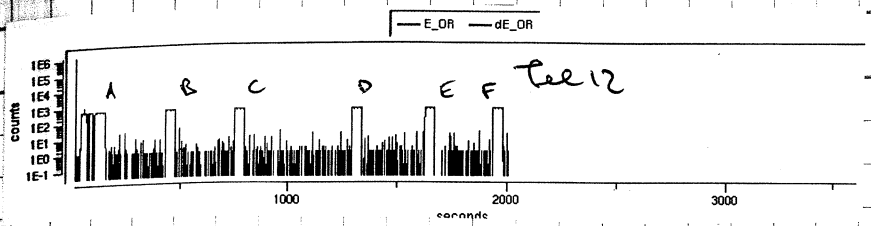
Integrations for spectrum 376

↑ start of RUN 631

Id	Name	Centroid	FWHM	Area
Summing regions:				
7	Summing Region 007	14012.15	23.37	3934.000000
1	Summing Region 001	4925.54	18.67	4146.000000
2	Summing Region 002	7938.70	21.70	3924.000000
6	Summing Region 006	10978.13	21.99	4293.000000
5	Summing Region 005	1972.13	19.12	4101.000000

Cuts:

↓ end of RUN 632



[392] ASIC.TOWER1.SLOT3.CHIP1.ENE

Id	Name	Centroid	FWHM	Area
Summing regions:				
8	Summing Region 008	2095.59	24.72	4429.000000
9	Summing Region 009	5029.86	23.84	4960.000000
10	Summing Region 010	8061.04	26.35	4810.000000
11	Summing Region 011	11120.49	27.93	4655.000000
12	Summing Region 012	14177.13	29.26	4807.000000

Cuts:

A

Integrations for spectrum 444

Id	Name	Centroid	FWHM	Area
Summing regions:				
8	Summing Region 008	2074.04	24.07	4324.000000
9	Summing Region 009	4991.93	24.52	4049.000000
10	Summing Region 010	8011.49	27.26	4027.000000
11	Summing Region 011	11066.73	28.62	4114.000000
12	Summing Region 012	14122.77	28.03	4084.000000

Cuts:

B

Tel 12

Integrations for spectrum 444

Id	Name	Centroid	FWHM	Area
Summing regions:				
8	Summing Region 008	2068.12	23.65	3954.000000
9	Summing Region 009	4978.45	24.38	4199.000000
10	Summing Region 010	7992.63	27.76	4014.000000
11	Summing Region 011	11045.63	29.09	4173.000000
12	Summing Region 012	14101.98	29.26	4059.000000

Cuts:

C

Integrations for spectrum 444

Id	Name	Centroid	FWHM	Area
Summing regions:				
8	Summing Region 008	2062.44	23.71	3858.000000
9	Summing Region 009	4966.55	24.99	4123.000000
10	Summing Region 010	7976.70	27.59	4108.000000
11	Summing Region 011	11026.62	29.51	4075.000000
12	Summing Region 012	14082.29	30.75	4452.000000

Cuts:

D

Integrations for spectrum 444

Id	Name	Centroid	FWHM	Area
Summing regions:				
8	Summing Region 008	2061.03	24.22	4062.000000
9	Summing Region 009	4963.93	25.17	4135.000000
10	Summing Region 010	7972.43	28.23	4120.000000
11	Summing Region 011	11023.28	28.61	4190.000000
12	Summing Region 012	14077.62	28.54	4008.000000

Cuts:

E

Integrations for spectrum 444

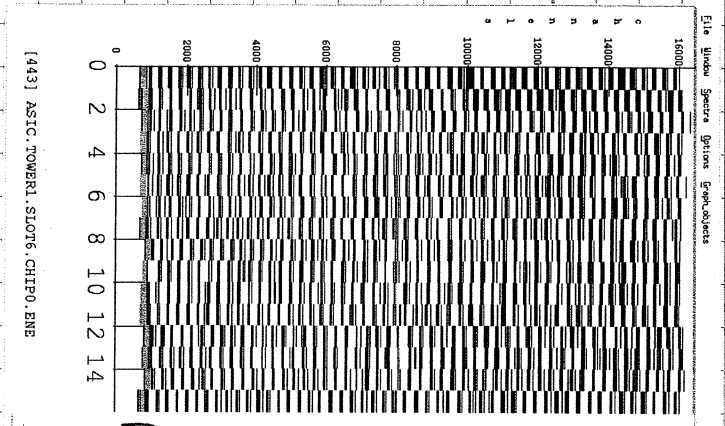
Id	Name	Centroid	FWHM	Area
Summing regions:				
8	Summing Region 008	2060.78	23.58	5647.000000
9	Summing Region 009	4962.44	25.36	3808.000000
10	Summing Region 010	7972.35	28.83	4193.000000
11	Summing Region 011	11023.23	31.23	4157.000000
12	Summing Region 012	14078.12	31.40	4073.000000

Cuts:

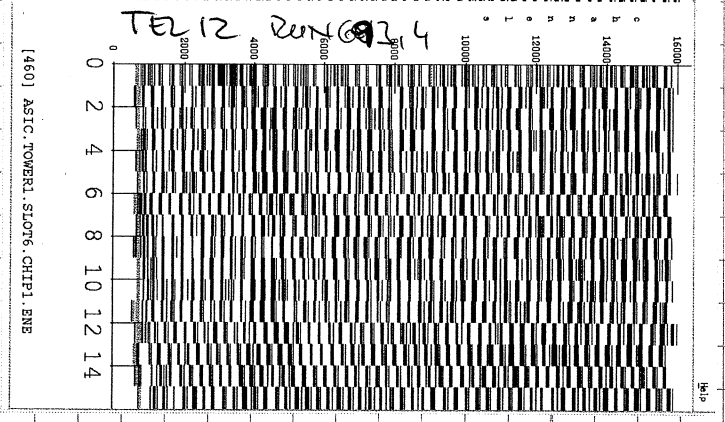
F

[375] ASIC.TOWER1.SLOT3.CHIP0.ENE

[443] ASIC.TOWER1.SLOT6.CHIP0.ENE



[460] ASIC.TOWER1.SLOT6.CHIP1.ENE



TEL 12 RUN 693 4

Integrations for spectrum 444

Id	Name	Centroid	FWHM	Area
Summing regions:				
8	Summing Region 008	2061.00	25.11	953.000000
9	Summing Region 009	4963.01	25.59	954.000000
10	Summing Region 010	7969.93	28.05	3757.000000
11	Summing Region 011	11021.94	67.87	963.000000
12	Summing Region 012	14073.69	38.38	954.000000

Start of RUN 693

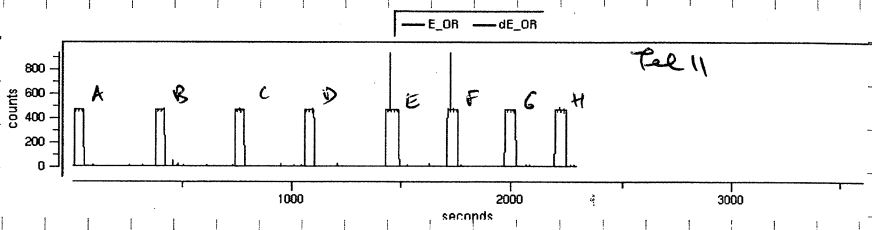
Cuts:

Integrations for spectrum 444

Id	Name	Centroid	FWHM	Area
Summing regions:				
8	Summing Region 008	2057.27	23.34	4270.000000
9	Summing Region 009	4954.39	24.61	4039.000000
15	Summing Region 015	14060.69	30.49	4308.000000
14	Summing Region 014	11008.76	29.97	3933.000000
13	Summing Region 013	7960.68	27.89	4251.000000

End of RUN 694

Cuts:



Integration Results

Tel 11

16	Summing Region 016	2116.00	21.07	3959.000000
17	Summing Region 017	5105.78	20.77	4013.000000
18	Summing Region 018	8153.59	21.91	4125.000000
19	Summing Region 019	11212.23	22.51	4201.000000
20	Summing Region 020	14259.06	22.33	3950.000000

A

Cuts:
Integrations for spectrum 512

Id	Name	Centroid	FWHM	Area
Summing regions:				
16	Summing Region 016	2104.04	21.14	3995.000000
17	Summing Region 017	5080.35	20.83	4092.000000
18	Summing Region 018	8121.81	21.13	4067.000000
19	Summing Region 019	11178.15	22.89	4160.000000
20	Summing Region 020	14226.50	22.74	3936.000000

B

Cuts:
Integrations for spectrum 512

Id	Name	Centroid	FWHM	Area
Summing regions:				
16	Summing Region 016	2098.44	21.11	3917.000000
17	Summing Region 017	5069.39	21.22	4129.000000
18	Summing Region 018	8105.86	22.08	4086.000000
19	Summing Region 019	11161.46	21.95	4206.000000
20	Summing Region 020	14205.72	21.04	3981.000000

C

Cuts:
Integrations for spectrum 512

Id	Name	Centroid	FWHM	Area
Summing regions:				
16	Summing Region 016	2096.24	20.58	3943.000000
17	Summing Region 017	5064.42	21.62	4193.000000
18	Summing Region 018	8100.63	21.72	4171.000000
19	Summing Region 019	11155.00	22.12	4104.000000
20	Summing Region 020	14202.45	26.93	3950.000000

D

Cuts:
Integrations for spectrum 512

Id	Name	Centroid	FWHM	Area
Summing regions:				
21	Summing Region 016	2095.45	20.63	4555.000000
22	Summing Region 017	5061.58	21.22	8523.000000
23	Summing Region 018	8097.06	22.05	5134.000000
24	Summing Region 019	11151.06	22.72	4745.000000
25	Summing Region 020	14198.76	23.34	4827.000000

E

Cuts:
Integrations for spectrum 512

Id	Name	Centroid	FWHM	Area
Summing regions:				
21	Summing Region 016	2093.36	20.95	4840.000000
22	Summing Region 017	5058.19	21.05	4155.000000
23	Summing Region 018	8088.41	21.78	4760.000000
24	Summing Region 019	11139.41	21.83	4849.000000
25	Summing Region 020	14185.49	21.85	4645.000000

F

Cuts:
Integrations for spectrum 512

Id	Name	Centroid	FWHM	Area
Summing regions:				
21	Summing Region 016	2092.38	21.28	4648.000000
22	Summing Region 017	5053.40	20.68	4252.000000
23	Summing Region 018	8084.51	21.54	4681.000000
24	Summing Region 019	11134.31	22.15	4834.000000
25	Summing Region 020	14177.08	23.56	4668.000000

G

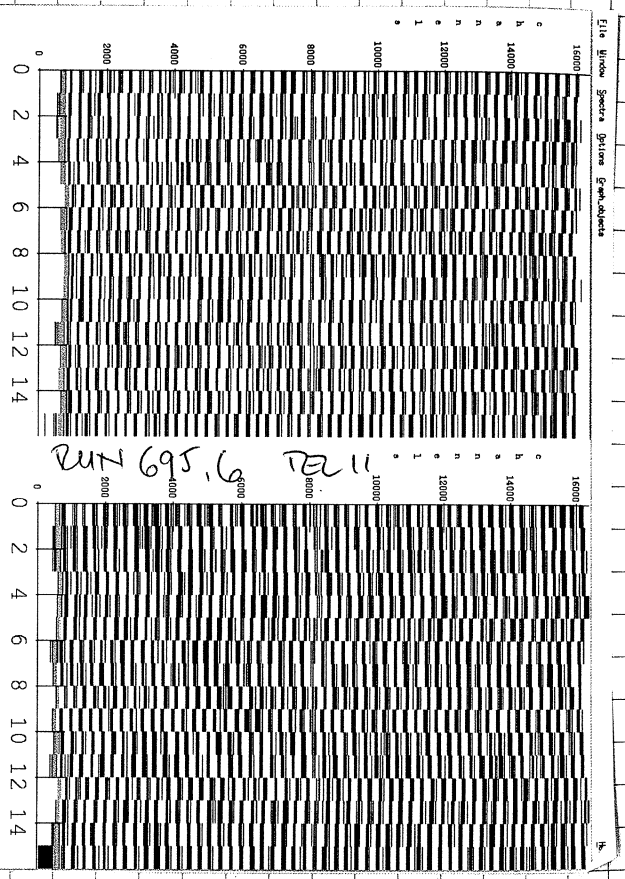
Cuts:
Integrations for spectrum 512

Id	Name	Centroid	FWHM	Area
Summing regions:				
21	Summing Region 016	2091.60	20.68	4855.000000
22	Summing Region 017	5050.88	20.88	4676.000000
23	Summing Region 018	8061.26	21.36	4652.000000
24	Summing Region 019	11123.46	22.08	4740.000000

H

[511] ASIC.TOWER1.SLOT9.CHIP0.ENE

[528] ASIC.TOWER1.SLOT9.CHIP1.ENE



Tel 11

Id	Name	Centroid	FWHM	Area
Summing regions:				
21	Summing Region 016	2091.34	22.24	960.00000
22	Summing Region 017	5051.16	20.37	958.00000
23	Summing Region 018	8080.98	21.29	3754.0000
24	Summing Region 019	11129.24	20.84	955.00000
25	Summing Region 020	14169.78	27.37	974.00000

Cuts:
Integrations for spectrum 512

Id	Name	Centroid	FWHM	Area
Summing regions:				
21	Summing Region 016	2090.15	21.33	4846.0000
22	Summing Region 017	5047.51	21.60	4329.0000
23	Summing Region 018	8076.95	22.33	4618.0000
24	Summing Region 019	11125.66	24.04	4728.0000
25	Summing Region 020	14167.38	24.01	4669.0000

Cuts:

26	Summing Region 026	2053.81	A	34.47	5487.000000
27	Summing Region 027	5116.14		18.27	4582.000000
28	Summing Region 028	8121.40		19.38	3987.000000
29	Summing Region 029	11131.89		26.74	4909.000000
30	Summing Region 030	14130.52		32.35	4787.000000

Cuts:
Integrations for spectrum 325

Tel 10

Id	Name	Centroid		FWHM	Area
Summing regions:					
26	Summing Region 026	2053.10	B	36.65	4695.000000
27	Summing Region 027	5100.24		18.17	4726.000000
28	Summing Region 028	8098.86		18.79	4283.000000
29	Summing Region 029	11105.65		22.71	4593.000000
30	Summing Region 030	14101.56		29.91	4626.000000

Cuts:
Integrations for spectrum 325

Id	Name	Centroid		FWHM	Area
Summing regions:					
26	Summing Region 026	2053.59	C	36.41	8966.000000
27	Summing Region 027	5088.16		18.04	4722.000000
28	Summing Region 028	8083.95		18.14	4720.000000
29	Summing Region 029	11087.68		22.59	5130.000000
30	Summing Region 030	14083.76		28.26	4487.000000

Cuts:
Integrations for spectrum 325

Id	Name	Centroid		FWHM	Area
Summing regions:					
26	Summing Region 026	2054.85	D	35.09	7185.000000
27	Summing Region 027	5083.88		18.72	4725.000000
28	Summing Region 028	8076.31		19.38	4648.000000
29	Summing Region 029	11078.73		23.03	4704.000000
30	Summing Region 030	14072.44		27.45	4763.000000

Cuts:
Integrations for spectrum 325

Id	Name	Centroid		FWHM	Area
Summing regions:					
26	Summing Region 026	2055.11	E	35.05	9653.000000
27	Summing Region 027	5080.00		17.24	6528.000000
28	Summing Region 028	8070.29		18.45	5825.000000
29	Summing Region 029	11071.13		22.49	5553.000000
30	Summing Region 030	14064.35		29.07	3540.000000

Cuts:
Integrations for spectrum 325

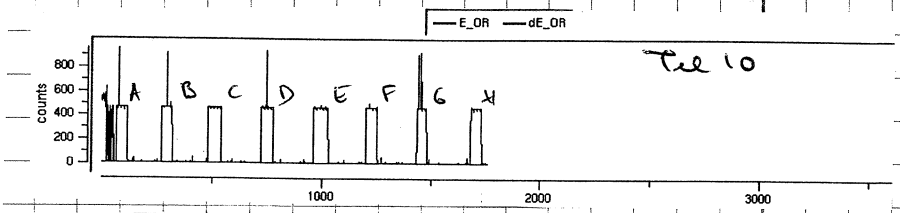
Id	Name	Centroid		FWHM	Area
Summing regions:					
26	Summing Region 026	2051.97	F	34.19	5605.000000
27	Summing Region 027	5075.27		18.10	3886.000000
28	Summing Region 028	8065.68		18.75	4638.000000
29	Summing Region 029	11066.87		21.14	4607.000000
30	Summing Region 030	14059.94		26.05	4747.000000

Cuts:
Integrations for spectrum 325

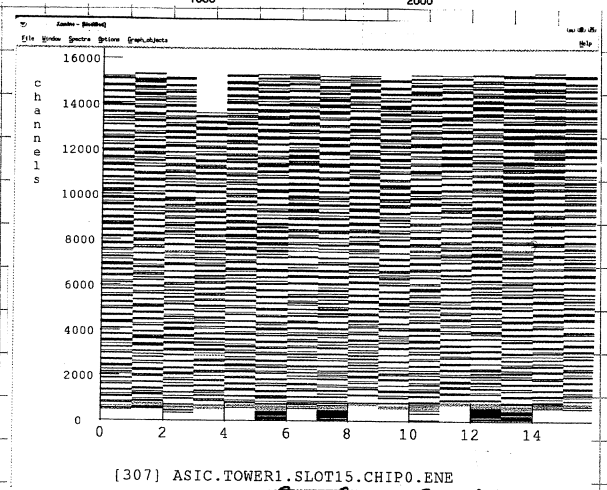
Id	Name	Centroid		FWHM	Area
Summing regions:					
26	Summing Region 026	2053.66	G	34.67	4238.000000
27	Summing Region 027	5073.72		18.53	3881.000000
28	Summing Region 028	8061.80		19.02	4210.000000
29	Summing Region 029	11061.60		20.69	4277.000000
30	Summing Region 030	14052.56		27.05	3732.000000

Cuts:
Integrations for spectrum 325

Id	Name	Centroid		FWHM	Area
Summing regions:					
26	Summing Region 026	2053.71	H	34.35	4637.000000
27	Summing Region 027	5075.05		17.46	4703.000000
28	Summing Region 028	8063.83		17.74	4760.000000
29	Summing Region 029	11065.61		19.58	4656.000000

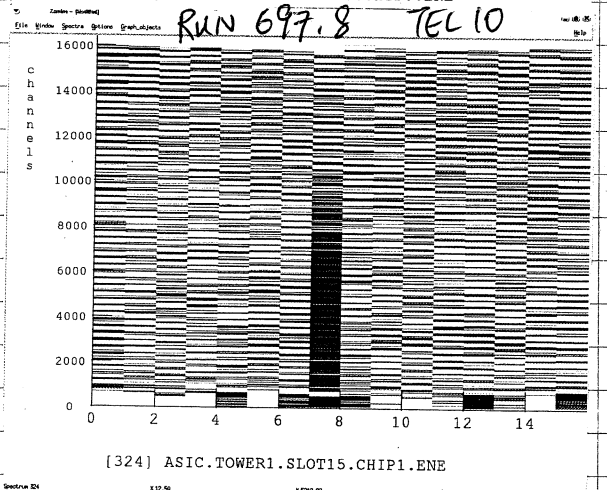


Tel 10



[307] ASIC.TOWER1.SLOT15.CHIP0.ENE

RUN 697.8 TEL 10



[324] ASIC.TOWER1.SLOT15.CHIP1.ENE

TEL 10

Id	Name	Centroid	FWHM	Area
Summing regions:				
26	Summing Region 026	2054.45	35.61	950.000000
27	Summing Region 027	5077.84	19.14	956.000000
28	Summing Region 028	8070.45	18.37	3736.000000
32	Summing Region 032	11075.27	19.73	965.000000
31	Summing Region 031	14071.86	26.42	970.000000

Cuts:
Integrations for spectrum 325

Id	Name	Centroid	FWHM	Area
Summing regions:				
26	Summing Region 026	2053.60	34.36	6820.000000
27	Summing Region 027	5074.81	17.71	6806.000000
28	Summing Region 028	8067.23	17.66	8900.000000
32	Summing Region 032	11071.51	20.33	8831.000000
31	Summing Region 031	14069.66	26.35	11504.000000

Cuts:

① Check the stability of the pulser Run 700 - 714
Ramping the same 4 channels in 15 different Runs
Tele 10 { chip0 . Ch 8, 9
chip1 Ch 8, 9

② Check Pulser dependence on threshold levels Run 715 - 717
A) Tower 1 Slot 15 - the same 4 channels as part ① - increase by -3 clicks → Ramp

B) Increase all thresholds again by 3 clicks.

C) increase all thresholds to "-32"

③ Check Pulser dependence on temperature of ASICs ~~Run 718 - 720~~ (Run 718)
(reload setup file "05133. setup"

A) Ramp the same 4 channels as in ① & ② (Run 718-722) and record temperatures on Tower 1

B) Increase chiller to 16°C (repeat step a)
* Wait till temperature of ASICs increases by 2°C

C) Repeat for 18°C , 20°C

Tower 1			Temperature (degree C)		
Run #	Chiller	TC0	TC1	TC2	TC3
	14	30.94	23.75	26.2	27.42
	16	32.04	25.22	27.54	28.76
	18	33.41	26.7	28.99	30.12
	20	35.09	28.76	30.84	31.94