

Nov 2nd 2012

pulser into preamp.

5 B - 8th ^{starting from 0} offset + different gain
- 6 different gain

the gain + offset didn't change with PA

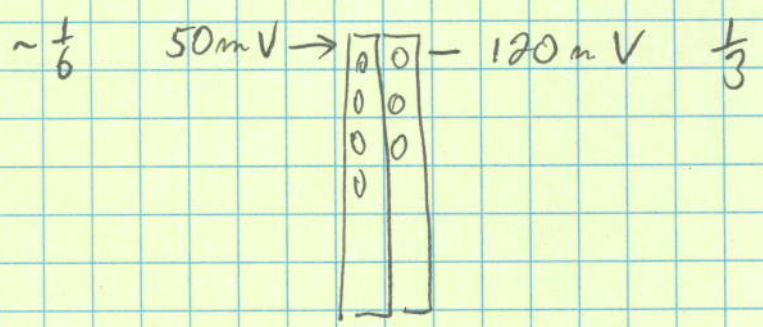
6 B - 5 = different gain
- 15 = different gain.

high gain (2)
low gain (5)

test A not connect to CB
test A cable loose on brown connector

MSU splitters

output of PA = 360 mV



-250 V → 0.78 mA

negative bias on front

2

Hira geometry

radius = 63 cm
from center = 22 cm } 85 cm.

Nov 6th
2012

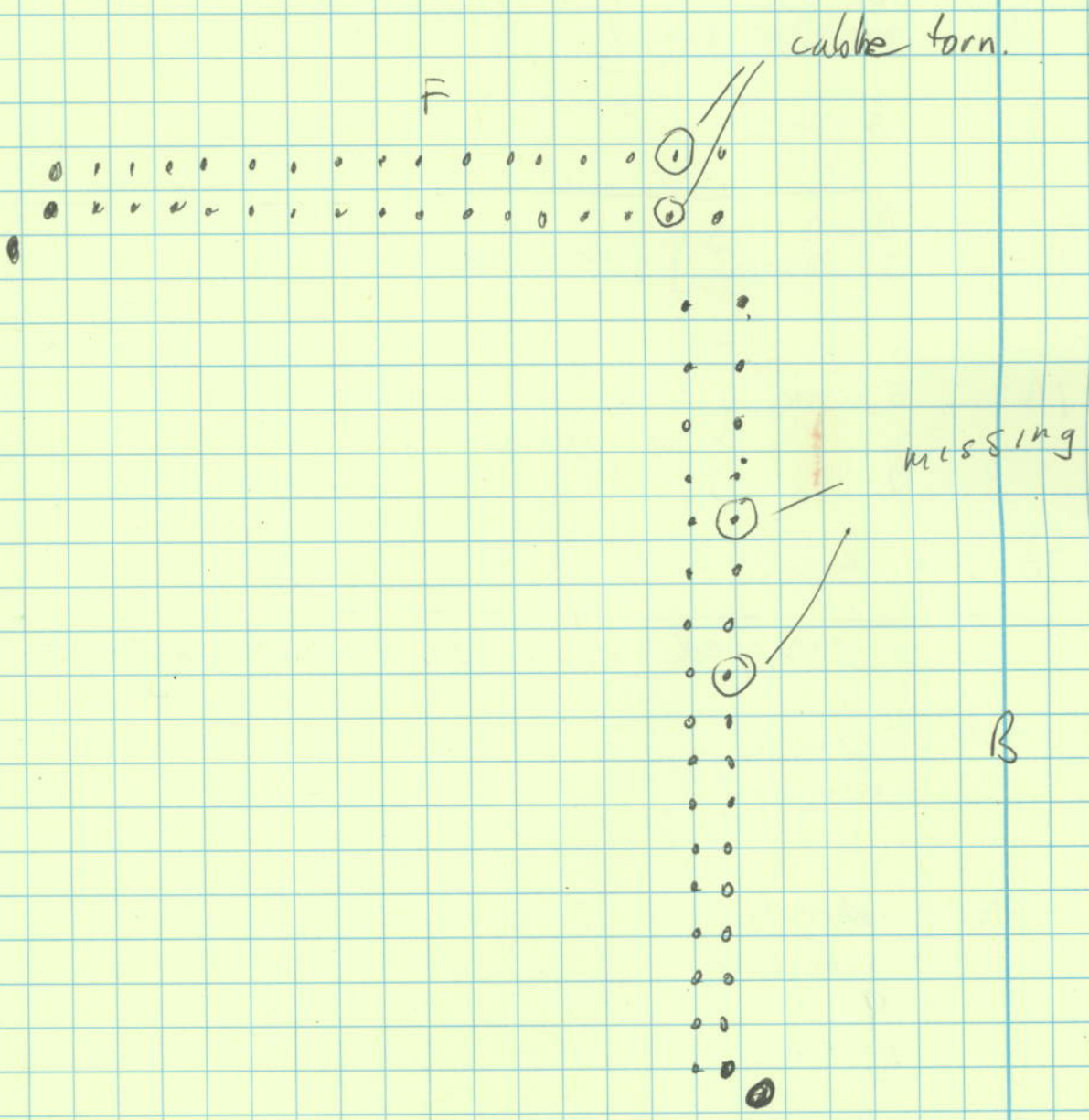
249CP source

-250V
• 78ms

~~Front~~
missing

Front A	0	15	4	13	missing
B		15			

Back A	12, 9
B	0, 5



249 CF & source

Front 6A } 15 missing } problem @ SU
B } 15 missing }

Back 5A } 5 missing }
9 } problem @ Si
12 missing }

B 5 missing

Front 8A } 15 missing } as above
B } 15 missing }

Back 7A } 5 missing } as above
9 }
12 }

7B 5 missing

swapped connector at detector

Front 7A } 15 missing }
7B } 15 missing }

back 8A ~~15 missing~~
5 missing
9 "
12 "

8B 5 missing

all missing channel associated with detector

splitter
40 mV in

15 out
7 out.

try out Δ connector on back

missing 1, 10, 11

compare to 5, 9, 12 with old connector

1A	1A	gr
3A	3A	2A
5A	5A	4A
7A	7A	6A
9A	9A	8A
11A	11A	10A
13A	13A	12A
15A	15A	14A
1B	1B	0A
3B	3B	2B
5B	5B	4B
7B	7B	6B
9B	9B	8B
11B	11B	10B
13B	13B	12B
15B	15B	14B
gr	gr	gr 0B

out of back connector

F

1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	9
0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	8

200 V

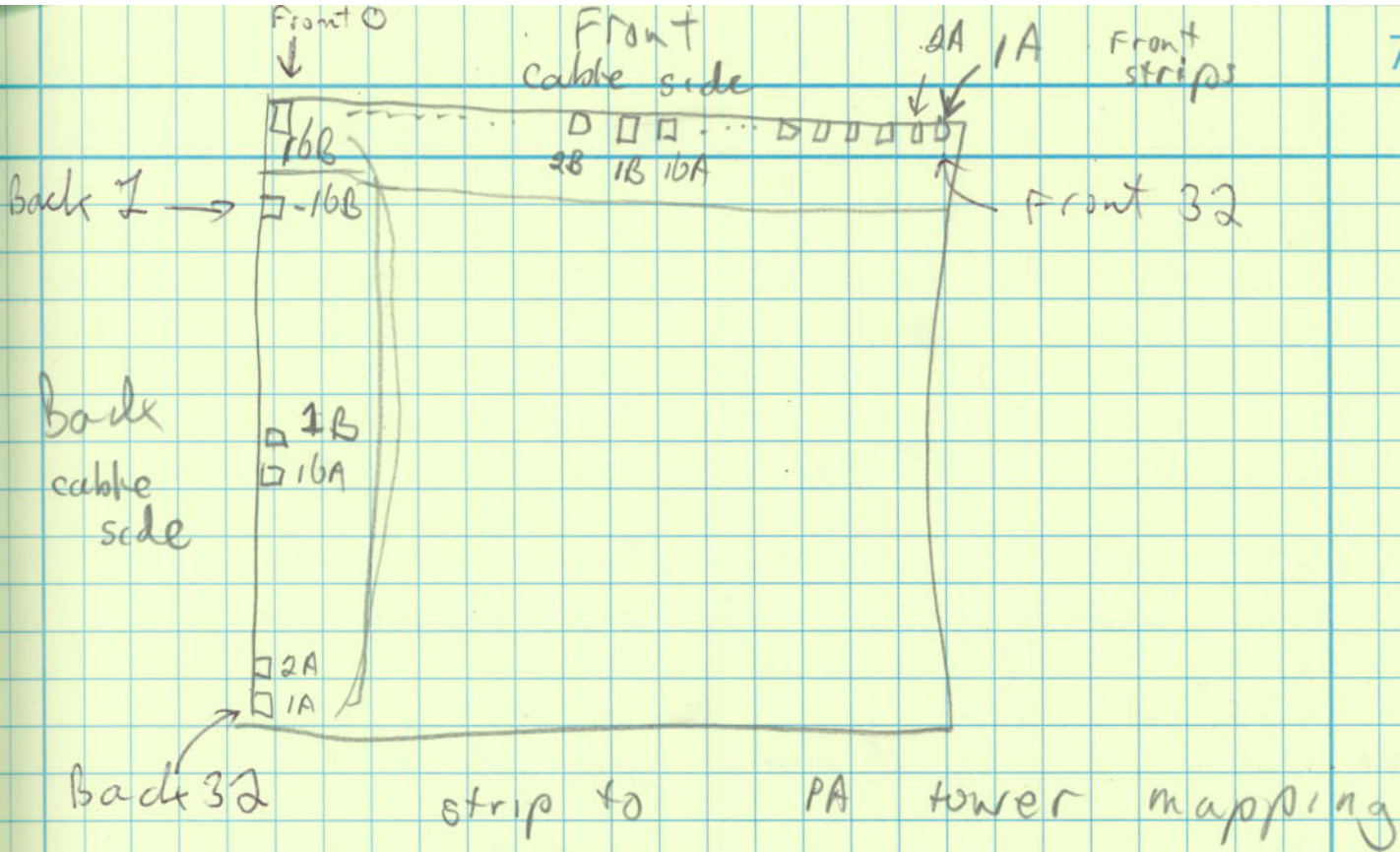
~~0.715 mA~~

0.813 mA

Front A ✓

B 4 & 15 missing

} using ΔE connector



CAESAR dismantled 10-16th Dec
 HV cannot be more than 2m away.
 VME-USB bring.

splitter
 16 high gain first
 16 low gain second

Nov 28 Back with new connector

7A, 12A, 4B 5B 14B

Dec 6

• Testing Splitter with ^{241}CF

• We see typical resolution of $\sim 75 \text{ KeV}$
for higher amplitude channels, and $\sim 100-120 \text{ KeV}$
resolution on lower amplitude channels.

} Front

Main source of noise is in the chip board.

• Peak spacing is 50 and 25 channels respectively.

• To change polarity of chip board, toggle
switch on 2nd page of mother board
control. Energy offset must be changed
to 650 (350) for negative (positive)

If you do not also change the jumper
the energy will run backwards in SpectEL

The jumper to change is JP8. \square = positive, \blacksquare = negative

• We see comparable peak spacing on the back
as the front, but the resolution is a bit worse.

• Bottom Line: Splitter functions correctly, so John is
making 5 more for a total of 6. (4 + 2 spare).

• HiRx detector biased at -260.4 V with $0.831 \mu\text{A}$

• One must also change the threshold on
the discriminators when changing the polarity

12/12/12

Here I will list possible gamma ray sources to use with CAESAR. I am basing this list on what was used in the ^{26}Ca n/p Knockout experiment.

Source	Energy [keV]	
^{137}Cs	662.660	
^{88}Y	898.042 1836.063	
^{138}Ba	356.017 302.853	
^{22}Na	1274.53 511	
^{60}Co	1173.237 1332.501	5000 in peak
^{152}Eu	778.91 344.281 1112.116 964.121	
^{226}Ra	351.421 295.213 1764.494 1120.287 768.356 609.312	$^{214}\text{Bi} \xrightarrow{\beta} ^{214}\text{Bi}$ $^{214}\text{Bi} \xrightarrow{\alpha} ^{214}\text{Po}$
^{56}Co	2598.459 846.776 1238.282 2034.755 3253.416	17% 100% 69% 7.7% 7.7%

12/12/12 Notes from Jon

- To set full range on chip board both JPS + JPB (on back) should be on.
- On mother board, jumper setting 1+2 are for positive polarity, and jumper setting 3 is for negative polarity.
- To start the readout, type `./run Readout`
To start the motherboard control, type `./CHIP`
- After running `./CHIP`, go to File → XLM Antigen then pick Load File. From window click browser and select the correct bit file.
Then go to File → Load → browser, and select the correct setup file.

1/5/12 Shaper + Discriminator testing Kyle B.

• Walter B a I are setting gains and thresholds for the pico shaper/disc.

Settings are stored in two files located in /user/el0001/Current 8.2/CSI_disc/input-files/el0001-a.shp
el0001-a.dis

• Control GUI run with command: wish pico.tcl

• Using a ~ 250 mV pulse, we are matching the gains

Problems:

• Channel 3 of first shaper may have issues but it may also be the channel selector

• Channel 15 of first shaper is very small even with max gain.

We have confirmed that the channel selector has a bad connection for channel 3.

→ Fixed 1/5/12 KB.

• All but channel 15 of one shaper/disc are working. We will likely take it back to WU for John to fix.

1/18/13

Hira Si electronics map

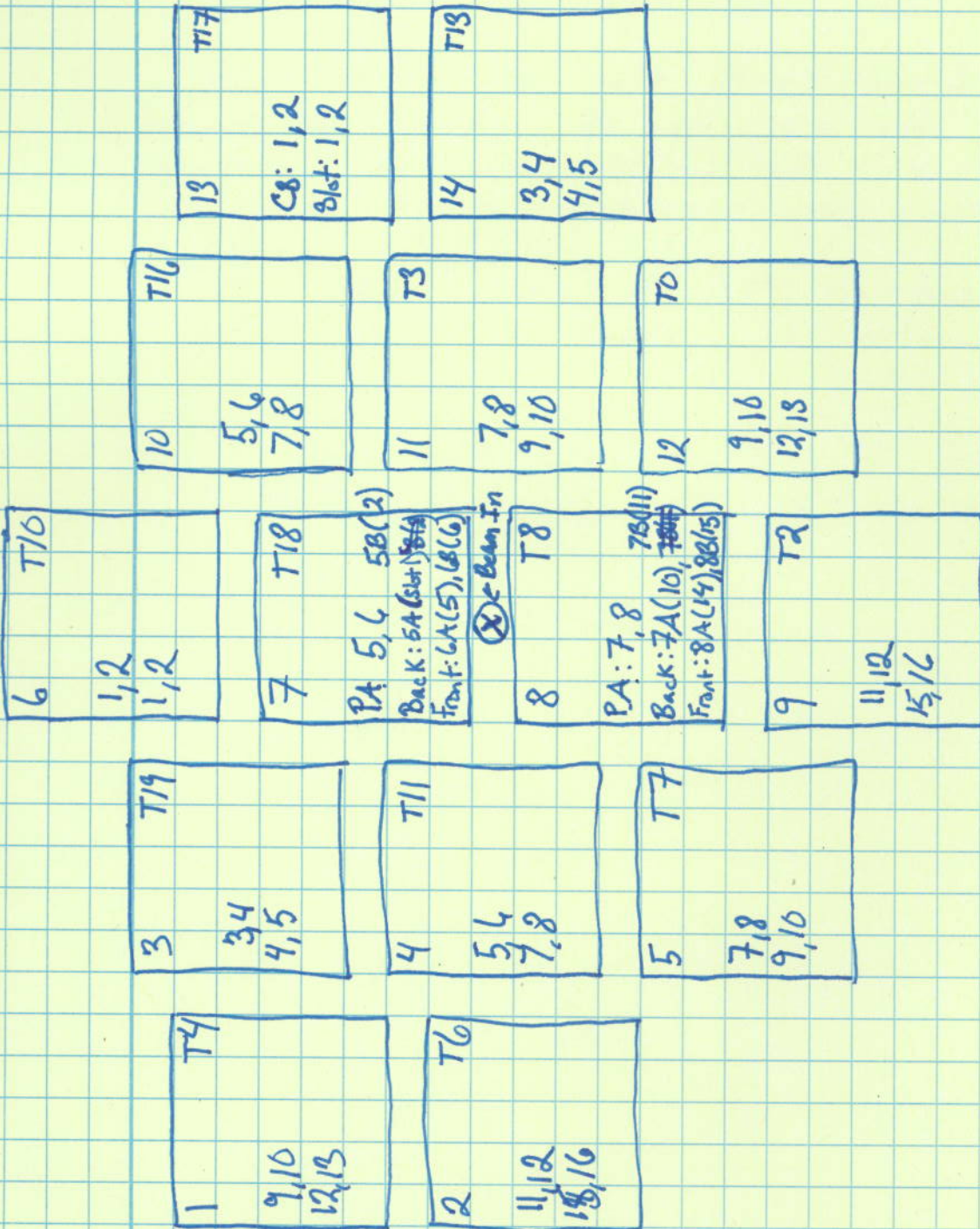
Chip board: B, F

MB1: Telescope 9-14

MB2: Telescope 1-6

MB3: Telescope 7, 8

• For telescopes 7 and 8, the signals are taken to inputs 5-8 on the preamp tower.



ADC, TDC addresses

address	slot		type
DDDD	8	HIRA	ADC
2c. 5555	9	HIRA	ADC
FFFF	10	HIRA	TDC
EEEE	11	HIRA	TDC
AAAA	12	CEASAR	QDC
BBBB	13	CEASAR	QDC
CCCC	14	"	QDC
8888	15	"	QDC
9999	16	"	QDC
1111	17	CEASAR	QDC
2222 7777	18		TDC
3333 5555	19		TDC
4444	20	Scaler	

daq1 to kill ring buffer
~~usr / opt / 10.1 / bin / ringbuffer status~~
 kill -9

usr / opt / daq1 / 10.1 / bin / ringbuffer status

kill -9 "producer"

1/10/13

CEASAR NOTES

HV supply (Wiener, EDS 20130p)

ssh scintisw1 (from Laptop)

passwd 662CS137

> ssh spdaq44 (same passwd)

> cd hvctrl

> ./hvGui.tcl (turn on/off HV)

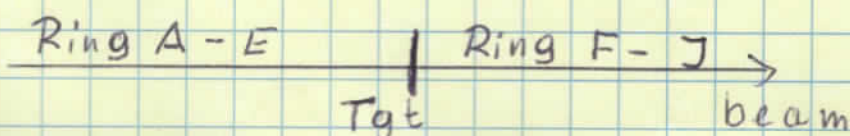
> ./e09070-Oct18-2011.sh (example for gammamatching through HV)

HV Control

Cabling: Changes w.r.t. master hard copy

Ring	Change	Detector ID
C	SN 1393 (was 1593)	21
D	SN 1466 (was 1407)	5
D	SN 1421 (was 1414)	18
D	SN 1423 (was 1520)	19
D	SN 1471 → SN 1471 (was 1384)	20
D	SN 1384 (was 1471)	22
D	SN 1520 (was 1423)	23
D	SN 1414 (was 1421)	24
E	SN 1523 (was 1532)	14
E	SN 1449 (was 1494)	15
E	SN 1406 (was 1387)	20
F	Cable 3M 10-16 (was 3M 10-15)	4
B	SN 1242 (was 1224)	12

o.k. sorry!



1/10/13

CAESAR NOTES CONTINUED

(the 11st)

Electronics ~~chan.~~ bank - chan. 10-11: lower voltage from 1015V to 850V, raise thresh. from 10mV to 40mV, to make CFD work.

~~Bank - chan. 10-5 (the 5th chan.) no linear signal \downarrow ; discriminator fires; detector 1 in RingH (suspicious.) (SN 1438)~~

INDEED, DETECTOR ISN'T IN PLACE YET

To talk to the RIS CFD's do this (starting from sciuti gw1):

> ssh spdaq36

> cd ar-cfd/prod

> ./cfd-server

> ./gui.tcl

in the CAESAR Discr. Control upload and select a file (e10001.Save is the present template file)

CFD
Control

Status 1/11/13

* HV supply and linear signal (output ^{output} Amplif. - Splitter) ok. for these rings - detector-id's:

C-1 to 5, C-13 to 24; D-1 to 5, D-13 to 24

E-1 to 5, E-13 to 24; F-1 to 5, F-13 to 24

G-1 to 5, G-13 to 24; H-13 to 24

* CFD output ok. for these bank-channel's:

12-10 to 14; 12-5 to 9; 10-16, 12-1 to 4;

(C-1 to 5) (D-1 to 5) (E-1 to 5)

(Ring-detector)

10-10, 10-13 to 15; 10-6 to 10

(F-5, F-1 to 3) (G-1 to 5)

* HV and lin. signal also ok. for

B-1 to 2, B-12 to 14

* CFD output ok. for 12-15 to 12-16 (B-1 to 2)

(RUN 8) Pulsar ramp EF, 0-9V, ¹⁹21 steps, 15 sec/step
MB1 & MB2

(RUN 9) Pulsar ramp, MB1 & 2, EF, 0-9V, 37 steps
15/200/step

(RUN 10) Pulsar, MB1 & 2, EF, 0-9V, 19 steps

(RUN 11) - " - " - " 37 steps

(RUN 12) Pulsar, MB1 & 2, EB, 0-10V, 41 steps

changed CB 11 in MB2

(Run 14) Pulsar MB1 + 2 EB 0-10V, 41 steps

(Run 15) dit 7 Back

Pulsar dit back 0-3V 41 steps

last 4 channels in 7 B have
different external preamps.
same gain for alpha but these
respond differently to pulser
(appear to have different gain)

(Run 16) dit 8 Back

Pulsar 0-3V 41 steps

Sunday 12th

det #7 220V 2.16 μ A
 det #8 265 2.26 μ A
 no cooling on #1RA detector

pulser program \rightarrow vmusb/pulser

for white pulser \rightarrow wish pulserGUI-WHITE-external
 \hookrightarrow trigger.tcl

for blue pulser \rightarrow wish pulserGUI-BLUE-external trigger.tcl

Run 17 det 7 front Pulser
 Pulser 0-3V 41 steps

Run 18 α in tel 7

Run 19 det 8 front Pulser
 Pulser 0-3V 41 steps

Run 20 det 7&8 α

Run 21 det 7+8 α .

α resolution

cb 1	\sim 80 keV
2	\sim double peaked
3	\sim 100 keV
4	\sim 110 keV
5	\sim 100 keV
6	\sim 73 keV
7	\sim 86 keV
8	\sim 80 keV.

new slot for cb 2
 Run 22 α in det 7+8
 lowered thresholds on CB 2 + CB 8
 Run 23 α in det 7+8

MB2

slot	CB
1	40
2	35
4	44
5	34
7	69
8	58
9	57
10	77
12	55
13	51
15	
16	26

Bias	Converter out	Sparky	HV (MB2)	HV (MB2)	HV (MB1)
+1	16 +	8			
-2	4	16	26	24	28
3	17				
+4	5 +	8	8		
-5	6	17	5	10	15
6	19				
+7	17 +	19	4	9	14
-8	20				
+9	21 +	21	3	8	13
-10	9				
11	22				
+12	10 +	10	2	7	12
-13	11				
14	24				
+15	12 +	12	1	6	11
-16	25	12			

Red Cable

<u>HV</u>	<u>Sparks</u>
0	1
1	2
2	3
3	4
4	5
5	6
6	7
7	8
8	9
10	11
11	12
12	13
13	14
14	15
15	16
16	17
17	18
18	19
19	20
20	21
21	22 22
22	23 23
23	24
24	25
25	26
26	27 27
27	28
28	

The extruder cable was broken. We will fix in the next few days.

MB2 slot 8 discriminators

MB2 slot 4 2nd chip missing

		V	mA	
MB2 slot	10	200	1.82	
MB2 slot	13	340	3.08	
MB2 slot	10	120	1.60	
MB2 slot	08	250	1.78	
MB2 slot	05	350	0.56	← tripped
MB2 slot	02	110	1.80	

MB1 slot	16	200	1.10	
MB1 slot	13	310	0.94	
MB1 slot	10	210	1.64	
MB1 slot	08	295	2.68	
MB1 slot	05	190	1.96	
MB1 slot	02	210	2.30	← ?!

* MB2 slot 05 has a problem so the bias lower as:

	V	I (μA)
Back MB 2	100	11.40
Back MB 1	100	11.05
MB2 slot 05	275	2.98

MB2 slot 5 the current run away alone (250 + 100) Volts.

2 data

MB1+2

23

Run 32

01/28/13

Time 17:02

MB2 slot #

	<u>V (volt)</u>	<u>I (uA)</u>
16	340	2.02
13	200	2.24
10	350	2.10
08	250	1.84
05	210	1.26
02	110	1.84

MB1 slot #

	<u>V (uA)</u>	<u>I (uA)</u>
16	210	1.10
13	190	0.88
10	295	1.88
08	120	1.86
05	310	2.22
02	200	2.56

Run 38 1 hour of calibration
into MB1 + MB2.

T13, A14 sparking @ HV on
some back channels.

back ground 2.6 MeV ⁴⁰K
1.46

V }
Cs }
Co }
22Na }
AmBe }

Ceasar	tdc	time ref
	1	112
	2	80 96

Ceasar data

Run 45 background
for a few detectors

Run 46 more background
-encapsulate chip false

Run 47
for E1 used twisted pair

Run 48
shielded cables again (E1 unplugged)
more detectors on

Run 49 again 366

-13 + twisted pair K 1.46 MeV line FWHM = 43
-13 shielded Run 49 37

CAESAR Pedestals

1/20/13

QDC ch	QDC1 Pedestal	QDC2	QDC3	QDC4	QDC5	QDC6
0	80	85	115	135	75	65
1	75	70	115	110	75	75
2	90	85	115	120	75	70
3	85	100	115	120	70	80
4	80	95	115	120	70	60
5	85	95	95	85	70	60
6	115	60	110	100	75	75
7	65	75	115	125	100	50
8	85	70	95	155	75	95
9	120	85	110	100	60	40
10	70	85	60	100	60	55
11	125	75	115	95	85	75
12	85	70	75	110	85	85
13	130	60	100	100	85	55
14	110	85	70	125	70	55
15	75	85	95	95	80	80
16	130	100	60	75	75	75
17	145	100	95	75	80	65
18	95	120	100	70	85	90
19	110	110	75	70	120	55
20	80	110	70	85	70	70
21	150	100	70	60	100	60
22	145	120	60	70	110	70
23	155	85	75	60	90	80
24	160	95	70	95	95	90
25	145	100	70	60	105	60
26	145	120	70	75	90	65
27	150	80	95	85	100 65	70 80
28	145	110	85	60	75 110	80 60
29	150	100	85	75	110	60 75
30	50	125	85 75	80	10 15	65
31	160	110	75	70	95	65

Some values on QDC4 + QDC5 ~~were~~ raised to get up of the noise. 1/30/13

MB2 slot 5	$100 + 10$ Volts = $3.92 \mu A$
MB2 2	$100 + 10$ Volts = $2.58 \mu A$
	$100 + 110$ $3.88 \mu A$
	was 1.84

MB2 slot 5	$100 + 20$	$4.32 \mu A$
	was	$1.26 \mu A$
	$100 + 30$	4.70

- MB3 Chip board 2 has high threshold and will be lower

Mixing channels

MB2 T6

T4

EB ch 9, 10, 15

T7

EB ch 6, 13, 21, 25 EF 25

2300
1750
5050

Feb 3 see map 02/03/13 Ser 50

~~Strip status~~ Strip status

Si₆ voltages Group 5

B/F

	V	μA		B _{OK}	F _{OK}	
MB2 slot 16	350	1.86	15/16	B _{OK}	F _{OK}	
2 13	200	2.00	12/13	B _{OK}	F _{OK}	
2 10	350	1.80	9/10	B _{OK}	F _{OK}	B ₆
2 8	230	1.66	7/8	B _{OK}	F _{OK}	
2 5	210	1.38	4/5	B _{OK}	F _{OK}	
1 16	210	1.00	15/16	B _{OK}	F _{OK}	
1 13	190	0.78	12/13	B _{OK}	F _{OK}	
1 10	195	1.72	9/10	B _{OK}	F _{OK}	
1 8	120	1.66	7/8	B _{OK}	F _{OK}	
1 6	200	2.28	4/5	B _{OK}	F _{OK}	
2 2	240	1.42	1/2	B _{OK}	F _{OK}	
1 2	320	1.84	2/2 21/2	B _{OK}	F _{OK}	R₁₁ F ₂

+ 100 counter voltage

File MB123_0203

slot 12 - J6 OR gets stuck

RUN 56 MB12 3 off ← some "hot" ch.

MB₂ slot 2 second chip missing
 MB₁ slot 2 ch 9
 MB₁ slot 4 most
 MB₁ slot 12 most
 MB₂ slot 2 ch 0, 13, 17, 18, 23 } disc ignored

RUN 59 M12 3 off d-run
 -ve ped MB₂ slot 15 perhaps

Onto MB3 hot ch.
 MB₃ slot 1 ch 2, 6, 13
 MB₃ slot 6 ch 9

B -ve pol, 1st ie P7, slot 3 2nd half missing, high then?
 F + pol P7, slot 5,

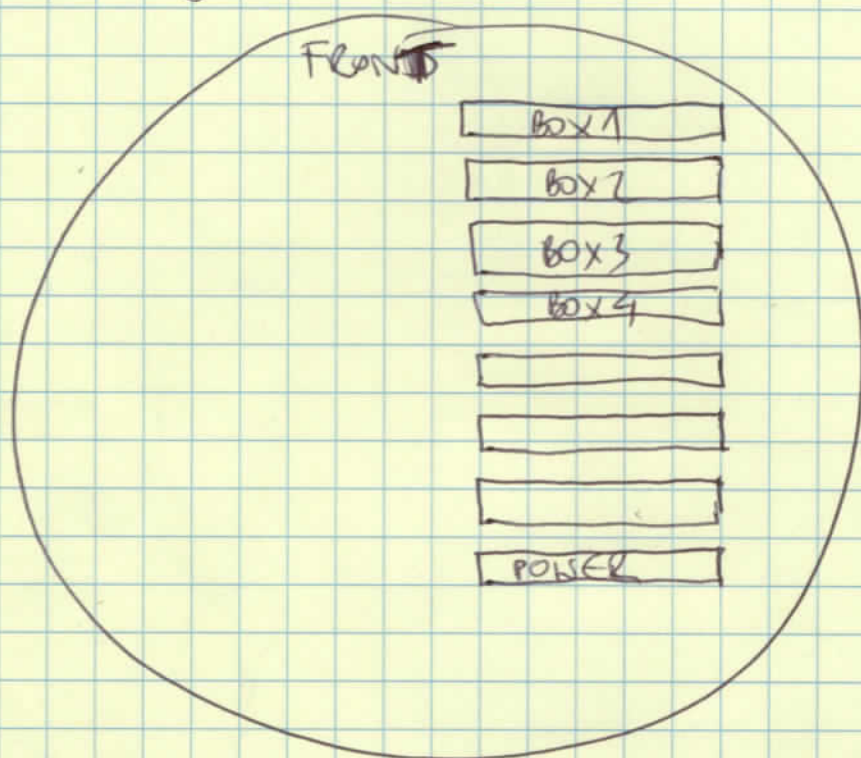
RUN (77) ADC's pedestal run

ADC 1 - slot 8

ADC 2 - slot 9

ADC 1 ch #15 missing

CM flange



CM distribution boxes

BOX Telescopes (bottom)

1 1, 2, 3, 4

2 5, 6, 7, 8

3 9, 10, 11, 12

4 13, 14

run (79) on ADC's pedestal after replacing ADC #1
ch# 10 - pedestal at 0 with ~30-channel resolution

run (80) on ADC's pedestal with new ADC #1
all channels showing up

CAESAR Ring D-19 M 6-14
has lower gamma rate.

Ring D-12 M 9-13 disc always down

Ring F-5 M 10-11

light leak couldn't trigger above noise.

1026V
runs @ 980

→ swapped cable to 11-13

conclusion
swapped cable on D12
light leak on F5
lower threshold. D19

Run 80

CAESAR energies only, background w/ no lights

→ lots of cabling issues, ignore this run

2/12/13

VS/N	Cassette issues (gains)	VS/N	was	706 V	→	860
6-5	- low	6-5	was	706 V	→	860
6-8	- high		was	955 V	→	900
6-9	- high		was	869 V	→	694
6-10	- high		was	777 V	→	727
6-12				737		757
6-14				924		944
6-15				764		744

VS/N 6-13 3M 6-14 695 855

VS/N	10-10	1026	751
	10-14	746	996
	11-5	820	780
	11-6	875	735
	10-10	881	84
	11-4	825	875
	11-8	748	878

swapped cable →

11-12 (9-12)
new vsn old

~~880~~ 686 766

← Ring D12

Run 84 CST cosmics

10-2	was	814	794
10-13		840	820
10-11		819	839
4-8		911	890
12-15		882	
6-11		725	685

thres

1-12	was	11	-7
13		23.5	3
14		6	-8.5
15		7	-9
		-8.5	-5.5
5-14			
9-1		-4.5	-10
2		4	-7.5
3		-2	-12
4		+9	-14.5

9-5
9-11
9-15

was

0

now

-11.5

-8.5 mV

-20

-8.5

-19

Thursday

12 noon

Caesar gam match + thresholds
adjusted.

Run

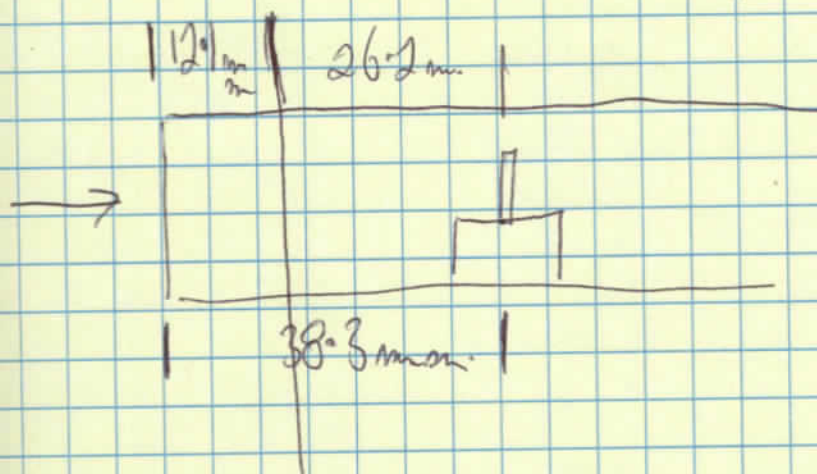
100

- background run no times

Run

101

- background with times



CEASAR
ALIGNMENT

Run 102

no

times here

COSMICS IN

HIRA

CSI

over night

Run 103

ramp into

HIRA CSI

0 - 2.5

21 steps

0.12 V step

CsI times were added here.

Friday

#7

-220 V

3.49

#8

265

360

178

84

26.2

38.3

26.2

12.1

Signal from Cave to Data V

1-8 switcher

9

Se OR

10

CSE OR

11

CENSAR OR

12

XFP

into channel 113 of ctdec1

Saturday 16th 9:30

@

12:00 Nov 16

det #7 (120 + 100) = 1.98 μ A 1.63
 #8 (165 + 100) = 2.06 μ A 1.75

MB1 back = 8.73 μ A 7.92
 2 back = 10.11 μ A 9.34
 3 back = 4.02 μ A 3.41

MB2 slot 16	360 V	1.66 μ A	1.54
MB2 slot 13	140 V	2.06 μ A	1.86
MB2 slot 10	220 V	2.22 μ A	2.18
MB2 slot 8	250 V	1.52 μ A	1.38
MB2 slot 5	210 V	1.20 μ A	1.10
MB1 slot 16	210 V	0.92 μ A	0.78
MB1 slot 13	190 V	0.72	0.64
MB1 slot 10	295 V	1.62 μ A	1.48
MB1 slot 8	120 V	1.52 μ A	1.48
MB1 slot 5	200 V	2.08 μ A	1.88
MB2 slot 2	240 V	1.28 μ A	1.14
MB1 slot 2	320	1.66 μ A	1.50
CsE 1	80	0.1	
2	"	0.0	
3	"	0.0	
4	"	0.0	

- RUN (105) EB Pulser ramp 0-9V, 19 steps, 15 ~~steps~~ sec/step
- RUN (106) Pulser ramp EB 0-2V, 21 steps, 15 sec/step
- RUN (107) - " - EB 0.05-2.05V, 21 steps / 15 sec/step
- RUN (108) Pulser ramp EF 8-0V, 17 steps
- RUN (109) Pulser ramp EF 2-0V, 21 steps
- RUN (110) Pulser ramp EF 2.05-0.05V, 21 steps
- RUN (111) Pulser ramp EF 2-0V, 41 steps M2 SGA 2
- ~~RUN (112) MB3 Pulser ramp EB 2-0V, 21 steps~~
- ~~RUN (113) 0.8-0V, 23 steps~~
- RUN (113) MB3 Pulser ramp EB 0.8-0V, 23 steps
- RUN (114) MB3 Pulser ramp EF 0.8-0V, 23 steps
- RUN (115) CA cosmic

Ceasar - lower some pedestal thresholds

• RUN (117) ^{22}Na source
10.46 μC

• RUN (118) ^{56}Co source
10 μC

SCALERS

1	CsI 1	17	XFP
2	CsI 2	18	Trigger raw
3	CsI 3	19	Life Trigger
4	CsI 4	20	CEASAR + HIRA AND
5	MB 1 B OR	21	test CsI
6	MB 2 B OR	22	? CsI OR
7	MB 3 B OR	23	RANDOM PULSER (e11001)
8	MB 1 F OR	24	
9	MB 2 F OR	25	
10	MB 3 F OR	26	
11	CEASAR 182	27	
12	CEASAR 324	28	
13	CEASAR 526	29	
14	CEASAR 728	30	
15	CEASAR 9210	31	
16		32	

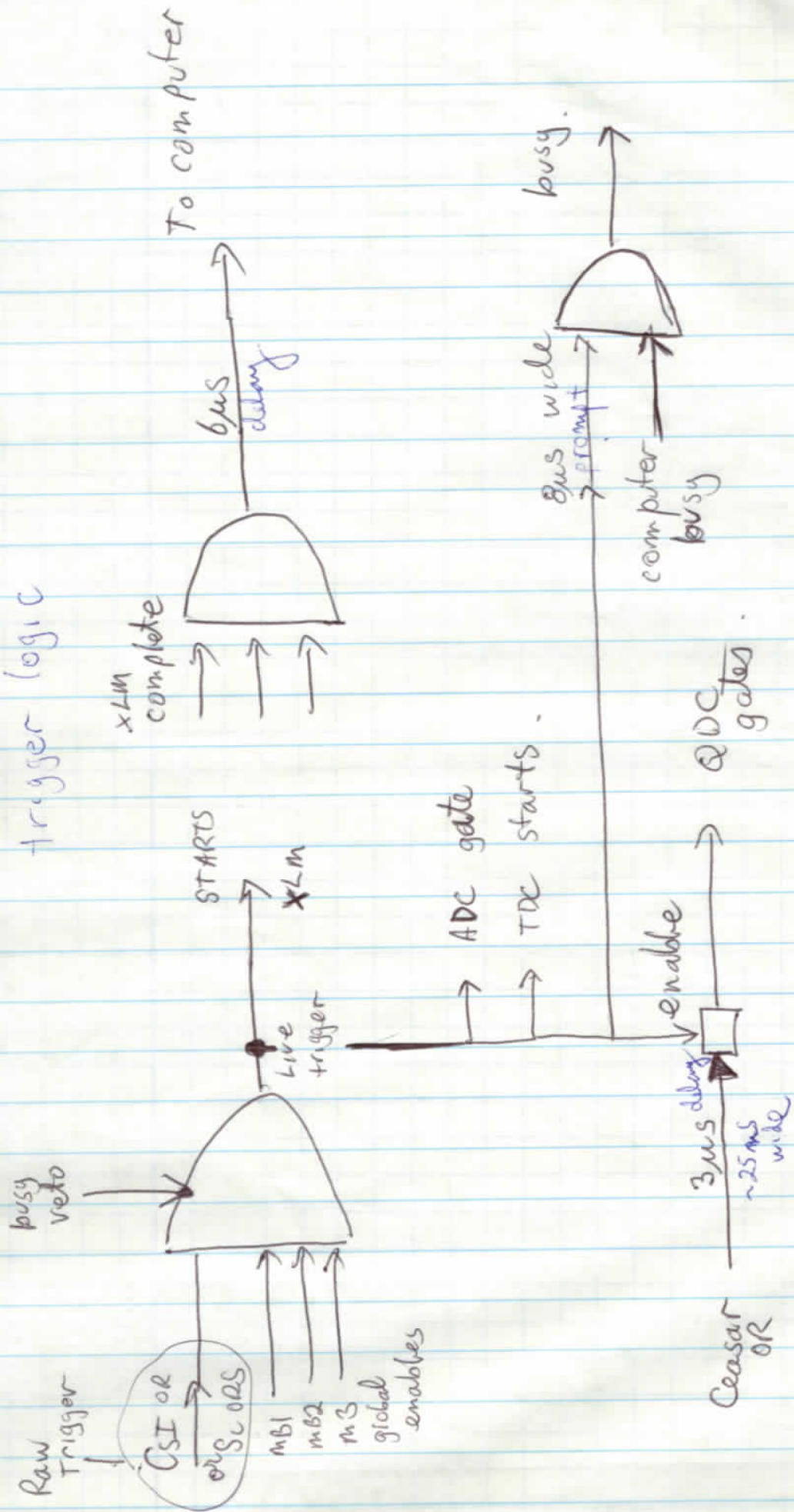
Run (119) ^{60Co} b/c 1/2 hour

runs 117 only → 119 for Energy calibration sources not @ target position

Run (121) cosmic CSI shopper gains @ 255.
125 @ 200

Run 126 d/o in Si

Run 127 Cosmics, everything in data stream



Hardware

Switcher → gaswitch

1-16

17-32

- 1. ~~CSI OR~~ CSI LIN } Test
- 2. ~~CEASAR OR~~ CSI LOG } Test
- 3. MBI CSA
- 4. MB2 CSA
- 5. MB3 CSA
- 6. MBI Shaper
- 7. MB2 Shaper
- 8. MB3 Shaper

- 1. CSI OR
- 2. CEASAR OR
- 3. Enabled CEASAR gate
- 4. Back OR of OR's
- 5. Front OR of OR's
- 6. Computer Busy
- 7. End of event
- 8. Ceasar gate

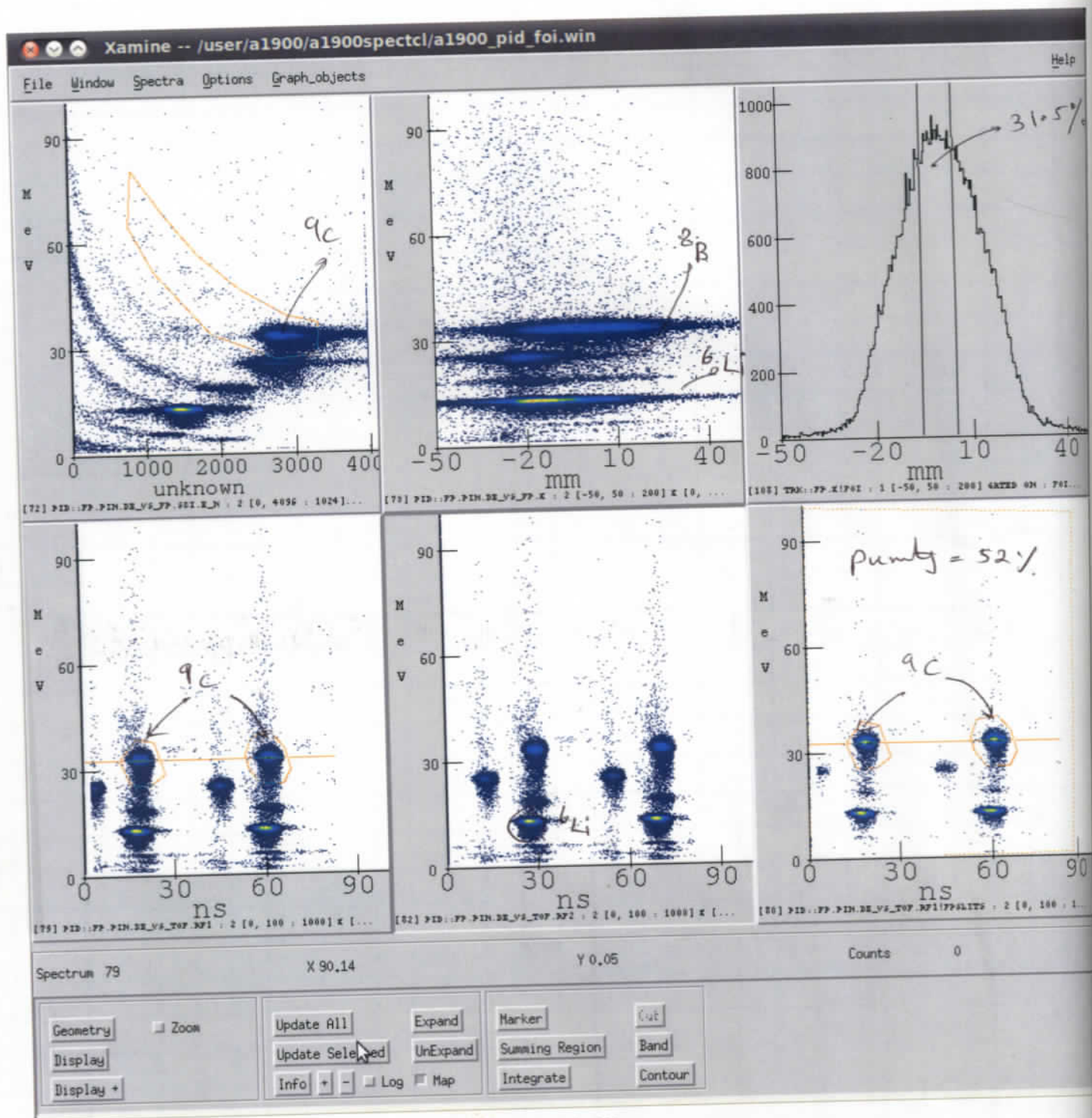
- 9. OR MB1-B ~~MB1-B~~
- 10. OR MB2-B ~~MB2-B~~ BA
- 11. OR MB3-B ~~MB3-B~~ BA
- 12. OR MB1-F
- 13. 2-F } Front
- 14. 3-F }
- 15. Trigger RAW
- 16. Trigger LIVE

- 9. Master busy
- 10. computer trig
- 11. CSI Mult Lin
- 12. CSI Mult Disc

Hardware	Computer
1	16
2	1
3	2
4	3
5	4
6	5
7	6
8	7
9	8
10	9
11	10
12	11
13	12
14	13
15	14
16	15

was 65% pure last experiment.
main impurity is ${}^6\text{Li}$

A1900 RH 6356



run6356pid.png

C-9 rate @ FP = 1308 PPS/puA
C-9 rate 10mm gap = 412 PPS/puA

before/during beam tune
~~2-18-2013~~
 17.22

Terminal

File Edit View Terminal Help

- Main Utility Setup Groups View Admin

Group 00

Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
m	0.00	V 4.00 uA	1.00 V	0.00 uA	Off		00.0000
0	0.00	V 4.00 uA	0.25 V	0.00 uA	Off		00.0001
0	0.00	V 4.00 uA	0.25 V	0.00 uA	Off		00.0002
0	0.00	V 4.00 uA	0.00 V	0.00 uA	Off		00.0003
0	0.00	V 4.00 uA	0.25 V	0.00 uA	Off		00.0004
MB2Slot16	340.00	V 5.00 uA	339.00 V	1.36 uA	On		00.0005
MB2Slot13	140.00	V 6.00 uA	139.50 V	1.50 uA	On		00.0006
MB2Slot10	220.00	V 5.00 uA	219.50 V	1.70 uA	On		00.0007
NB2Slot08	250.00	V 5.00 uA	249.75 V	1.06 uA	On		00.0008
MB2Slot05	210.00	V 5.00 uA	209.75 V	0.88 uA	On		00.0009
MB1Slot16	210.00	V 5.00 uA	209.75 V	0.68 uA	On		00.0010
MB1Slot13	190.00	V 5.00 uA	190.25 V	0.50 uA	On		00.0011
MB1Slot10	295.00	V 5.00 uA	294.75 V	1.20 uA	On		00.0012
MB1Slot08	120.00	V 5.00 uA	120.25 V	1.08 uA	On		00.0013
MB1Slot05	200.00	V 5.00 uA	200.00 V	1.50 uA	On		00.0014
0	0.00	V 4.00 uA	0.25 V	0.02 uA	Off		00.0015
0	0.00	V 4.00 uA	0.00 V	0.00 uA	Off		00.0016
0	0.00	V 4.00 uA	0.75 V	0.00 uA	Off		00.0017
0	0.00	V 4.00 uA	0.25 V	0.00 uA	Off		00.0018

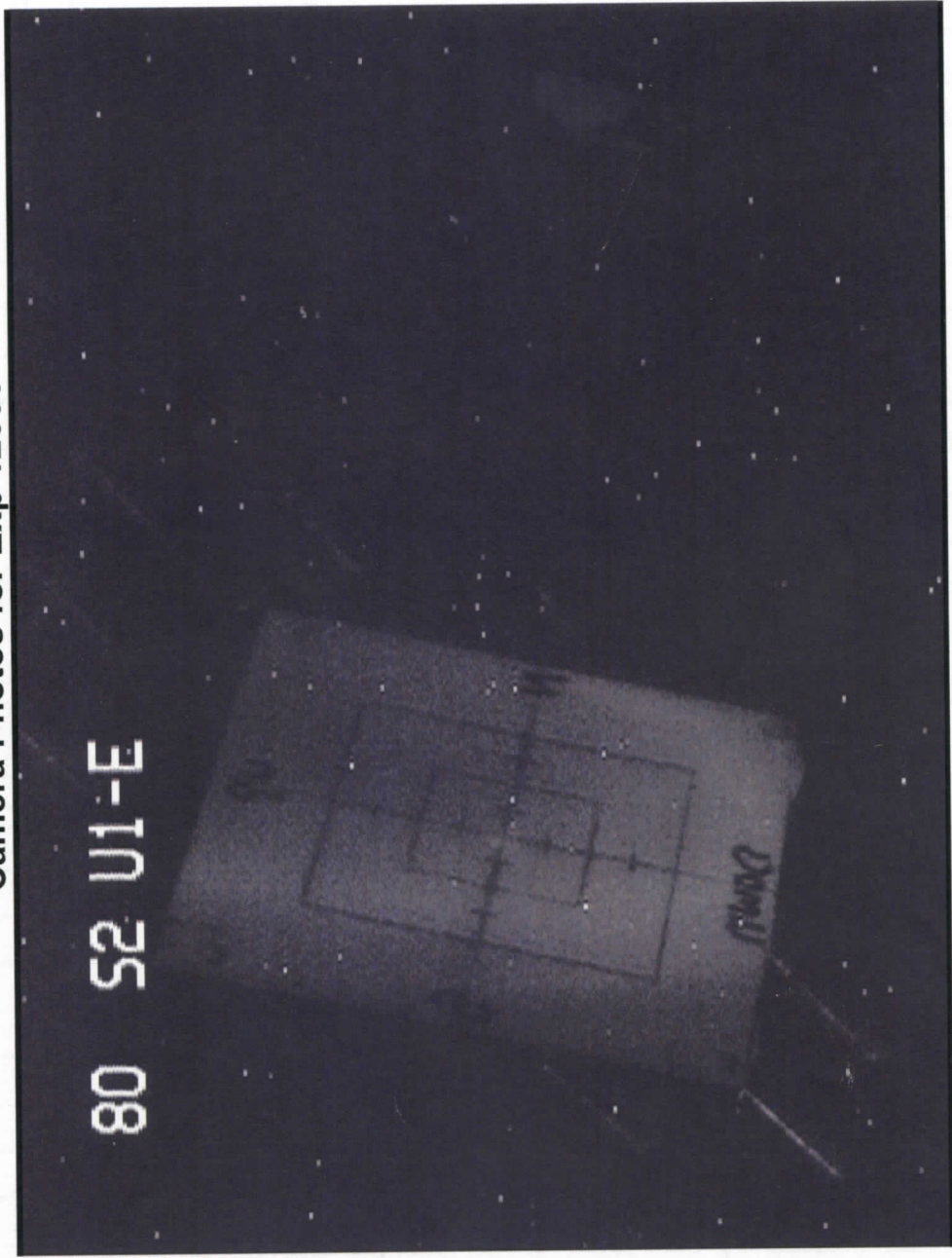
File Edit View Terminal Help

- Main Utility Setup Groups View Admin

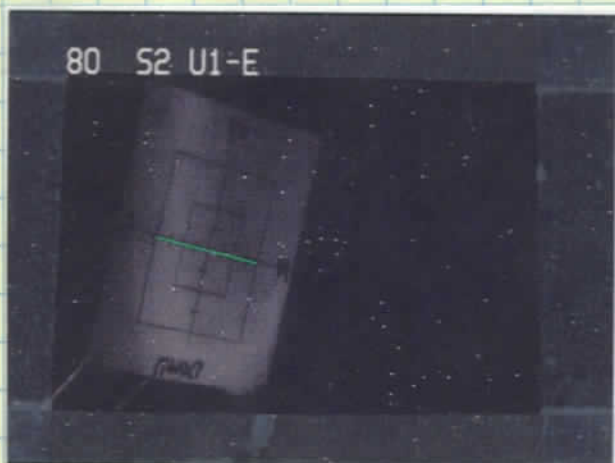
Group 05

Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
MB2Slot16	340.00	V 5.00 uA	339.00 V	1.72 uA	On		00.0005
MB2Slot13	140.00	V 6.00 uA	139.50 V	1.82 uA	On		00.0006
MB2Slot10	220.00	V 5.00 uA	219.50 V	2.22 uA	On		00.0007
NB2Slot08	250.00	V 5.00 uA	249.75 V	1.36 uA	On		00.0008
MB2Slot05	210.00	V 5.00 uA	209.50 V	1.10 uA	On		00.0009
MB1Slot16	210.00	V 5.00 uA	209.50 V	0.76 uA	On		00.0010
MB1Slot13	190.00	V 5.00 uA	190.25 V	0.62 uA	On		00.0011
MB1Slot10	295.00	V 5.00 uA	294.75 V	1.46 uA	On		00.0012
MB1Slot08	120.00	V 5.00 uA	120.25 V	1.42 uA	On		00.0013
MB1Slot05	200.00	V 5.00 uA	200.00 V	1.82 uA	On		00.0014
MB2Slot02	240.00	V 5.00 uA	239.75 V	1.12 uA	On		00.0026
MB1Slot02	320.00	V 5.00 uA	320.25 V	2.22 uA	On		00.0027
CsI1	80.00	V 2.0 uA	79.65 V	0.0 uA	On		03.0001
CsI2	80.00	V 4.0 uA	80.05 V	0.0 uA	On		03.0003
CsI4	80.00	V 2.0 uA	79.60 V	0.0 uA	On		03.0004
CsI3	80.00	V 3.0 uA	79.55 V	0.0 uA	On		03.0005

Camera Photos for Exp 12006 10001



Beam tuning in chamber.



no target

CsI 2

60 Hz

90000 @ A1900 focal plane

45000 $^{\circ}\text{C}$

$E/A = 67.57$

efficiency is $\rightarrow 50\%$

1000 enA
125 pnA

out of Cyclotron

Rigidity = $1.81340 \frac{\text{T} \cdot \text{m}}{100 \text{ kHz}}$ \sqrt{P}

target in

CsI 1	117
2	335
3	134
4	28

Run 132

Run 132 New gains for Month CsI

2-9, 10, 12, 15 New Gain Site e10001-2-19-shp

133

:

135 New gains on CsI e10001-2-19-shp

Shapel disc code

VMUSBSpecTCLMy

cd VMUSB (CSI-disc)
> (wish proc.tcl)

19 Feb

Run 136 Junk

Run 137 Newgams

Run 138 **GAINS** accepted (No further gam change)

e10001-2-19 shp

2-19-2012 04:12

Terminal

File Edit View Terminal Help

- Main Utility Setup Groups View Admin

Group 05

Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
MB2Slot16	340.00 V	5.00 uA	339.00 V	1.76 uA	On		00.0005
MB2Slot13	140.00 V	6.00 uA	139.50 V	1.82 uA	On		00.0006
MB2Slot10	220.00 V	5.00 uA	219.50 V	2.26 uA	On		00.0007
MB2Slot08	250.00 V	5.00 uA	249.75 V	1.38 uA	On		00.0008
MB2Slot05	210.00 V	5.00 uA	209.50 V	1.10 uA	On		00.0009
MB1Slot16	210.00 V	5.00 uA	209.50 V	0.76 uA	On		00.0010
MB1Slot13	190.00 V	5.00 uA	190.25 V	0.62 uA	On		00.0011
MB1Slot10	295.00 V	5.00 uA	294.75 V	1.46 uA	On		00.0012
MB1Slot08	120.00 V	5.00 uA	120.25 V	1.44 uA	On		00.0013
MB1Slot05	200.00 V	5.00 uA	200.00 V	1.84 uA	On		00.0014
MB2Slot02	240.00 V	5.00 uA	239.75 V	1.12 uA	On		00.0026
MB1Slot02	320.00 V	5.00 uA	320.25 V	2.36 uA	On		00.0027

Title: test run

ALL [Livetime]

Rates with beam

e10001 DAQ All Scalers

Numerator	Denominator	Rate(s)	Total(s)	Ratio [rate total]
CSI_OR_OF_ORs		929.0	595914	
CsI_OR_1		191.5	120740	
CsI_OR_2		585.0	381809	
CsI_OR_3		260.0	161678	
CsI_OR_4		45.0	30861	
MB1_EB_OR		8575.5	5802844	
MB2_EB_OR		3486.5	2470887	
MB3_EB_OR		18149.0	11844396	
MB1_EF_OR		2831.0	1921314	
MB2_EF_OR		31100.0	20745547	
MB3_EF_OR		41716.5	27870288	
CAESAR_1_2		737.5	500875	
CAESAR_3_4		1435.0	952721	
CAESAR_5_6		2060.5	1378432	
CAESAR_7_8		1574.5	1033656	
CAESAR_9_10		1528.0	1001967	
XFP		149856.0	96454166	
Trigger_RAW		928.0	594311	
Trigger_LIVE		847.0	523397	
CAESAR+HIRA		164.5	99718	
CSI_test		0.0	0	

19 Feb

Run #	Start	End	Comment
Run 138	03:51	04:23	New gains accepted.
139	04:23	04:52	Normal Data
140	05:04	05:37	Back to data taking.
141	05:37	6:10	Normal data.
142	6:10	6:50	Normal data
143	6:50	6:58	Normal data
144	6:58	7:38	Normal data
145	7:38	8:08	Normal Data
146	8:08	8:26	Normal data
147	8:41	9:13	Normal data
148	9:13	9:20	Data —
149	9:35	9:46	Alpha Calibration
150	9:46	9:57	Alpha Cal.
151	9:57	10:06	Alpha
152, 153			alpha (junk)
154	10:32	10:59	normal data
155	10:59	11:25	normal data
156	11:25	11:49	normal data
157	11:49	12:18	normal data
158	12:18	12:47	normal data
159	2:30	2:50	α -calibration
160			MB123-0219-alpha α -calibration

→ entered vault. AC is working

→ Identified "wobble" in dEE-28 and 29. in PID: low CsI channels.

→ Ended run to go to vault. Try switching out ADC to remove

→ Put in α source while in vault.

→ Ask Control Room to tune beam at this time.

tapped off chiller water

Stopped run because of

→ alpha runs were very noisy, tried loading higher thresholds, but little effect.

MB123-0218

MB123-0219-alpha

high thresholds

gone at the vacuum

this run starts new α (sl ADC), "wobble" is fixed see plot 1.52

high thresholds used to α calibrations

19 Feb 49

File Edit View Terminal Help

- Main Utility Setup Groups View Admin

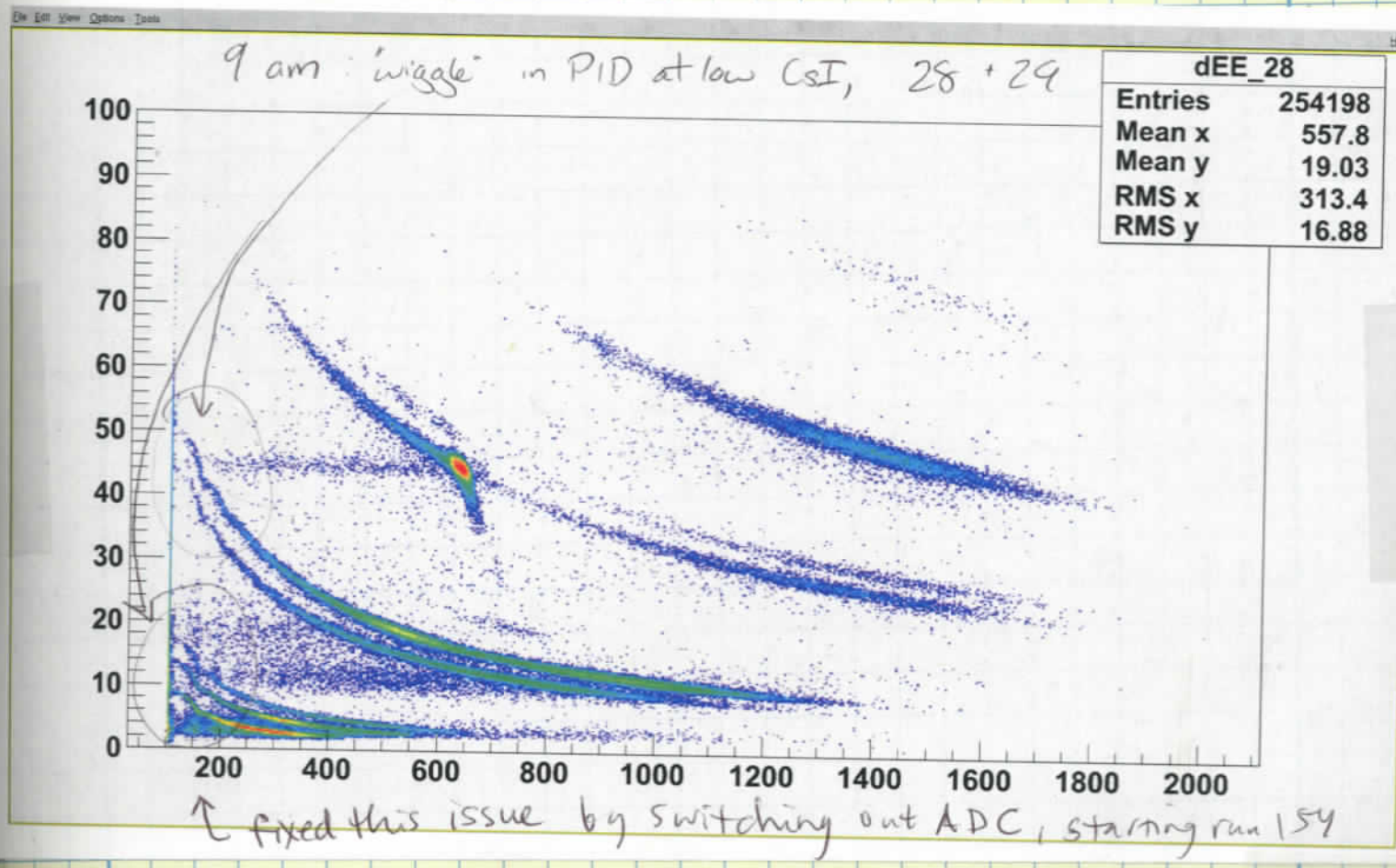
Group 05

Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
MB2Slot16	340.00 V	5.00 uA	339.00 V	1.76 uA	On		00.0005
MB2Slot13	140.00 V	6.00 uA	139.50 V	1.82 uA	On		00.0006
MB2Slot10	220.00 V	5.00 uA	219.50 V	2.28 uA	On		00.0007
MB2Slot08	250.00 V	5.00 uA	249.75 V	1.38 uA	On		00.0008
MB2Slot05	210.00 V	5.00 uA	210.00 V	1.10 uA	On		00.0009
MB1Slot16	210.00 V	5.00 uA	209.50 V	0.76 uA	On		00.0010
MB1Slot13	190.00 V	5.00 uA	190.50 V	0.62 uA	On		00.0011
MB1Slot10	295.00 V	5.00 uA	295.00 V	1.46 uA	On		00.0012
MB1Slot08	120.00 V	5.00 uA	120.25 V	1.44 uA	On		00.0013
MB1Slot05	200.00 V	5.00 uA	200.00 V	1.82 uA	On		00.0014
MB2Slot02	240.00 V	5.00 uA	239.75 V	1.12 uA	On		00.0026
MB1Slot02	320.00 V	5.00 uA	320.25 V	2.62 uA	On		00.0027
CsI1	80.00 V	2.0 uA	79.70 V	0.1 uA	On		03.0001
CsI2	80.00 V	4.0 uA	80.10 V	0.0 uA	On		03.0003
CsI4	80.00 V	2.0 uA	79.70 V	0.0 uA	On		03.0004
CsI3	80.00 V	3.0 uA	79.55 V	0.0 uA	On		03.0005

Display/Edit Group 05

LocEn V0 I0 N CAEN SY1527

06:20 am Tuesday 2-19-2013
 Similar at 7:30 am



19 Feb

element.nsl.msu.edu - PuTTY

- Main Utility Setup Groups View Admin

Group 05

Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
MB2Slot16	340.00 V	5.00 uA	339.00 V	1.74 uA	On		00.0005
MB2Slot13	140.00 V	6.00 uA	139.50 V	1.78 uA	On		00.0006
MB2Slot10	220.00 V	5.00 uA	219.50 V	2.24 uA	On		00.0007
NB2Slot08	250.00 V	5.00 uA	250.00 V	1.36 uA	On		00.0008
MB2Slot05	210.00 V	5.00 uA	209.75 V	1.06 uA	On		00.0009
MB1Slot16	210.00 V	5.00 uA	209.50 V	0.74 uA	On		00.0010
MB1Slot13	190.00 V	5.00 uA	190.25 V	0.60 uA	On		00.0011
MB1Slot10	295.00 V	5.00 uA	295.00 V	1.44 uA	On		00.0012
MB1Slot08	120.00 V	5.00 uA	120.25 V	1.40 uA	On		00.0013
MB1Slot05	200.00 V	5.00 uA	200.00 V	1.78 uA	On		00.0014
MB2Slot02	240.00 V	5.00 uA	239.75 V	1.10 uA	On		00.0026
MB1Slot02	320.00 V	5.00 uA	320.50 V	2.82 uA	On		00.0027
CsI1	80.00 V	2.0 uA	79.75 V	0.1 uA	On		03.0001
CsI2	80.00 V	4.0 uA	80.10 V	0.0 uA	On		03.0003
CsI4	80.00 V	2.0 uA	79.75 V	0.0 uA	On		03.0004
CsI3	80.00 V	3.0 uA	79.55 V	0.0 uA	On		03.0005

Display/Edit Group 05 LocEn V0 I0 N CAEN SY1527

19 Feb Tuesday 11am

Run Number: 154 Run state: Active
 Length of run: 0 00:21:32 Scaler interval: 2
 Title: 9C 70MeV on Be target 188 mg/cm2, normal data

11am w/beam

ALL Livetime

e10001 DAQ All Scalers

Numerator	Denominator	Rate(s)	Total(s)	Ratio [rate total]
CSI_OR_OF_ORs		1235.0	1632962	
CsI_OR_1		248.5	318294	
CsI_OR_2		770.0	1054342	
CsI_OR_3		337.0	430057	
CsI_OR_4		65.0	81011	
MB1_EB_OR		8341.5	11009938	
MB2_EB_OR		3298.0	4721029	
MB3_EB_OR		15410.5	21606133	
MB1_EF_OR		2760.5	3632910	
MB2_EF_OR		26241.0	37307836	
MB3_EF_OR		23600.5	35443242	
CAESAR_1_2		798.5	1050118	
CAESAR_3_4		1488.5	1936299	
CAESAR_5_6		1929.0	2816484	
CAESAR_7_8		1528.0	2059705	
CAESAR_9_10		1488.0	2007390	
XFP		200511.5	266643350	
Trigger_RAW		1232.0	1628808	
Trigger_LIVE		1087.0	1418363	
CAESAR+HiRA		196.5	259795	
CSI_test		0.0	0	
22		0.0	0	
23		0.0	0	

Barney Tu 8:45

https://groups.nsl.msu.edu/a1900/archive/barney/beamdata/Be

9C beam

A1900 "Print19Feb13_08h42.txt" Tuesday 08:42:03 2013-02-19 A1900
 Moe_244 *** C-9 frag production to exp ***
 Expt: 10001 "Continuum Spectroscopy of 8C - 8B(IAS)" [Robert Charity] Line: RPMS [6]
 Beam: 16 O 3+ 13.08 MeV/nuc (K500) 8+ 150 MeV/nuc (K1200) Chpr off
 <Att 1> ECR, Apertures: ARTEMIS 150.0; 15.0; 7.5 mm RHVBI: 24.1100 kV
 K500 a,b: 619 A, 517 A K1200: 724 A, -227 A RF: 23.83300 MHz

A1900 Optics: L19S1G_V3b.data
 Rigidity Field Radius (live) Difference (Field*Radius)

Seg 0:	3.66469 Tm						
Seg 1:	2.20000 Tm	0.71143 T	3.09236 m	3.09238 m	-0.00064 %	(2.19999 Tm)	
Seg 2:	2.20000 Tm	0.71003 T	3.09827 m	3.09844 m	-0.00536 %	(2.19988 Tm)	
Seg 3:	1.86730 Tm	0.60441 T	3.08946 m	3.08946 m	-0.00020 %	(1.86730 Tm)	
Seg 4:	1.86730 Tm	0.60319 T	3.09582 m	3.09571 m	0.00366 %	(1.86737 Tm)	
Seg 5:	<u>1.81340 Tm</u>						
Seg 6:	-0.00000 Tm						

A116DS 0.58490 T 3.10017 m 3.10036 m -0.00610 %
 A132DS -0.01715 T 105.32184 m 105.73761 m -0.39321 %
 Z001TL: out, Z013TL: out; Z014TL out
 Z015TL: Be 2397, Z016TL out
 Z030BC Beam Stop: -126.58 mm
 Z037L,R: -16.00, 16.00 mm or -0.54, 0.54 width= 1.08 %; Z037DC: out
 Z057MS: out, Z061MS: 1%
 Z059DC: out, Z062SC: out, Z059TL: Al 1050
 Z082 XC,G,YG: 0.16, 217.30, 202.05 mm Z082TL: out
 Z103DC: out, Z104DC: 1 mm BC404 #046 sh1; Z106DC: out, Z107DC_U/_L: out/out
 Z105TL: out, Slits: ; PPACs: ; Z107 outlim: Y
 Z104 XC,G;YC,G: 0.04, 9.94; -2.00, 89.99 mm
 G183 Y slits: center -2.7769 mm, gap 97.9448 mm
 G183PP: out; G184DC: out; G185DC: out

MagName	Ref[kG]	BSet[kG]	Ratio	(live)	Set[A]	Read[A]	DEVI
Z001DV	0.000	-0.691	-18862.29	-18862.29	-300.0000	-300.648	Z001DV
Z002DH	0.000	-0.944	-28502.34	-25769.58	-2.3027	-2.256	read Z002DH
Z003DV	0.000	1.057	28841.93	28841.93	2.5610	2.626	read Z003DV
Z004QA	1.685	6.176	1.000000	1.000000	4.3154	4.297	Z004QA
Z005QB	-0.414	-1.517	1.000000	1.000000	-1.0587	-1.037	Z005QB
Z008DS	2.492	9.138	0.997808	1.000710	30.6524	30.764	- Z008DS
Z011QA	-2.322	-8.511	1.000000	1.000000	-5.9514	-5.908	Z011QA
Z012QB	3.409	12.494	1.000000	1.000000	8.8113	8.777	Z012QB

----- Segment 1 -----

Z017TA	3.539	8.253	1.057000	1.057000	21.6388	21.731	Z017TA
Z019TB	-3.322	-7.398	1.010000	1.010000	-19.4661	-19.469	Z019TB
Z021TC	2.407	5.531	1.043000	1.043000	11.5949	11.660	Z021TC
Z026DS	3.226	7.041	0.992111	0.992111	43.1665	42.885	Z026DS
Z031TA	2.926	6.454	1.000000	1.000000	13.5424	13.613	Z031TA
Z033TB	-3.613	-7.967	1.000000	1.000000	-23.0228	-23.070	Z033TB
Z035TC	3.183	7.027	1.000000	1.000000	14.8239	14.956	Z035TC

----- Segment 2 -----

Z039TA	3.183	7.027	1.000000	1.000000	14.7063	14.773	Z039TA
Z041TB	-3.562	-7.855	1.000000	1.000000	-22.6867	-22.765	Z041TB
Z043TC	2.924	6.452	1.000000	1.000000	13.4783	13.491	Z043TC
Z048DS	-3.226	-7.179	1.011647	1.011647	-44.9233	-45.058	Z048DS
Z053TA	2.800	6.163	1.000000	1.000000	12.9558	12.942	Z053TA
Z055TB	-3.665	-8.094	1.000000	1.000000	-21.8186	-21.788	Z055TB
Z057TC	3.264	7.302	1.000000	1.000000	69.2405	68.996	Z057TC

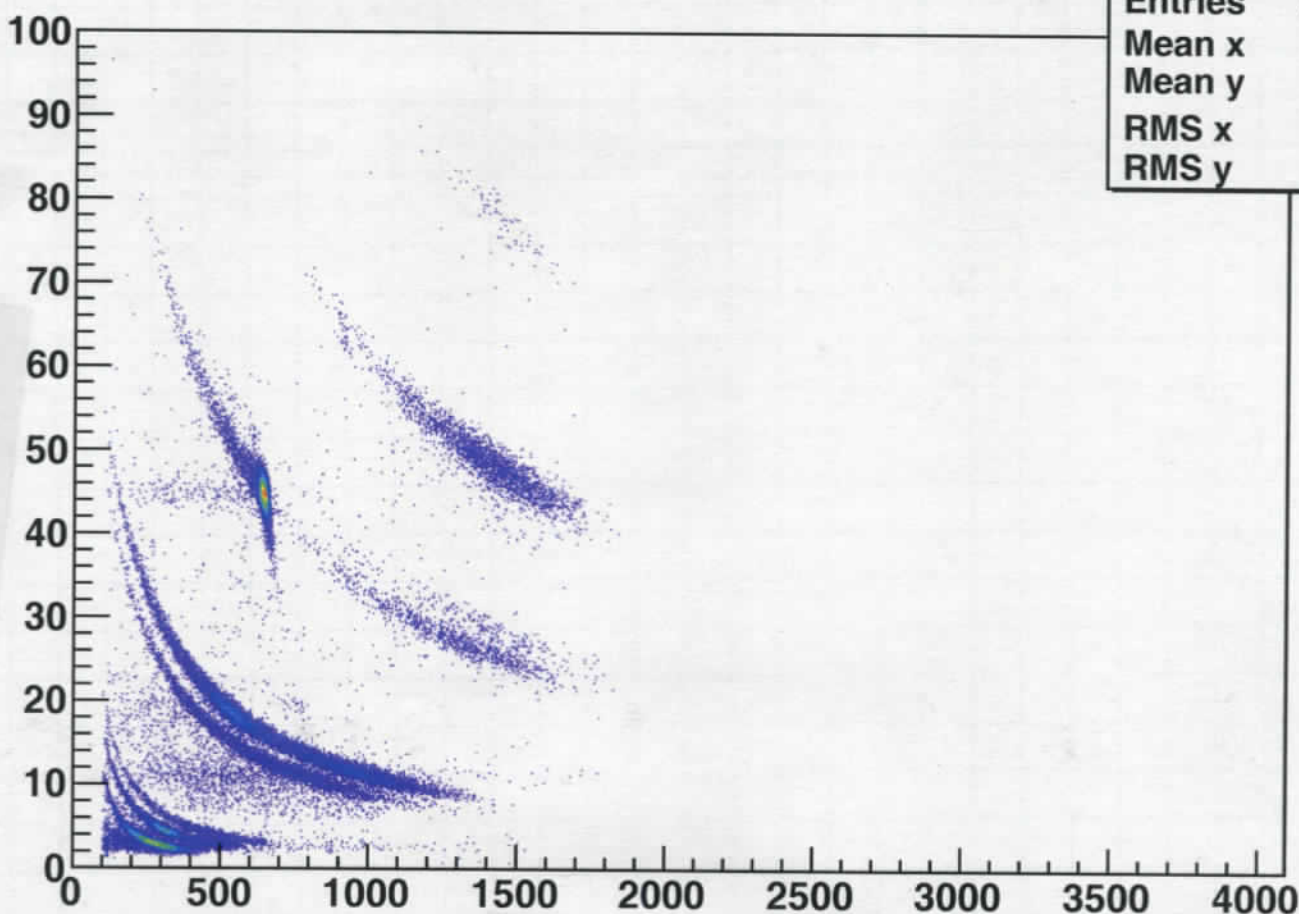
----- Segment 3 -----

Z062TA	3.264	6.167	1.000000	1.000000	58.7821	58.586	Z062TA
Z064TB	-3.665	-6.861	1.000000	1.000000	-18.4826	-18.431	Z064TB
Z066TC	2.800	5.231	1.000000	1.000000	10.9601	10.988	Z066TC

~~19 Feb, 16.25 w/ beam~~

28+29

dEE_28	
Entries	72972
Mean x	568.9
Mean y	19.17
RMS x	298.2
RMS y	16.95



cyclotron problems - beam intensity reduced to 1/2 list value

Run 161 ¹³C beam, normal trigger (the beam stopped - the operator had to do some test and measurement) start = 3 pm

RUN 162: α -source - stop file MB123_0219_alpha_setup

Run 163: START: 15:29:30 STOP: 16:15:53 normal data run, beam intensity back to AM value

Run 164: START: 16:16:11 STOP: 16:43:20 normal data run, stopped for operator to fix leak again

File Edit View Terminal Help

- Main Utility Setup Groups View Admin

Group 05

Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
MB2Slot16	340.00	V	5.00 uA	339.00 V	1.72 uA	On	00.0005
MB2Slot13	140.00	V	6.00 uA	139.50 V	1.72 uA	On	00.0006
MB2Slot10	220.00	V	5.00 uA	219.50 V	2.18 uA	On	00.0007
MB2Slot08	250.00	V	5.00 uA	250.00 V	1.34 uA	On	00.0008
MB2Slot05	210.00	V	5.00 uA	210.00 V	1.06 uA	On	00.0009
MB1Slot16	210.00	V	5.00 uA	209.75 V	0.74 uA	On	00.0010
MB1Slot13	190.00	V	5.00 uA	190.50 V	0.60 uA	On	00.0011
MB1Slot10	295.00	V	5.00 uA	295.00 V	1.44 uA	On	00.0012
MB1Slot08	120.00	V	5.00 uA	120.25 V	1.38 uA	On	00.0013
MB1Slot05	200.00	V	5.00 uA	200.00 V	1.74 uA	On	00.0014
MB2Slot02	240.00	V	5.00 uA	239.75 V	1.08 uA	On	00.0026
MB1Slot02	320.00	V	5.00 uA	320.25 V	2.96 uA	On	00.0027
CsI1	80.00	V	2.0 uA	79.70 V	0.1 uA	On	03.0001
CsI2	80.00	V	4.0 uA	80.10 V	0.0 uA	On	03.0003
CsI4	80.00	V	2.0 uA	79.70 V	0.0 uA	On	03.0004
CsI3	80.00	V	3.0 uA	79.50 V	0.0 uA	On	03.0005

Display/Edit Group 05

LocEn V0 I0 N CAEN SY1527

19 Feb Tuesday 4:15 PM

54

19 Feb 16:25 w/ beam

Run Number: 164 Run state: Active

Length of run: 0 00:07:44 Scaler interval: 2

Title: normal data run

ALL Livetime

e10001 DAQ All Scalers

Numerator	Denominator	Rate(s)	Total(s)	Ratio [rate total]
CSI_OR_OF_ORs		916.5	425318	
CsI OR 1		184.5	83210	
CsI OR 2		601.5	273751	
CsI_OR_3		231.5	112463	
CsI_OR_4		50.0	21301	
MB1_EB_OR		7141.5	3539156	
MB2_EB_OR		3353.5	1729129	
MB3_EB_OR		18958.5	9017527	
MB1_EF_OR		2451.0	1226029	
MB2_EF_OR		26848.0	13499860	
MB3_EF_OR		26801.0	13280632	
CAESAR 1 2		702.0	355957	
CAESAR 3 4		1392.0	672548	
CAESAR_5_6		1992.0	990680	
CAESAR_7_8		1522.0	729425	
CAESAR_9_10		1479.0	706494	
XFP		147229.0	70032154	
Trigger RAW		914.5	424207	
Trigger_LIVE		832.0	375930	
CAESAR+HiRA		162.5	69301	
CSI_test		0.0	0	
22		0.0	0	
23		0.0	0	

19 Feb 19:55 beam intensity like Run # 166 (P.55)

e10001 DAQ All Scalers

Numerator	Denominator	Rate(s)	Total(s)
CSI_OR_OF_ORs		512.5	1168969
CsI OR 1		99.0	233522
CsI OR 2		323.0	745425
CsI_OR_3		146.0	311644
CsI_OR_4		32.5	61246
MB1_EB_OR		6710.5	16151554
MB2_EB_OR		3767.0	8220679
MB3_EB_OR		18608.5	45917617
MB1_EF_OR		2360.0	5670477
MB2_EF_OR		28940.5	69994467
MB3_EF_OR		26305.0	69220120
CAESAR 1 2		704.5	1629304
CAESAR 3 4		1382.0	3235794
CAESAR_5_6		1981.5	4798712
CAESAR_7_8		1487.5	3576480
CAESAR_9_10		1449.5	3390188
XFP		83227.0	191167479
Trigger RAW		509.5	1165581
Trigger_LIVE		486.5	1098349
CAESAR+HiRA		98.5	201763
CSI_test		0.0	0
22		0.0	0

19 Feb

<u>Run#</u>	<u>Start</u>	<u>End</u>	<u>Comment</u>
165	Tuesday 16:58:08	17:29:34	normal data run after operators fixed leak again • beam dropped by $\sim x2$ at end
166	17:31:30	18:19:56	• normal data • beam about 50% lower to XFP $\sim 80K$ • beam rose to XFP $\sim 90K$ over course of run
167	18:20:26	19:10:29	• XFP between 80-90K • normal data
168	19:11:06	20:06:33	• normal data
169	20:07:27	20:57:18	• normal data • operator said beam may slowly increase (currently XFP $\sim 90K$)
170	20:57:53	21:46:42	• normal data • beam slowly increased to XFP $\sim 95K$
171	21:46:56	22:37:06	• normal data
172	22:37:50	23:22:29	• normal data
173	23:25:27	23:26:47	• delayed focal plane ~ 700 ns ^{junk}
174	23:28:38	23:29:41	• junk
175	23:30:33	23:31:00	• junk \rightarrow delayed XFP to get on scan
176	23:31:55	00:25	• beam dropped $\sim 20\%$ (XFP $\sim 70K$)

19 Feb, 21:50

File Edit View Terminal Help

Main Utility Setup Groups View

Admin

Group 05

Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
B2Slot16	340.00 V	5.00 uA	339.00 V	1.74 uA	On		00.0005
B2Slot13	140.00 V	6.00 uA	139.50 V	1.72 uA	On		00.0006
B2Slot10	220.00 V	5.00 uA	219.50 V	2.16 uA	On		00.0007
B2Slot08	250.00 V	5.00 uA	250.00 V	1.32 uA	On		00.0008
B2Slot05	210.00 V	5.00 uA	210.00 V	1.06 uA	On		00.0009
B1Slot16	210.00 V	5.00 uA	209.75 V	0.74 uA	On		00.0010
B1Slot13	190.00 V	5.00 uA	190.50 V	0.60 uA	On		00.0011
B1Slot10	295.00 V	5.00 uA	295.00 V	1.42 uA	On		00.0012
B1Slot08	120.00 V	5.00 uA	120.25 V	1.38 uA	On		00.0013
B1Slot05	200.00 V	5.00 uA	200.00 V	1.74 uA	On		00.0014
B2Slot02	240.00 V	5.00 uA	239.75 V	1.08 uA	On		00.0026
B1Slot02	320.00 V	5.00 uA	320.50 V	3.12 uA	On		00.0027
sI1	80.00 V	2.0 uA	79.75 V	0.1 uA	On		03.0001
sI2	80.00 V	4.0 uA	80.10 V	0.0 uA	On		03.0003
sI4	80.00 V	2.0 uA	79.75 V	0.0 uA	On		03.0004
sI3	80.00 V	3.0 uA	79.50 V	0.0 uA	On		03.0005

Display/Edit Group 05

LocEn V0 I0

N | CAEN SY1527

Moe_244 ***

Expt: 10001 "Continuum Spectroscopy of 8C - 8B(IAS)" [Robert Charity] Line: RPM
 Beam: 16 O 3+ 13.08 MeV/nuc (K500) 8+ 150 MeV/nuc (K1200) Chpr off
 <Att 1> ECR, Apertures: ARTEMIS 150.0; 15.0; 7.5 mm RHVBI: 24.1100 kV
 K500 a,b: 619 A, 517 A K1200: 724 A, -227 A RF: 23.83300 MHz

A1900 Optics: L19S1G_V3b.data

	Rigidity	Field	Radius	(live)	Difference	(Field*Radius)
Seg 0:	3.66469 Tm					
Seg 1:	2.20000 Tm	0.00000 T	3.09236 m	0.00000 m	100.00000 %	(0.00000 Tm)
Seg 2:	2.20000 Tm	0.71002 T	3.09827 m	3.09851 m	-0.00777 %	(2.19983 Tm)
Seg 3:	1.86730 Tm	0.60440 T	3.08946 m	3.08951 m	-0.00161 %	(1.86727 Tm)
Seg 4:	1.86730 Tm	0.60318 T	3.09582 m	3.09576 m	0.00208 %	(1.86734 Tm)
Seg 5:	1.81340 Tm					
Seg 6:	-0.00000 Tm					

All6DS 0.58490 T 3.10017 m 3.10036 m -0.00610 %
 A132DS -0.01705 T 105.32184 m 106.35777 m -0.97401 %

Z001TL: out, Z013TL: out; Z014TL out

Z015TL: Be 2397, Z016TL out

Z030BC Beam Stop: -126.58 mm

Z037L,R: -16.00, 16.00 mm or -0.54, 0.54 width= 1.08 %; Z037DC: out

Z057MS: out, Z061MS: 1%

Z059DC: out, Z062SC: out, Z059TL: Al 1050

Z082 XC,G,YG: 0.16, 217.30, 202.05 mm Z082TL: out

Z103DC: out, Z104DC: 1 mm BC404 #046 sh1; Z106DC: out, Z107DC_U/_L: out/out

Z105TL: out, Slits: ; PPACs: ; Z107 outlim: Y

Z104 XC,G;YC,G: 0.04, 9.94; -2.00, 89.99 mm

G183 Y slits: center -2.7769 mm, gap 97.9448 mm

G183PP: out; G184DC: out; G185DC: out

MagName	Ref [kG]	BSet [kG]	Ratio	(live)	Set [A]	Read [A]	DEVI	
Z001DV	0.000	-0.691	-18862.29	-18862.29	-300.0000	-300.636		Z001DV
Z002DH	0.000	-0.954	-28502.34	-26025.78	-2.3256	-2.256	read	Z002DH
Z003DV	0.000	1.057	28841.93	28841.93	2.5610	2.565	read	Z003DV
Z004QA	1.685	6.176	1.000000	1.000000	4.3154	4.310		Z004QA
Z005QB	-0.414	-1.517	1.000000	1.000000	-1.0587	-1.049		Z005QB
Z008DS	2.492	9.138	0.997808	1.000710	30.6524	30.764	-	Z008DS
Z011QA	-2.322	-8.524	1.000000	1.001531	-5.9605	-5.896	-	Z011QA
Z012QB	3.409	12.494	1.000000	1.000000	8.8113	8.777		Z012QB

----- Segment 1 -----

Z017TA	3.539	8.253	1.057000	1.057000	21.6388	21.731		Z017TA
Z019TB	-3.322	-7.398	1.010000	1.010000	-19.4661	-19.469		Z019TB
Z021TC	2.407	5.531	1.043000	1.043000	11.5949	11.660		Z021TC
Z026DS	3.226	7.041	0.992111	0.992111	43.1665	42.897		Z026DS
Z031TA	2.926	6.454	1.000000	1.000000	13.5424	13.613		Z031TA
Z033TB	-3.613	-7.967	1.000000	1.000000	-23.0228	-23.070		Z033TB
Z035TC	3.183	7.027	1.000000	1.000000	14.8239	14.895		Z035TC

----- Segment 2 -----

Z039TA	3.183	7.027	1.000000	1.000000	14.7063	14.773		Z039TA
Z041TB	-3.562	-7.855	1.000000	1.000000	-22.6867	-22.765		Z041TB
Z043TC	2.924	6.452	1.000000	1.000000	13.4783	13.552		Z043TC
Z048DS	-3.226	-7.179	1.011647	1.011647	-44.9233	-45.058		Z048DS
Z053TA	2.800	6.163	1.000000	1.000000	12.9558	12.942		Z053TA
Z055TB	-3.665	-8.094	1.000000	1.000000	-21.8186	-21.788		Z055TB
Z057TC	3.264	7.302	1.000000	1.000000	69.2405	68.996		Z057TC

----- Segment 3 -----

Z062TA	3.264	6.167	1.000000	1.000000	58.7821	58.559		Z062TA
Z064TB	-3.665	-6.861	1.000000	1.000000	-18.4826	-18.431		Z064TB
Z066TC	2.800	5.231	1.000000	1.000000	10.9601	10.988		Z066TC
Z071DS	-3.226	-5.940	0.986134	0.986134	-36.8757	-37.049		Z071DS

20 Feb	Run #	Start	Stop	Comments
	177	00:25	01:15	Normal data run (XFP ~95K)
	178	01:15	02:08	Normal data run (XFP ~95K)
	179	02:08	3:01	Normal data run (XFP ~75K)
	180	3:01	3:51	Normal data run (XFP ~84K)
	181	3:51	4:08	Normal Run Stopped by operators for vacuum spill Filled Chiller
	182	4:38	05:30	Normal data run.
	183	05:32	6:23	Normal Data
	184	06:23	7:13	Normal data.
	185	7:13	08:04	Normal data
	186	8:04	8:46	normal data
noticed	← 186	8:04	8:46	noticed once or two CsI ADPC channels coming in higher than before (ADC 26, 27)
	187	08:46	8:49	normal data
↓ Fig on p. 60	188	8:49	8:50	Changed Mover around shapes on MB 1 ch. 10 (at 90)
	→ 188 ended so we can play with the shaper/discs on CsI ADPC			
	- Shaper does not affect it. Bob is looking at the signal on the scope.			
	- Bob going in to vault to swap the modules 0-1 to see if electric channel works.			
	- Operator informed us that one of the magnets stopped working. Took keys to fix it. Not reading back.			
	- Beam returned: still have problem in module. Bob + Bec back to vault to switch back the shapers to original config.			
	189	9:33	10:22	normal data run
	190	10:22	11:07	normal data
	191	11:07	11:57	normal data

2/20/2013

~00:00

59

20 Feb

```
File Edit View Terminal Help
- Main Utility Setup Groups View
Group 05
Channel Name V0Set I0Set VMon IMon Pw
```

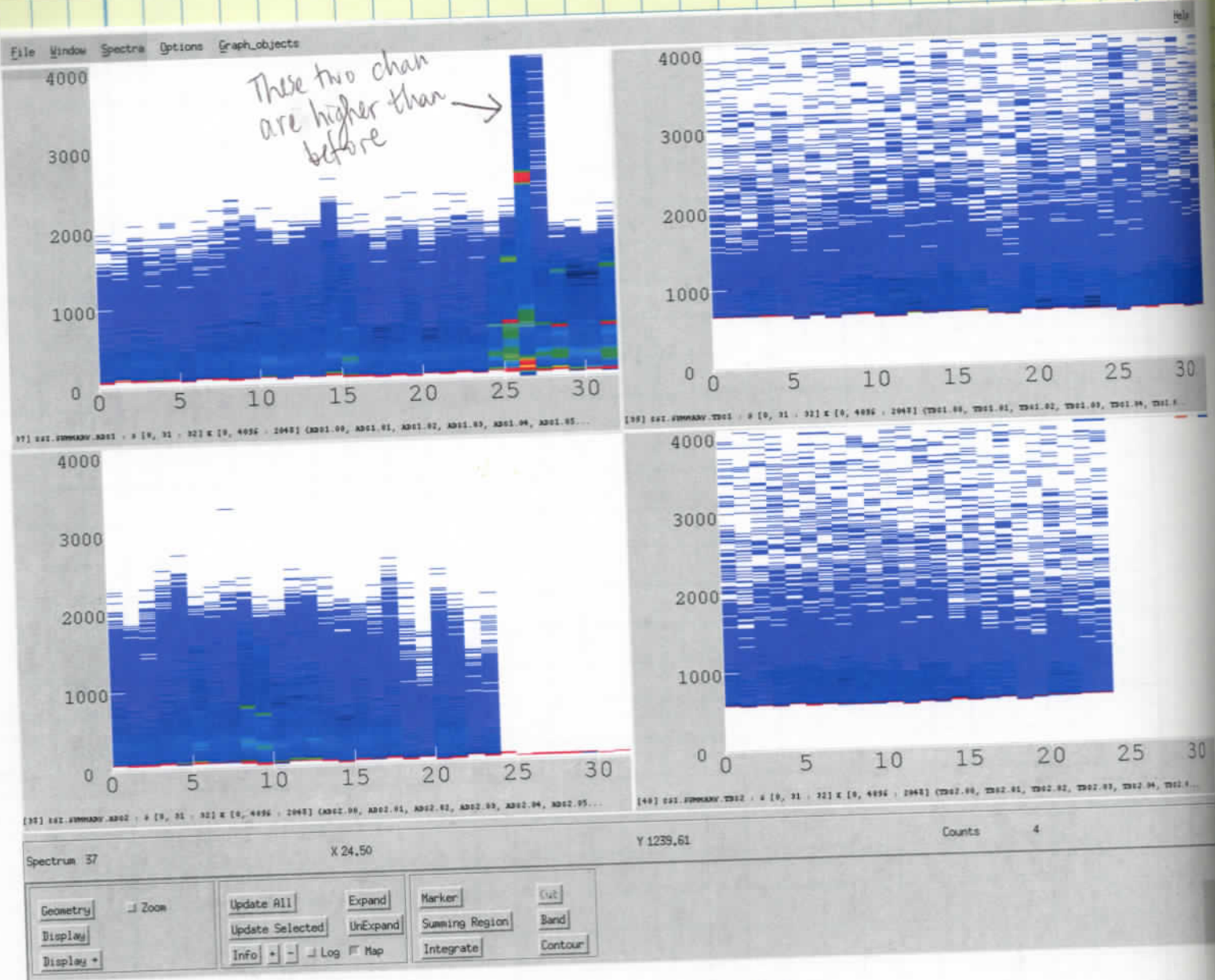
Channel Name	V0Set	I0Set	VMon	IMon	Pw
MB2Slot16	340.00 V	5.00 uA	339.00 V	1.76 uA	On
MB2Slot13	140.00 V	6.00 uA	139.50 V	1.72 uA	On
MB2Slot10	220.00 V	5.00 uA	219.50 V	2.16 uA	On
MB2Slot08	250.00 V	5.00 uA	250.00 V	1.32 uA	On
MB2Slot05	210.00 V	5.00 uA	209.75 V	1.04 uA	On
MB1Slot16	210.00 V	5.00 uA	209.75 V	0.72 uA	On
MB1Slot13	190.00 V	5.00 uA	190.25 V	0.60 uA	On
MB1Slot10	295.00 V	5.00 uA	295.00 V	1.42 uA	On
MB1Slot08	120.00 V	5.00 uA	120.25 V	1.36 uA	On
MB1Slot05	200.00 V	5.00 uA	200.00 V	1.74 uA	On
MB2Slot02	240.00 V	5.00 uA	239.75 V	1.06 uA	On
MB1Slot02	320.00 V	5.00 uA	320.25 V	3.16 uA	On
CsI1	80.00 V	2.0 uA	79.70 V	0.1 uA	On
CsI2	80.00 V	4.0 uA	80.10 V	0.0 uA	On
CsI4	80.00 V	2.0 uA	79.65 V	0.0 uA	On
CsI3	80.00 V	3.0 uA	79.50 V	0.0 uA	On

MB2Slot16	340.00 V	5.00 uA	339.00 V	1.78 uA	On
MB2Slot13	140.00 V	6.00 uA	139.50 V	1.72 uA	On
MB2Slot10	220.00 V	5.00 uA	219.50 V	2.16 uA	On
MB2Slot08	250.00 V	5.00 uA	250.00 V	1.32 uA	On
MB2Slot05	210.00 V	5.00 uA	209.75 V	1.06 uA	On
MB1Slot16	210.00 V	5.00 uA	209.75 V	0.74 uA	On
MB1Slot13	190.00 V	5.00 uA	190.50 V	0.60 uA	On
MB1Slot10	295.00 V	5.00 uA	295.00 V	1.44 uA	On
MB1Slot08	120.00 V	5.00 uA	120.25 V	1.38 uA	On
MB1Slot05	200.00 V	5.00 uA	200.00 V	1.74 uA	On
MB2Slot02	240.00 V	5.00 uA	239.75 V	1.08 uA	On
MB1Slot02	320.00 V	5.00 uA	320.50 V	3.24 uA	On
CsI1	80.00 V	2.0 uA	79.75 V	0.1 uA	On
CsI2	80.00 V	4.0 uA	80.10 V	0.0 uA	On
CsI4	80.00 V	2.0 uA	79.75 V	0.0 uA	On
CsI3	80.00 V	3.0 uA	79.50 V	0.0 uA	On

2/20

7A

20 Feb



Wed Feb 20 10 am

To investigate this issue with (S), Bob switched inputs to shaper modules 0 + 1 (problem is on module 1, chan. 10).

Problem stayed on same module/channel rather than moving with (S) crystal. Then we switched back to original module configuration.

11am 20Feb

File Edit View Terminal Help

- Main Utility Setup **Groups** View

Admin

Group 05

Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
MB2Slot16	340.00 V	5.00 uA	339.00 V	1.80 uA	On		00.0005
MB2Slot13	140.00 V	6.00 uA	139.50 V	1.72 uA	On		00.0006
MB2Slot10	220.00 V	5.00 uA	219.50 V	2.16 uA	On		00.0007
NB2Slot08	250.00 V	5.00 uA	250.00 V	1.34 uA	On		00.0008
MB2Slot05	210.00 V	5.00 uA	209.75 V	1.04 uA	On		00.0009
MB1Slot16	210.00 V	5.00 uA	209.75 V	0.74 uA	On		00.0010
MB1Slot13	190.00 V	5.00 uA	190.25 V	0.60 uA	On		00.0011
MB1Slot10	295.00 V	5.00 uA	295.00 V	1.44 uA	On		00.0012
MB1Slot08	120.00 V	5.00 uA	120.25 V	1.38 uA	On		00.0013
MB1Slot05	200.00 V	5.00 uA	200.00 V	1.76 uA	On		00.0014
MB2Slot02	240.00 V	5.00 uA	239.75 V	1.08 uA	On		00.0026
MB1Slot02	320.00 V	5.00 uA	320.25 V	3.34 uA	On		00.0027
CsI1	80.00 V	2.0 uA	79.70 V	0.0 uA	On		03.0001
CsI2	80.00 V	4.0 uA	80.10 V	0.0 uA	On		03.0003
CsI4	80.00 V	2.0 uA	79.65 V	0.0 uA	On		03.0004
CsI3	80.00 V	3.0 uA	79.55 V	0.0 uA	On		03.0005

Add/Edit/View Groups

LocEn V0 I0

N ♦ CAEN SY1527

11am 20 Feb

Run Number: 190 Run state: Active
 Length of run: 0 00:33:06 Scaler interval: 2
 Title: normal data run

ALL Livetime

e10001 DAQ All Scalers

Numerator	Denominator	Rate(s)	Total(s)	Ratio [rate total]
CSI_OR_OF_ORs		551.5	1112505	
CsI_OR_1		105.0	214876	
CsI_OR_2		367.0	720603	
CsI_OR_3		144.0	289256	
CsI_OR_4		25.0	55454	
MB1_EB_OR		8561.0	17502468	
MB2_EB_OR		3994.5	8385457	
MB3_EB_OR		19521.0	38359466	
MB1_EF_OR		2943.0	5988007	
MB2_EF_OR		31373.0	63299328	
MB3_EF_OR		27828.0	57386205	
CAESAR_1_2		699.0	1362981	
CAESAR_3_4		1352.5	2690749	
CAESAR_5_6		1875.0	3986666	
CAESAR_7_8		1434.5	2961607	
CAESAR_9_10		1408.0	2824865	
XFP		87490.0	174695659	
Trigger_RAW		550.5	1109506	
Trigger_LIVE		514.0	1024024	
CAESAR+HiRA		91.0	183633	
CSI_test		0.0	0	
22		0.0	0	
22		0.0	0	

11am 20Feb

Date	Run#	Start	Stop	Comment	Filesize
2/20/13	192	11:57	12:48	normal data run	
	193	12:48	13:41	normal data run	
	194	13:41	14:37	normal data run	1.1 GByte
	195	14:37	15:28	normal run; rates similar to Run 190 (see P. 61, bottom)	
				13:48 Clear all Spectra	1.05 GB
	196	15:28	16:31	"normal"	
	* Changed leakage current cutoff on MBI slot 2 to 6.00 μ A (from 5 μ A) because current had reached 3.4 μ A				
	197	16:31	17:22	normal data run	~1 GB
	198	17:22	18:05	normal data run	
	199	18:17	19:00	→ stopped for operators to take beam ← 1.0 GByte	
	200	19:00	19:45	normal data ~90K on AFP	955 MB
	201	19:45	20:30	normal data run	
	202	20:30	21:14	normal data run	971 MB
	203	21:16	22:01	Normal data run	956 MB
	204	22:01	22:44:54	normal data run	930 MB
WWP	205	22:57	23:33	Normal data run	1020 MB
	205	22:45:17	23:33:43	Normal data run	1020 MB
	206	23:34	00:21	Normal Data run	
2/21/13	207	00:21	1:04	Normal Data.	
	208	1:04	1:48	Normal Data Run.	

20 Feb, 20:30

File Edit View Terminal Help

Main Utility Setup **Groups** View

Admin

Group 05 Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
MB2Slot16	340.00 V	5.00 uA	339.00 V	1.82 uA	On		00.0005
MB2Slot13	140.00 V	6.00 uA	139.50 V	1.72 uA	On		00.0006
MB2Slot10	220.00 V	5.00 uA	219.75 V	2.16 uA	On		00.0007
MB2Slot08	250.00 V	5.00 uA	250.00 V	1.32 uA	On		00.0008
MB2Slot05	210.00 V	5.00 uA	209.75 V	1.04 uA	On		00.0009
MB1Slot16	210.00 V	5.00 uA	209.75 V	0.72 uA	On		00.0010
MB1Slot13	190.00 V	5.00 uA	190.50 V	0.60 uA	On		00.0011
MB1Slot10	295.00 V	5.00 uA	295.00 V	1.44 uA	On		00.0012
MB1Slot08	120.00 V	5.00 uA	120.25 V	1.38 uA	On		00.0013
MB1Slot05	200.00 V	5.00 uA	200.00 V	1.74 uA	On		00.0014
MB2Slot02	240.00 V	5.00 uA	239.75 V	1.08 uA	On		00.0026
MB1Slot02	320.00 V	6.00 uA	320.25 V	3.44 uA	On		00.0027
CsI1	80.00 V	2.0 uA	79.75 V	0.1 uA	On		03.0001
CsI2	80.00 V	4.0 uA	80.10 V	0.0 uA	On		03.0003
CsI4	80.00 V	2.0 uA	79.75 V	0.0 uA	On		03.0004
CsI3	80.00 V	3.0 uA	79.50 V	0.0 uA	On		03.0005

Add/Edit/View Groups

LocEn V0 I0

N | CAEN SY1527

Run Number: 203

Run state: Active

Length of run: 0 00:11:32 Scaler interval: 2

Title: normal data run

20 Feb, 21:32

[ALL] Livetime

e10001 DAQ All Scalers

Numerator	Denominator	Rate(s)	Total(s)	Ratio [rate total]
CSI_OR_OF_ORs		525.0	390135	
CsI OR 1		108.0	73347	
CsI OR 2		333.0	255659	
CsI OR 3		133.5	98109	
CsI OR 4		29.0	18853	
MB1_EB_OR		8726.5	6183383	
MB2_EB_OR		3695.0	2550326	
MB3_EB_OR		19228.5	13735884	
MB1_EF_OR		2807.5	1994016	
MB2_EF_OR		28838.5	21353756	
MB3_EF_OR		25848.5	19677530	
CAESAR 1 2		626.0	476598	
CAESAR 3 4		1320.0	943705	
CAESAR 5 6		1913.0	1388686	
CAESAR 7 8		1440.0	1038857	
CAESAR 9 10		1398.5	989325	
XFP		85611.0	60727314	
Trigger RAW		524.5	389071	
Trigger LIVE		486.0	353735	
CAESAR+HIRA		75.5	61385	
CSI_test		0.0	0	
22		0.0	0	
22		0.0	0	

21 Feb	Run #	Start	Stop	Comment
	209	1:48	2:32	Normal Data Run.
	210	2:32	3:12	Normal Data Run Stopped because operators had to reset a quad, so we filled the chiller.
	211	3:30	4:13	XFP up to ~ 95K normal data run
	212	4:13	4:54	Normal data Run
	213	4:54	5:43	Normal data Run
	214	5:43	6:27	normal data run
	215	6:27	7:07	normal data run 955
	216	7:08	7:55	normal data run
	217	7:55	8:13	normal data run Stopped for operators to take beam for calib. beam development
	<ul style="list-style-type: none"> - Checked chiller: water level OK, temp OK (still leaking a little) - put blocker down + changed trigger for d-source runs - changed Motherboard threshold file to 0219_alpha_setup file 			
	218	8:30	9:15 9:00	d Run with Front ANL trigger
	219	9:00	9:15	Rencontal stopped increasing the file size and scalars froze. Ended to try a new run.
	220	9:15	9:29	same as previous Went to vault to remove target

21 Feb. 5am

File Edit View Terminal Help

- Main Utility Setup Groups View

Admin

Group 05

Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
MB2Slot16	340.00 V	5.00 uA	339.00 V	1.84 uA	On		00.0005
MB2Slot13	140.00 V	6.00 uA	139.50 V	1.70 uA	On		00.0006
MB2Slot10	220.00 V	5.00 uA	219.75 V	2.12 uA	On		00.0007
MB2Slot08	250.00 V	5.00 uA	250.00 V	1.30 uA	On		00.0008
MB2Slot05	210.00 V	5.00 uA	209.75 V	1.04 uA	On		00.0009
MB1Slot16	210.00 V	5.00 uA	209.75 V	0.72 uA	On		00.0010
MB1Slot13	190.00 V	5.00 uA	190.50 V	0.58 uA	On		00.0011
MB1Slot10	295.00 V	5.00 uA	295.00 V	1.42 uA	On		00.0012
MB1Slot08	120.00 V	5.00 uA	120.25 V	1.36 uA	On		00.0013
MB1Slot05	200.00 V	5.00 uA	200.00 V	1.72 uA	On		00.0014
MB2Slot02	240.00 V	5.00 uA	239.75 V	1.06 uA	On		00.0026
MB1Slot02	320.00 V	6.00 uA	320.25 V	3.58 uA	On		00.0027
CsI1	80.00 V	2.0 uA	79.75 V	0.1 uA	On		03.0001
CsI2	80.00 V	4.0 uA	80.10 V	0.0 uA	On		03.0003
CsI4	80.00 V	2.0 uA	79.70 V	0.0 uA	On		03.0004
CsI3	80.00 V	3.0 uA	79.50 V	0.0 uA	On		03.0005

Display/Edit Group 05

LocEn V0 I0

N CAEN SY1527

Run Number: 213 Run state: Active
 Length of run: 0 00:20:36 Scaler interval: 2
 Title: normal data run

[ALL] Livetime

e10001 DAQ All Scalers

Numerator	Denominator	Rate(s)	Total(s)	Ratio [rate total]
CSI_OR_OF_ORs		635.5	765680	
CsI_OR_1		120.0	143140	
CsI_OR_2		427.0	501943	
CsI_OR_3		153.5	193014	
CsI_OR_4		27.0	36765	
MB1_EB_OR		9788.0	11698227	
MB2_EB_OR		4015.0	4562018	
MB3_EB_OR		19539.5	24991776	
MB1_EF_OR		2976.0	3572101	
MB2_EF_OR		28692.0	39176281	
MB3_EF_OR		26401.0	36900188	
CAESAR_1_2		680.5	858407	
CAESAR_3_4		1351.0	1695092	
CAESAR_5_6		1873.5	2486669	
CAESAR_7_8		1488.5	1859129	
CAESAR_9_10		1412.5	1776259	
XFP		96163.0	119523008	
Trigger_RAW		634.0	763772	
Trigger_LIVE		586.5	693831	
CAESAR+HiRA		96.0	121556	
CSI_test		0.0	0	
22		0.0	0	
22		0.0	0	

21 Feb
5am

rates slightly
incr. since
last night
☺

21 Feb	Run #	Start	Stop	Comment
	221	10:13	10:20 ?	Ceasar background
	→ Stopped	to check for	Al ⁹⁰ leak	
	222	14:00	14:20	Ceasar background
on for shots	223	14:20	?	Ceasar background
	224	?	?	Junk probably ←
	225	?	3:25	Junk ↓
	226	3:29 pm	3:37	¹⁶ O pilot beam, 56.79 MeV/A
	227	3:37		¹⁶ O pilot beam old shape
	228	3:51	4:06	¹⁶ O pilot beam new shape
	229	4:28 pm		N=Z cocktail 55 MeV/A
	230	4:32		N=Z cocktail 55 MeV/A new
	231	4:43		"
	232	4:54		"
	233	5:04 pm		"
	234	5:14	5:16	"
	235	5:25	5:36	N=Z cocktail beam, 55 MeV, old shape
	236	5:37	5:54	— " —
	237	5:54	6:00	— " — ⁹⁶ Zn
	238	7:30 pm	7:41	Au target 19 MeV ⁹⁶ Zn old shape
	239	7:41	7:55	Au target, old shape
	240	7:55		Au target, old shape
	242	8:28		Au target, new shape

21 Feb 20:15

21 Feb

Group 05					
Channel Name	V0Set	I0Set	VMon	I0Mon	
MB2Slot16	340.00	V	5.00 uA	339.00 V	1.44 uA
MB2Slot13	140.00	V	6.00 uA	139.50 V	1.60 uA
MB2Slot10	220.00	V	5.00 uA	219.50 V	1.94 uA
NB2Slot08	250.00	V	5.00 uA	249.75 V	1.18 uA
MB2Slot05	210.00	V	5.00 uA	209.75 V	0.96 uA
MB1Slot16	210.00	V	5.00 uA	209.50 V	0.70 uA
MB1Slot13	190.00	V	5.00 uA	190.25 V	0.56 uA
MB1Slot10	295.00	V	5.00 uA	294.75 V	1.32 uA
MB1Slot08	120.00	V	5.00 uA	120.25 V	1.20 uA
MB1Slot05	200.00	V	5.00 uA	200.00 V	1.60 uA
MB2Slot02	240.00	V	5.00 uA	239.75 V	1.00 uA
MB1Slot02	320.00	V	6.00 uA	320.25 V	1.54 uA
CsI1	80.00	V	2.0 uA	79.70 V	0.1 uA
CsI2	80.00	V	4.0 uA	80.05 V	0.0 uA
CsI4	80.00	V	2.0 uA	79.65 V	0.0 uA
CsI3	80.00	V	3.0 uA	79.50 V	0.0 uA

Previous to this snapshot, bias was turned off for ~5 hours

21 Feb 20:35

Run Number: 242 Run state: Active
 Length of run: 0 00:04:48 Scaler interval: 2
 Title: N=Z cocktail @ 55 MeV/A , new shaper

ALL Livetime		e10001 DAQ All Scalers		
Numerator	Denominator	Rate(s)	Total(s)	Ratio [rate total]
CSI_OR_OF_ORs		2815.5	811128	
CsI_OR_1		240.5	66700	
CsI_OR_2		2399.5	693622	
CsI_OR_3		172.5	51580	
CsI_OR_4		6.0	1770	
MB1_EB_OR		3947.5	1259422	
MB2_EB_OR		1578.5	519310	
MB3_EB_OR		37671.0	10862863	
MB1_EF_OR		1421.5	440496	
MB2_EF_OR		25392.5	8118712	
MB3_EF_OR		25714.0	7736884	
CAESAR_1_2		677.0	210082	
CAESAR_3_4		1426.0	420867	
CAESAR_5_6		1991.5	641733	
CAESAR_7_8		1554.5	469690	
CAESAR_9_10		1496.5	443196	
XFP		0.0	0	
Trigger_RAW		2813.5	810381	
Trigger_LIVE		1964.5	548329	
CAESAR+HiRA		72.5	18833	
CSI_test		0.0	4	
??		0.0	0	

• When switching from $N=Z$ cocktails to high energy ^{16}O beam, a magnet along the beamline quenched.

Run	Start	End	Comment
243	10:22 pm	10:26	^{16}O @ 70 MeV/A, new shaper
244	10:32	10:37	^{16}O @ 70 MeV old shaper
245	10:58	11:02	$N=Z$, 75 MeV/A, old shaper
246	11:09:57	23:28:21	$N=Z$, 75 MeV/A, new shaper
247	11:29:30	23:29:24	$N=Z$, 75 MeV/A, new shaper
248	12:12	12:19	Carbon 9 beam, Au target, old shaper
Target Change			(back to Be target 188 mg/cm ²)
249	12:54	1:44	normal data
250	1:44	2:33	normal data
251	2:33	3:25	Normal data
252	3:25	4:15	Normal data.
253	4:15	05:03	Normal data
254	05:03	5:53	Normal data
255	5:53	6:43	normal data
256	6:43	7:29	normal data
257	7:29	8:10	normal data

XFP ~ 90K (85)

XFP ~ 95K (90)

XFP ~ 90-95K

2-21 23:08 55

1900 "Print21Feb13_23h01.txt" Thursday 23:01:41 2013-02-21 A1900
oe_244 *** Li-6 cocktail @ 75 MeV to HIRA ***

xpt: 10001 "Continuum Spectroscopy of 8C - 8B(IAS)" [Robert Charity] Line: RPMS [6]
eam: 16 O 3+ 13.08 MeV/nuc (K500) 8+ 150 MeV/nuc (K1200) Chpr off
Att lk> ECR, Apertures: ARTEMIS 150.0; 15.0; 7.5 mm RHVBI: 24.1100 kV
500 a,b: 619 A, 517 A K1200: 724 A, -227 A RF: 23.83300 MHz

A1900 Optics: L19S1G_V3b.data

Rigidity	Field	Radius	(live)	Difference (Field*Radius)
eg 0:	3.66469 Tm			
eg 1:	2.52320 Tm	0.81595 T	3.09236 m	3.09235 m 0.00053 % (2.52321 Tm)
eg 2:	2.52320 Tm	0.81441 T	3.09827 m	3.09819 m 0.00269 % (2.52327 Tm)
eg 3:	2.52320 Tm	0.81665 T	3.08946 m	3.08970 m -0.00793 % (2.52300 Tm)
eg 4:	2.52320 Tm	0.81501 T	3.09582 m	3.09591 m -0.00265 % (2.52313 Tm)
eg 5:	2.52320 Tm			
eg 6:	2.20250 Tm			
116DS	0.81360 T	3.10017 m	3.10128 m	-0.03574 %
132DS	-0.02470 T	102.06612 m	102.15385 m	-0.08588 %

Z001TL: out, Z013TL: out; Z014TL out
 Z015TL: Be 4113, Z016TL out
 Z030BC Beam Stop: -126.58 mm
 Z037L,R: -16.00, 16.00 mm or -0.54, 0.54 width= 1.09 %; Z037DC: out
 Z057MS: out, Z061MS: 1%
 Z059DC: out, Z062SC: out, Z059TL: out
 Z082 XC,G,YG: 0.16, 217.30, 202.05 mm Z082TL: out
 Z103DC: out, Z104DC: out; Z106DC: out, Z107DC_U/_L: out/out
 Z105TL: out, Slits: ; PPACs: ; Z107 outlim: Y
 Z104 XC,G;YC,G: 0.07, 10.01; -2.00, 89.99 mm
 Z183 Y slits: center -2.7769 mm, gap 97.9448 mm
 Z183PP: out; G184DC: out; G185DC: out

TagName	Ref[kG]	BSet[kG]	Ratio	(live)	Set[A]	Read[A]	DEVI
Z001DV	0.000	-0.691	-18862.29	-18862.29	-300.0000	-300.711	Z001DV
Z002DH	0.000	-0.955	-26066.34	-26066.34	-2.3292	-2.256	Z002DH
Z003DV	0.000	1.095	27029.80	29871.09	2.6525	2.749	-- Z003DV
Z004QA	1.685	6.176	1.000000	1.000000	4.3154	4.322	Z004QA
Z005QB	-0.414	-1.517	1.000000	1.000000	-1.0587	-1.025	Z005QB
Z008DS	2.492	9.159	1.001827	1.002943	30.7286	30.886	- Z008DS
Z011QA	-2.322	-8.511	1.000000	1.000000	-5.9514	-5.896	Z011QA
Z012QB	3.409	12.494	1.000000	1.000000	8.8113	8.765	Z012QB
----- Segment 1 -----							
Z017TA	3.539	9.477	1.057000	1.057000	24.8416	24.966	Z017TA
Z019TB	-3.322	-8.491	1.010000	1.010000	-22.3428	-22.398	Z019TB
Z021TC	2.407	6.345	1.043000	1.043000	13.3027	13.369	Z021TC
Z026DS	3.226	8.078	0.992469	0.992469	49.6102	49.342	Z026DS
Z031TA	2.926	7.411	1.000000	1.000000	15.5375	15.627	Z031TA
Z033TB	-3.613	-9.147	1.000000	1.000000	-26.4469	-26.488	Z033TB
Z035TC	3.183	8.070	1.000000	1.000000	16.9539	17.031	Z035TC
----- Segment 2 -----							
Z039TA	3.183	8.070	1.000000	1.000000	16.8739	16.970	Z039TA
Z041TB	-3.562	-9.017	1.000000	1.000000	-26.0570	-26.122	Z041TB
Z043TC	2.924	7.407	1.000000	1.000000	15.4675	15.566	Z043TC
Z048DS	-3.226	-8.215	1.009293	1.009293	-51.5767	-51.735	Z048DS
Z053TA	2.800	7.068	1.000000	1.000000	14.8500	14.834	Z053TA
Z055TB	-3.665	-9.297	1.000000	1.000000	-25.0730	-25.023	Z055TB
Z057TC	3.264	8.416	1.000000	1.000000	80.7149	80.505	Z057TC
----- Segment 3 -----							
Z062TA	3.264	8.416	1.000000	1.000000	81.1708	81.027	Z062TA
Z064TB	-3.665	-9.297	1.000000	1.000000	-25.0577	-25.023	Z064TB
Z066TC	2.800	7.068	1.000000	1.000000	14.8023	14.834	Z066TC
Z071DS	-3.226	-8.063	0.990634	0.990634	-49.9632	-50.124	Z071DS
Z076TA	2.924	7.407	1.000000	1.000000	15.5547	15.627	Z076TA
Z078TB	-3.562	-9.017	1.000000	1.000000	-26.1072	-25.999	Z078TB

A1900 "Print22Feb13_00h12.txt" Friday 00:12:48 2013-02-22 A1900

Moe_244 ***

C-9 production to HiRA ***

Expt: 10001 "Continuum Spectroscopy of 8C - 8B(IAS)" [Robert Charity] Line: RPMS [6]

Beam: 16 O 3+ 13.08 MeV/nuc (K500) 8+ 150 MeV/nuc (K1200) Chpr off

<Att 1> ECR, Apertures: ARTEMIS 150.0; 15.0; 7.5 mm RHVBI: 24.1100 kV
K500 a,b: 619 A, 517 A K1200: 724 A, -227 A RF: 23.83300 MHz

A1900 Optics: L19S1G_V3b.data

	Rigidity	Field	Radius	(live)	Difference (Field*Radius)
Seg 0:	3.66469 Tm				
Seg 1:	2.20000 Tm	0.71145 T	3.09236 m	3.09227 m	0.00313 % (2.20007 Tm)
Seg 2:	2.20000 Tm	0.71002 T	3.09827 m	3.09850 m	-0.00715 % (2.19984 Tm)
Seg 3:	1.86730 Tm	0.60441 T	3.08946 m	3.08945 m	0.00025 % (1.86730 Tm)
Seg 4:	1.86730 Tm	0.60312 T	3.09582 m	3.09606 m	-0.00752 % (1.86716 Tm)
Seg 5:	1.81340 Tm				
Seg 6:	2.20250 Tm				

All6DS 0.58470 T 3.10017 m 3.10142 m -0.04029 %
 Al32DS -0.01725 T 105.32184 m 105.12464 m 0.18759 %

Z001TL: out, Z013TL: out; Z014TL out

Z015TL: Be 2397, Z016TL out

Z030BC Beam Stop: -126.58 mm

Z037L,R: -16.00, 16.00 mm or -0.54, 0.54 width= 1.09 %; Z037DC: out

Z057MS: out, Z061MS: 1%

Z059DC: out, Z062SC: out, Z059TL: Al 1050

Z082 XC,G,YG: 0.16, 217.30, 201.94 mm Z082TL: out

Z103DC: out, Z104DC: 1 mm BC404 #046 sh1; Z106DC: out, Z107DC_U/_L: out/out

Z105TL: out, Slits: ; PPACs: ; Z107 outlim: Y

Z104 XC,G;YC,G: 0.07, 10.00; -2.00, 89.99 mm

G183 Y slits: center -2.7769 mm, gap 97.9448 mm

G183PP: out; G184DC: out; G185DC: out

MagName	Ref[kG]	BSet[kG]	Ratio	(live)	Set[A]	Read[A]	DEVI
Z001DV	0.000	-0.691	-18862.29	-18862.29	-300.0000	-300.748	Z001DV
Z002DH	0.000	-1.007	-26066.34	-27477.85	-2.4553	-2.379	xxrd Z002DH
Z003DV	0.000	1.098	27029.80	29957.49	2.6602	2.749	-- Z003DV
Z004QA	1.685	6.176	1.000000	1.000000	4.3154	4.310	Z004QA
Z005QB	-0.414	-1.517	1.000000	1.000000	-1.0587	-1.037	Z005QB
Z008DS	2.492	9.143	1.001827	1.001158	30.6677	30.764	Z008DS
Z011QA	-2.322	-8.511	1.000000	1.000000	-5.9514	-5.896	Z011QA
Z012QB	3.409	12.494	1.000000	1.000000	8.8113	8.777	Z012QB
----- Segment 1 -----							
Z017TA	3.539	8.253	1.057000	1.057000	21.6388	21.731	Z017TA
Z019TB	-3.322	-7.398	1.010000	1.010000	-19.4661	-19.469	Z019TB
Z021TC	2.407	5.531	1.043000	1.043000	11.5949	11.660	Z021TC
Z026DS	3.226	7.037	0.991605	0.991605	43.1443	42.885	Z026DS
Z031TA	2.926	6.454	1.000000	1.000000	13.5424	13.613	Z031TA
Z033TB	-3.613	-7.967	1.000000	1.000000	-23.0228	-23.070	Z033TB
Z035TC	3.183	7.027	1.000000	1.000000	14.8239	14.895	Z035TC
----- Segment 2 -----							
Z039TA	3.183	7.027	1.000000	1.000000	14.7063	14.773	Z039TA
Z041TB	-3.562	-7.855	1.000000	1.000000	-22.6867	-22.765	Z041TB
Z043TC	2.924	6.452	1.000000	1.000000	13.4783	13.552	Z043TC
Z048DS	-3.226	-7.175	1.011073	1.011073	-44.8973	-45.045	Z048DS
Z053TA	2.800	6.163	1.000000	1.000000	12.9558	12.942	Z053TA
Z055TB	-3.665	-8.094	1.000000	1.000000	-21.8186	-21.727	Z055TB
Z057TC	3.264	7.302	1.000000	1.000000	69.2405	69.024	Z057TC
----- Segment 3 -----							
Z062TA	3.264	6.167	1.000000	1.000000	58.7821	58.586	Z062TA
Z064TB	-3.665	-6.861	1.000000	1.000000	-18.4826	-18.431	Z064TB
Z066TC	2.800	5.231	1.000000	1.000000	10.9601	10.988	Z066TC
Z071DS	-3.226	-5.930	0.984403	0.984403	-36.8113	-36.976	Z071DS
Z076TA	2.924	5.472	1.000000	1.000000	11.4931	11.477	Z076TA
Z078TB	-3.562	-6.662	1.000000	1.000000	-19.3244	-19.163	Z078TB

27 Feb 2:30 AM

```
File Edit View Terminal Help
- Main Utility Setup Groups View
Group 05
Channel Name V0Set I0Set VMon IMon Pw
```

Channel Name	V0Set	I0Set	VMon	IMon	Pw
MB2Slot16	340.00	V 5.00 uA	339.00 V	1.78 uA	On
MB2Slot13	140.00	V 6.00 uA	139.50 V	1.72 uA	On
MB2Slot10	220.00	V 5.00 uA	219.50 V	2.10 uA	On
MB2Slot08	250.00	V 5.00 uA	249.75 V	1.30 uA	On
MB2Slot05	210.00	V 5.00 uA	209.75 V	1.04 uA	On
MB1Slot16	210.00	V 5.00 uA	209.50 V	0.74 uA	On
MB1Slot13	190.00	V 5.00 uA	190.25 V	0.60 uA	On
MB1Slot10	295.00	V 5.00 uA	294.75 V	1.42 uA	On
MB1Slot08	120.00	V 5.00 uA	120.25 V	1.34 uA	On
MB1Slot05	200.00	V 5.00 uA	200.00 V	1.72 uA	On
MB2Slot02	240.00	V 5.00 uA	239.75 V	1.06 uA	On
MB1Slot02	320.00	V 6.00 uA	320.25 V	2.34 uA	On
CsI1	80.00	V 2.0 uA	79.70 V	0.1 uA	On
CsI2	80.00	V 4.0 uA	80.05 V	0.0 uA	On
CsI4	80.00	V 2.0 uA	79.65 V	0.0 uA	On
CsI3	80.00	V 3.0 uA	79.50 V	0.0 uA	On

2:30 AM
←

6:30 AM
↓

```
File Edit View Terminal Help
- Main Utility Setup Groups View
Group 05
Channel Name V0Set I0Set VMon IMon Pw Status Ch#
```

Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
MB2Slot16	340.00	V 5.00 uA	339.00 V	1.90 uA	On	On	00.0005
MB2Slot13	140.00	V 6.00 uA	139.50 V	1.80 uA	On	On	00.0006
MB2Slot10	220.00	V 5.00 uA	219.50 V	2.22 uA	On	On	00.0007
MB2Slot08	250.00	V 5.00 uA	249.75 V	1.34 uA	On	On	00.0008
MB2Slot05	210.00	V 5.00 uA	209.75 V	1.08 uA	On	On	00.0009
MB1Slot16	210.00	V 5.00 uA	209.50 V	0.74 uA	On	On	00.0010
MB1Slot13	190.00	V 5.00 uA	190.25 V	0.60 uA	On	On	00.0011
MB1Slot10	295.00	V 5.00 uA	294.75 V	1.46 uA	On	On	00.0012
MB1Slot08	120.00	V 5.00 uA	120.25 V	1.40 uA	On	On	00.0013
MB1Slot05	200.00	V 5.00 uA	200.00 V	1.80 uA	On	On	00.0014
MB2Slot02	240.00	V 5.00 uA	239.75 V	1.10 uA	On	On	00.0026
MB1Slot02	320.00	V 6.00 uA	320.25 V	3.62 uA	On	On	00.0027
CsI1	80.00	V 2.0 uA	79.70 V	0.1 uA	On	On	03.0001
CsI2	80.00	V 4.0 uA	80.05 V	0.0 uA	On	On	03.0003
CsI4	80.00	V 2.0 uA	79.65 V	0.0 uA	On	On	03.0004
CsI3	80.00	V 3.0 uA	79.50 V	0.0 uA	On	On	03.0005

Admin

22 Feb 72

22 Feb

Run Number: 255 Run state: Active
Length of run: 0 00:43:24 Scaler interval: 2
Title: normal data run

[ALL] Livetime

e10001 DAQ All Scalers

Numerator	Denominator	Rate(s)	Total(s)	Ratio [rate total]
CSI_OR_OF ORs		547.0	1407701	
CsI_OR_1		99.5	268330	
CsI_OR_2		350.0	914908	
CsI_OR_3		156.0	357295	
CsI_OR_4		27.5	68634	
MB1_EB_OR		6202.5	14043931	
MB2_EB_OR		2605.5	6185042	
MB3_EB_OR		39540.5	97607448	
MB1_EF_OR		1967.5	4542970	
MB2_EF_OR		27735.5	69867889	
MB3_EF_OR		27555.5	70211488	
CAESAR_1_2		702.5	1767534	
CAESAR_3_4		1372.0	3524820	
CAESAR_5_6		2390.0	5161480	
CAESAR_7_8		1523.0	3905650	
CAESAR_9_10		1468.5	3702190	
XFP		87167.5	223703415	
Trigger_RAW		546.0	1404010	
Trigger_LIVE		508.0	1320422	
CAESAR+HiRA		96.0	231786	
CSI_test		0.0	497	
		0.0	0	

22 Feb
6:30 AM

File Edit View Terminal Help

Main Utility Setup Groups View

Admin

Group 05

Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
MB2Slot16	340.00 V	5.00 uA	339.00 V	1.94 uA	On		00.0005
MB2Slot13	140.00 V	6.00 uA	139.50 V	1.80 uA	On		00.0006
MB2Slot10	220.00 V	5.00 uA	219.50 V	2.22 uA	On		00.0007
MB2Slot08	250.00 V	5.00 uA	249.75 V	1.36 uA	On		00.0008
MB2Slot05	210.00 V	5.00 uA	209.75 V	1.08 uA	On		00.0009
MB1Slot16	210.00 V	5.00 uA	209.50 V	0.74 uA	On		00.0010
MB1Slot13	190.00 V	5.00 uA	190.25 V	0.62 uA	On		00.0011
MB1Slot10	190.00 V	5.00 uA	190.25 V	0.62 uA	On		00.0012
MB1Slot10	295.00 V	5.00 uA	294.75 V	1.46 uA	On		00.0013
MB1Slot08	120.00 V	5.00 uA	120.25 V	1.40 uA	On		00.0013
MB1Slot08	120.00 V	5.00 uA	120.25 V	1.40 uA	On		00.0014
MB1Slot05	200.00 V	5.00 uA	200.00 V	1.80 uA	On		00.0014
MB2Slot02	240.00 V	5.00 uA	239.75 V	1.10 uA	On		00.0026
MB1Slot02	320.00 V	6.00 uA	320.25 V	3.70 uA	On		00.0027
CsI1	80.00 V	2.0 uA	79.70 V	0.1 uA	On		03.0001
CsI2	80.00 V	4.0 uA	80.05 V	0.0 uA	On		03.0003
CsI4	80.00 V	2.0 uA	79.65 V	0.0 uA	On		03.0004
CsI3	80.00 V	3.0 uA	79.50 V	0.0 uA	On		03.0004

LocEn V0 I0 N CAEN SY152

About...

HiRA HV 7:30 am 22 Feb

22 Feb

Run #	Start	Stop	Comment
258	8:11	8:34	normal data
259	9:27	9:33	⁶ Li cocktail, 75 MeV, old shaper N=Z
260	9:34	9:42	"
261	9:42	9:54	"
262	9:54	9:59	"
263	10:10 ⁵	10:15	" , new shaper
264	10:15	10:24	" , new shaper
265	10:24	10:30	" , new shaper
266	11:47	12:07	Alpha @ 210, high thresholds
267	12:07	12:22	"
268	2:00 pm	2:02	75 MeV protons, new shaper high thresh
269	2:02	2:07	" , lower threshold, new shaper
270	2:07	2:12	"
271	2:18	2:28	75 MeV protons, old shaper
272	5:27 pm	5:37	55 MeV protons, old shaper
273	5:37	5:49	55 MeV protons, old shaper
274	5:49	5:59	"
275	5:59	6:07	"
276	6:48		55 MeV protons, lower ang. acceptance → still no p. air fault
278	6:57 pm	7:00	"
279	7:00	7:18	"
280	7:28	7:29	Old settings

CSI or of
ORS
~ 3-4k

run	start	stop	comments
281	7:40pm	19:48:03	55 Mev protons, new sha
282	8:45	8:53	Normal data, old shyer → File size in Run control says 0.027 MB
283	8:54	9:20	Data cyclotron being tuned for men from 50K to 85K.
284	9:20:33	10:14:09	Data Run.
285	ANON		normal data run
	10:14:24pm	11:12:12	
286	23:12	00:15	XFP ~ 70K
287	00:15	1:12	XFP 85K
288	1:12	2:07	XFP 80K
289	2:07		XFP 80K Junk
290	2:07	3:06	XFP 75K
291	3:06	4:04	XFP 85K
292	4:04	5:00	XFP 85K
293	5:00	5:53	81K ANON
294	5:53	6:50	75K
295	6:50	7:23	75-80k

Problem w/ main magnet power supply (I thought there was a problem & tripped something) which caused cyclotron to go crazy & lost vacuum. Recovered by SAM but will take too long to ramp back up. SAM: Stopped because beam is gone and informed operators. Can't get beam back by 9, so won't

Beam	β_p	Energy	Mu/A	
9C	1.8134	67.8		
⁶ Li	"	38.7		← contaminant
⁶Li	2.0025	56.64		
⁶ Li	2.5232	73.68		
⁶ Li	2.2025	56.64		
¹⁶ O	2.2025	56.79		
¹⁶ O	2.47	70.90		
p	1.1070	56.9435		
p	1.2800	75.3992		

1% momentum cut

22 Feb, 20:00

File Edit View Terminal Help

Main Utility Setup Groups View Admin

Group 05

Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
MB2Slot16	340.00 V	5.00 uA	339.00 V	1.90 uA	On		00.0005
MB2Slot13	140.00 V	6.00 uA	139.50 V	1.72 uA	On		00.0006
MB2Slot10	220.00 V	5.00 uA	219.50 V	2.22 uA	On		00.0007
NB2Slot08	250.00 V	5.00 uA	249.75 V	1.30 uA	On		00.0008
MB2Slot05	210.00 V	5.00 uA	210.00 V	1.02 uA	On		00.0009
MB1Slot16	210.00 V	5.00 uA	209.50 V	0.72 uA	On		00.0010
MB1Slot13	190.00 V	5.00 uA	190.50 V	0.60 uA	On		00.0011
MB1Slot10	295.00 V	5.00 uA	295.00 V	1.44 uA	On		00.0012
MB1Slot08	120.00 V	5.00 uA	120.25 V	1.34 uA	On		00.0013
MB1Slot05	200.00 V	5.00 uA	200.00 V	1.74 uA	On		00.0014
MB2Slot02	240.00 V	5.00 uA	239.75 V	1.06 uA	On		00.0026
MB1Slot02	320.00 V	6.00 uA	320.25 V	3.92 uA	On		00.0027
CsI1	80.00 V	2.0 uA	79.75 V	0.2 uA	On		03.0001
CsI2	80.00 V	4.0 uA	80.10 V	0.0 uA	On		03.0003
CsI4	80.00 V	2.0 uA	79.75 V	0.0 uA	On		03.0004
CsI3	80.00 V	3.0 uA	79.50 V	0.0 uA	On		03.0005

About... LocEn V0 I0 N CAEN SY1527

76
2/22

22 Feb 10:19 PM

Run Number: 284 Run state: Active
Length of run: 0 00:49:20 Scaler interval: 2
Title: normal data, old shaper

ALL | Livetime |

e10001 DAQ All Scalers

Numerator	Denominator	Rate(s)	Total(s)	Ratio [rate total]
CSI OR OF ORs		492.5	1537360	
CsI_OR_1		86.5	294621	
CsI_OR_2		318.5	993482	
CsI_OR_3		133.0	395045	
CsI_OR_4		27.5	75500	
MB1_EB_OR		393.0	1225505	
MB2_EB_OR		137.0	435082	
MB3_EB_OR		20333.0	60024754	
MB1_EF_OR		137.0	420272	
MB2_EF_OR		7016.0	19572745	
MB3_EF_OR		12410.0	36080898	
CAESAR_1_2		634.5	1987491	
CAESAR_3_4		1354.0	3989832	
CAESAR_5_6		1926.5	5890032	
CAESAR_7_8		1503.0	4400260	
CAESAR_9_10		1395.0	4163620	
XFP		79779.0	249523981	
Trigger_RAW		491.5	1533273	
Trigger_LIVE		465.5	1454340	
CAESAR+HIRA		87.0	256294	
CSI_test		0.0	564	
??		0.0	0	

2/23 02:11

File Edit View Terminal Help

Main Utility Setup Groups View

Group 05

Channel Name	V0Set	I0Set	VMon	IMon	Pw
MB2Slot16	340.00 V	5.00 uA	339.00 V	1.84 uA	On
MB2Slot13	140.00 V	6.00 uA	139.50 V	1.62 uA	On
MB2Slot10	220.00 V	5.00 uA	219.75 V	2.08 uA	On
MB2Slot08	250.00 V	5.00 uA	250.00 V	1.24 uA	On
MB2Slot05	210.00 V	5.00 uA	210.00 V	0.98 uA	On
MB1Slot16	210.00 V	5.00 uA	209.75 V	0.68 uA	On
MB1Slot13	190.00 V	5.00 uA	190.50 V	0.56 uA	On
MB1Slot10	295.00 V	5.00 uA	295.00 V	1.38 uA	On
MB1Slot08	120.00 V	5.00 uA	120.25 V	1.28 uA	On
MB1Slot05	200.00 V	5.00 uA	200.00 V	1.64 uA	On
MB2Slot02	240.00 V	5.00 uA	239.75 V	1.00 uA	On
MB1Slot02	320.00 V	6.00 uA	320.25 V	3.94 uA	On
CsI1	80.00 V	2.0 uA	79.75 V	0.1 uA	On
CsI2	80.00 V	4.0 uA	80.10 V	0.0 uA	On
CsI4	80.00 V	2.0 uA	79.70 V	0.0 uA	On
CsI3	80.00 V	3.0 uA	79.50 V	0.0 uA	On

8 am

23 Feb

File Edit View Terminal Help

- Main Utility Setup Groups View Admin

Group 05

Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
MB2Slot16	340.00 V	5.00 uA	339.00 V	1.84 uA	On		00.0005
MB2Slot13	140.00 V	6.00 uA	139.50 V	1.60 uA	On		00.0006
MB2Slot10	220.00 V	5.00 uA	219.50 V	2.04 uA	On		00.0007
MB2Slot08	250.00 V	5.00 uA	250.00 V	1.22 uA	On		00.0008
MB2Slot05	210.00 V	5.00 uA	210.00 V	0.98 uA	On		00.0009
MB1Slot16	210.00 V	5.00 uA	209.75 V	0.68 uA	On		00.0010
MB1Slot13	190.00 V	5.00 uA	190.50 V	0.56 uA	On		00.0011
MB1Slot10	295.00 V	5.00 uA	295.00 V	1.36 uA	On		00.0012
MB1Slot08	120.00 V	5.00 uA	120.25 V	1.28 uA	On		00.0013
MB1Slot05	200.00 V	5.00 uA	200.00 V	1.62 uA	On		00.0014
MB2Slot02	240.00 V	5.00 uA	239.75 V	0.98 uA	On		00.0026
MB1Slot02	320.00 V	6.00 uA	320.25 V	4.00 uA	On		00.0027
CsI1	80.00 V	2.0 uA	79.75 V	0.1 uA	On		03.0001
CsI2	80.00 V	4.0 uA	80.10 V	0.0 uA	On		03.0003
CsI4	80.00 V	2.0 uA	79.75 V	0.0 uA	On		03.0004
CsI3	80.00 V	3.0 uA	79.50 V	0.0 uA	On		03.0005

About...

LocEn V0 I0 N CAEN SY1527

Run	Start	Stop	Comment
296		MB182	Pulser EF 8-0V, 17 steps, 1
297			Pulser EF 2-0V, 41 steps
298			Pulser EB 9-0V, 19 steps
299			Pulser EB 2-0V, 41 steps
300		MB3	Pulser EB 8-0V, 17 steps
301			Pulser EB 0.8-0V, 21 steps
302			Pulser EF 0.8V, -0V, 21 steps
303			Pulser EF 8V-0V, 17 steps
304			Pulser EF & EB 10V-0V, 21 steps
305			CA PULSER LAMP 4-0V, 41 steps OLD SHAPER MA 1520
306			Same as 305 but with new shaper
307			alpha calibration run
308	13:13	13:23	alpha
310	2:32	2:43	By ceasar in fargel position
311	2:44	2:50	"
312	3:06		Am - Be ceasar
312			"
313			"
314	3:41	3:43	"
315	3:43		"

Tower 1

Tower 2

Tower 3

Tower 4

Tower 5

T15 P1 MB2
 9, 10 MB2 0-3
 12, 13
 U = 240 [M]
 I = 2.02 [μ A]

T6 P2 MB2
 11, 12 MB2 4-7
 15, 16
 U = 440 [M]
 I = 1.24 [μ A]

T19 P3 MB2
 3, 4 MB2 8-11
 4, 5
 U = 310 [M]
 I =

T11 P4 MB2
 5, 6 MB2 12-15
 7, 8
 U = 350 [M]
 I = 1.38 [μ A]

T7 P5 MB2
 7, 8 MB2 16-19
 9, 10
 U = 320 [M]
 I =

T10 P6 MB2
 1, 2 MB2 20-23
 1, 2
 U = 340 [M]
 I =

T18 P7 MB3
 1, 2, 3, 4 MB3 24-27
 0, 0
 U = 220 [M]
 I \approx 1.52 [μ A]



T8 P8 MB3
 5, 6, 7, 8 MB3 28-31
 0, 0
 U = 265 [M]
 I = 1.66 [μ A]

T2 P9 MB1
 11, 12 MB1 32-35
 15, 16
 U = 310 [M]
 I = 0.66 [μ A]

T16 P10 MB1
 5, 6 MB1 36-39
 7, 8
 U = 220 [M]
 I = 1.14 [μ A]

T3 P11 MB1
 7, 8 MB1 40-43
 9, 10
 U = 395 [M]
 I = 1.30 [μ A]

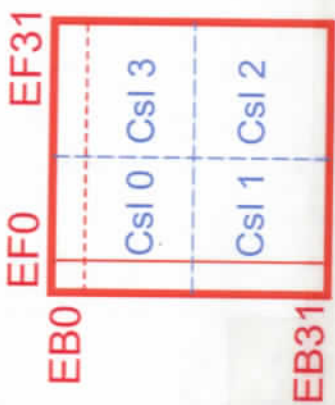
T0 P12 MB1
 9, 10 MB1 44-47
 12, 13
 U = 290 [M]
 I = 0.56 [μ A]

T12 P13 MB1
 1, 2 MB1 48-51
 1, 2
 U = 420 [M]
 I = 1.84 [μ A]

T17 P14 MB1
 3, 4 MB1 52-55
 4, 5
 U = 300 [M]
 I = 1.84 [μ A]

CB slot

E Front



Run 316 Am-Be beam left
317 " "
318 " "

Run 319 Am-Be upstream
320
321

322 Ar-Be Down stream
323
324

325 Am-Be Under
326
327

328 ^{60}Co in target position
329
330
331

332 ^{22}Na in target position
333
334

335 cesar background
336

337 ceasar background continued.

End of calibrations

go Scalers
go switch

- scaler display
- switcher control
(multiplexer)

```
ssh scinti@spdaq 44
pass → 662 Cs137
cd hvctrl
./hvgui.tcl
```

Ceasar HV
control.

better use

```
sh ringX-on.sh
sh ringX-off.sh
```

X = B, C, D, E, F, G, H.

to turn on + off rings.

```
ssh scinti@spdaq 36
pass → 662 Cs137
cd ar-cfd/prod
./cfd-server
./gui.tcl
load e1001.save
```

Ceasar
thresholds

(only needed
if power to
ceasar creates
goes off.

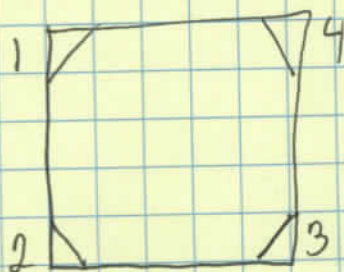
HiRA punch through summary

Particle	65 micron dE Si (MeV)	1.5 mm E Si (MeV)	4 cm CsI (MeV)	Loss in Si (1.5 mm) (MeV)
p	2.45	15.6	115.8	1.84
d	3.17	20.9	154.8	2.48
t	3.68	24.8	183.4	2.96
3He	8.72	54.9	411.1	6.53
4He	9.69	62.1	462.3	7.34
6He	11.21	74.0	548.3	8.72
8He	12.36	83.6	619.1	9.89

4/30/13

Notes for inbeam CsI

- $5 \times 5 \times 1 \text{ cm}$ CsI w/ 4 photodiodes is biased positively
- $2 \times 1.5 \times 1 \text{ in}$ CsI w/ single photodiode is biased negatively



• With positive bias and following convention, CsI w/ 4 has positive signals.

By reversing the def convention, the single photodiode CsI can be biased positively with positive signals as output
 $\ominus +40V$ $I = 0.25 \mu A$

• By following the convention and biasing negatively, the signals are negative.
 $\ominus -40V$ $I = 0.25 \mu A$

• NB: The CsI w/ 4 photodiodes should NOT be biased ~~with~~ with the convention reversed.

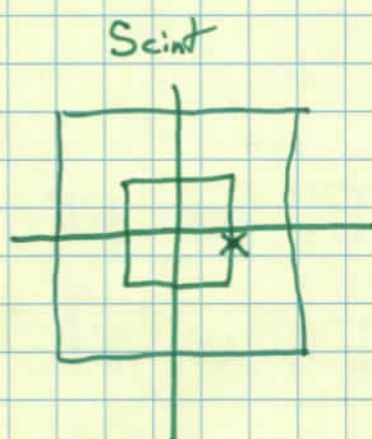
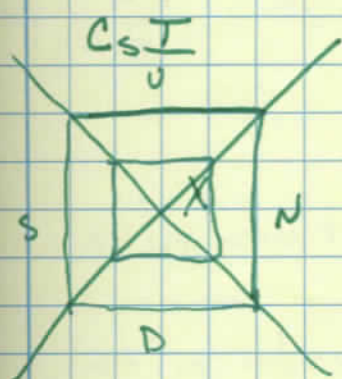
Si Time Calib

Run	Comment
4	MB1 20ns delay
5	MB1
6	MB2
7	MB2 80 ns delay
8	MB3 80 ns delay
9	MB3

Time runs back out -

5/17/13 Alignment + Tuning

Pictures are from Alignment with transit. object is downstream.



* Beam should be tuned South + down 1mm from center of crosshair

Start May Run numbers.

5/17/13

Run 13 B: 3:40 PM E: 4:09 PM

Alpha calibration run, tele 13 biased only to 100 V from back to prevent leak from getting worse before run.

We discovered today that CsI bank 2 number 2 is dead. Problem inside Hi RA can.

Run 14 CsI bank 1 pulse ramp
0-10 V, 21 steps

Run 15 CsI bank 2, same ramp

Run 16 " " 3, same ramp

Run 17 " " 4, same ramp

Run 18 " " 2, same ramp

5/18/2013

Run 20 Caesar Background } Junk (not much data)

Run 21 " " }

Run 22 EB OR EF α 's + random pulses

Run 23 EB AND EF α 's + random pulses

Not full range
 Run 24 EB Pulse cal: neg. polarity 0-1.4V, 29 steps, 15s
 Run 25 EF " pos. " " "

Not full range
 Run 26 EF " " 0-7V, " "
 Run 27 EB " neg. 0-7V " "

4:1 Board
 Run 28 EB " neg. 0-10V 21 steps low gain
 Run 29 EF " pos. 0-10V " low gain

Run 30 Caesar Background

We inserted the caesar CR into the C2I (HiRA) OR fan, delayed by 1ps.

Run 31 EF MB3 Pulse ramp 0-4V 21 steps
 2:1 splitter board

Run 32 EB " 2:1 board

5/21/2013

Run 33

Motherboard } EF 4-1
2k Ω resistor, pulser ramp
0-8 V, 21 steps, 10s/step

Run 34

Si α calib, new splitter
biases on
5/22/

Run 35

Random pulser plus a few
cosmic ramps in trigger
start 1:20pm

7261
7156

Random pulsers
in spectra

} 1.5% dead
time

Run 36

⁶⁰Co CAESAR

live . 9111
1758

Random pulsers.
in spectrum

avg rate - 9 kHz

Run 37

²²Na source in CAESAR

4878

Random Pulsers.

Run 38

Random pulser trigger.

9283
9157

Random Pulsers
in spectra.

} 1% dead
time.

Run 39

Alpha calib.

- voltages may have
dropped off during Run

Run 40

Alpha

Thursday 23rd

Si #7 1.79 μ A
#8 2.03 μ A

Beam Start

Run 41

Calibration beam no target

Run	Start	Stop	Comment
42	8:33	8:54	Calibration beam no target
43	8:54	9:01	"
44	9:05	9:09	defocused cocktail
45	9:10	9:12	"
46	9:14	9:17	Playd with focus.
47	9:17	9:22	$\frac{1}{2}$ defocused
48	9:41	9:43	Stemmed UP or down?
49	9:45	9:51	" "
50	9:51	9:56	" "
51	10:00	10:06	Stemmed down
52	10:06	10:08	"

Inserted 287 mg/cm^2 target Be

53	11:25	11:36	¹⁷ Ne Beam, Be tzt (287 mg/cm^2) normal data
54	11:36	11:46	"
55	11:41	11:48	"

Trigger changed to C&I Mult > 1

Normal data, new trigger

Normal data.

" "

" "

" "

5/24/13	56	12:15	12:22
	57	12:46	12:51
	58	12:51	12:59
	59	1:00	1:04
	60	1:14	1:25

By closing source slits, we cut the beam in half.

cyc-problem beam off

Beam Energy Notes.

¹⁷Ne tune.

$$B_g = 1.9755 \text{ Tm}$$

$$E/A = 62.89 \text{ MeV after scint. (XFP)}$$

$$E/A = 47.66 \text{ MeV after } 1500 \mu\text{m Be target}$$

$$E/A = 20.48 \text{ MeV after } 1.5 \text{ mm Si.}$$

~~¹⁸O~~ ¹⁵O. ($B_g = 1.9755$)

$$E/A = 52.08 \text{ MeV}$$

$$E/A = 39.20 \text{ MeV after target}$$

$$E/A = 15.65 \text{ MeV after Si}$$

¹⁴N ($B_g = 1.9755$) Tm

$$E/A = 45.92 \text{ MeV}$$

$$E/A = 34.18 \text{ MeV after target}$$

$$E/A = 11.88 \text{ MeV after Si}$$

2% momentum
120 kHz XFP

Run#	start	stop	comments
			At ~1:30 operator found problem w/ blower fan K200 B => air flow switch cleaned When powering K200 up again, could not go past 90 keV on B => B RF voltage regulator replaced and beam was tuned up
			Back to normal data runs
61	4:42	4:59	START: XFP ~ 15K, ~80% END: XFP ~ 13K, ~84%
62	4:59	5:14	" XFP ~ 13K, ~84% END: XFP ~ 21K, ~69%
63	5:16	5:29	START: XFP ~ 18K, ~75% END: XFP ~ 15K, ~80%
64	5:30	5:44	START: XFP ~ 15K, ~82% END: XFP ~ 27K, ~60%
65	5:44	5:57	START: XFP ~ 23K, ~66% END: XFP ~ 22K, ~69%
66	5:57	6:12	START: XFP ~ 23K, ~67% END: XFP ~ 18K, ~77%
67	6:12	6:26	START: XFP ~ 19K, ~73% END: XFP ~ 23K, ~66%
68	6:26	6:39	START: XFP ~ 22K, ~69% END: XFP ~ 22K, ~69%
69	6:39	6:52	START: XFP ~ 22K, ~69% END: XFP ~ 24K, ~66%
70	6:52	7:04	s ~21K, ~70% ~21K, 70%
71	7:04	7:18	~20K, ~72% ~19K, ~73%
72	7:21	7:33	~19K, ~73% ~18K, ~75%
73	7:33	7:46	~19K, ~73% ~20K, ~72%
74	7:46	7:57	~18K, ~75% ~17K, ~74%
75	7:57	8:11	~17K, 74% ~15K, 81%
76	8:12	8:29	~14.5K 82% ~13.1K 84%
77	8:29	8:35	Stopped beam to let source guy take a look and operator's tune beam. At 9:20 report is we have 1.2 MA Versus 0.8 MA before retuning
78	9:21	9:34	~19K 73% ~18K 73%
79	9:35	9:48	~18K 73% ~18.7K 75%
80	9:48	9:59	~18.5K 74% ~17K 76%
81	9:59	10:03	~17K 76% ~18K 75%
83	10:14	10:28	~17K 75% ~16K 78%
84	10:28	10:37	~16K 78% ~16K 79%
85	10:40	11:00	~16K 80% ~12K 88%
86	11:00	11:05	~14K 82% ~15K
			Paused to try adjusting zero-suppression. No actual data
87	11:10	11:13	~16K 80% ~16K 78%

#	Start	Stop	Comments
8	11:18	11:33	Zero suppressed on ADC four CSI START XFP: 7K 80% END XFP: ~25K 66%
			DAQ Froze up around 11:24 Beam had sharp drops in last 20 minutes. Dead time is not stable.
89	11:33	11:34	~25K 66%
90	11:58	12:16	New TDC 2 CSI, Zero suppression on
91	12:19	12:33	~25K 70%
			RF fixed
92	1:51	2:01	22K 71% 16K 76%
93	2:15	2:16	No RF
94	2:28		RF really fixed
95	3:01	3:22	* → Target changed to 189 $\mu\text{g}/\text{cm}^2$ 87%
			* Momentum Slits changed to 1°
96	3:22	3:45	~20K 75%
97	3:45	4:06	~20K 75%
98	4:06	4:30	~18K ~78%
99	4:31	4:57	normal data
100	4:58	5:18	~19K 76
101	5:18	5:44	normal data
102	5:44	6:04	20K 76
103	6:05	6:25	
			Gave key to source physicist for fixing the source instability before weekend.
104	7:12	7:31	20K 76
105	7:32	7:53	
106	7:54	8:16	XFP ~ 20K livetime ~ 76%
107	8:17	8:41	XFP ~ 20K livetime ~ 76%
			Rates dropped by about 1/3
108	8:41	8:57	XFP ~ 14K livetime 85%



Run	Start	End	Comments
109	8:57	9:14	XFP ~ 20K lifetime ~ 76%
110	9:15	9:34	XFP ~ 19-20K lifetime ~ 77%
111	9:35	9:56	XFP Stopped because the source died
112	10:21	10:40	XFP: 20K lifetime: 76%
113	10:40	10:59	XFP: 19K lifetime: 78%
114	11:00	11:20	XFP: 20K live time: 75%
115	11:20	11:40	XFP: 21K live time: 75%
116	11:40	11:59	XFP: 20K live time: 76%
117	11:59	12:19	XFP: 20K live time: 76%
118	12:19	12:39	" "
119	12:39	1:16	" "
120	1:16	1:38	XFP: 19K live time: 77%
121	1:38	1:58	XFP: 21K live time: 74%
122	1:58	2:18	XFP: 21K live time: 75%
123	2:18	2:38	" "
124	2:38	2:59	" "
125	2:59	3:19	XFP: 20K "
126	3:19	3:39	" live time: 73%
127	3:39	4:00	XFP: 21K live time: 75%
128	4:00	4:20	XFP: 20K live time: 76%
129	4:20	4:40	" "

Run	Start	End	Comments	
30	4:41	5:01	XFP: 20K	lifetime: 76%
31	5:01	5:23	"	lifetime: 75%
32	5:23	5:43	"	"
33	5:43	6:04	"	"
34	6:04	6:24	"	"
35	6:24	6:44	"	"
36	6:45	7:04	"	"
37	7:04	7:27	"	"
38	7:27	7:44	"	"
39	7:49	8:14	Note: beam decreased briefly (decs in K500 out of phase)	
40	8:15	8:35	21K	75% 74%
41	8:35	8:55	21K	75%
42	8:55	9:20	Note: rate dropped briefly, and operators were asked to fix (as in 1)	
43	9:20		XFP 21K 10500 (dropped to 7K briefly)	75%
43	9:20	9:40?	20K	76%
44	9:40?	10:00	20K	75%
45	10:00	10:19	21K	74%
46	10:19	10:40		
47	10:41	11:01	21K	74%
48	11:01	11:23	20K	76%
49	11:24	11:47	19K	77%
50	11:48	12:10	18K	78%
51	12:10	12:33	19K	77%
52	12:34	12:55	18K	78%
53	12:55	1:16	20K	77%
54	1:16	1:38	19K	77%
55	1:38	2:00	19K	77%
56	2:00	2:09	18.5K	78%

stopped to do calibration beam
 → went to ave to change electronics multiplicity.

May 25thSat
2:20 pm

Changed back to frogger on C&I OR.

Tom Gunter switched to cocktail beam, 1/2% ΔP/P

RUN 157 * Cocktail upRUN 158 * Cocktail up (2nd half of run shifted Beam R - South)RUN 159 * Cocktail upRUN 160 * Cocktail Down somewhat south & defocused.
The S_{21} is double peaked as if. There are two
different S_{21} calibrationsRUN 161 Cocktail Down somewhat to NorthRUN 162 ~~cocktail~~ Down & North. 160-162 double peakedRetune cocktail ~~down~~ straight down beam axis.
data while retuning cocktail

RUN 163

RUN 164 } beam down center
RUN 165 }

RUN 166 } beam Down but not defocused Now single peaked

RUN 167 }

RUN 168 " increased beam.
RUN 169 " "Run 170 * live on Blocker C&I Start 3:57 End: 4:05 Time: 7Beam current = 0.4 enA Charge state 10⁺

time = 416 s Live time = 0.9485

^{17}Ne = 18416

1% ΔP/P

$$S_0 = \frac{(18416 \text{ counts}) (10^+)}{(0.4 \text{ enA}) (416 \text{ s}) (0.9485)} = 1170 \text{ pps/pnA}$$

1410 pps/pnA at A1900

83% transport

Total counts: 160346

$$\frac{18416 \text{ } ^{17}\text{Ne}}{160346 \text{ total}} = 11\% \text{ purity (included cosmic in CsI)}$$

R171 Blocker CsI, mostly empty

Until this point, the XFP scint was actually the CAESAR, OR of ORs in the scalars, this has been sorted.



R172 Blocker CsI, real XFP scint.

XFP gate on time (45,62 ns) ★



	Start	End	Comments
R173	5:22 pm	5:40	Back to normal data, ~1.8 M on XFP XFP = 1.7 M * 74% live; From this run on XFP can be used for ± gate Raw Trig. 4.0K
74	5:40 pm	5:59	Trigg live = 3.0 K ; 76% ; XFP = 1.7 M
75	6:00 pm	6:20	Tr live = 2.7 K ; 78% ; XFP = 1.5 M
76	6:20	6:40	Tr live = 2.8 K ; 76% ; XFP = 1.6 M
77	6:40	7:04	Trig live = 3.0 K ; 76% ; XFP = 1.6 M
78	7:04	7:24	Trig live = 2.9 K, 76%, 1.6 M
79	7:25	7:45	2.9 K, 76%, 1.6 M
80	7:45	8:05	Trigg live 2.9 K, 76% live, XFP ~ 1.55 M
81	8:06	8:29	" 2.8k, 77%, XFP ~ 1.6 M
82	8:29	8:50	" 2.8k, 76%, XFP ~ 1.6 M
83	8:50	9:10	" 2.9k, 76%, XFP ~ 1.5 M

RUN	start	stop	Comments
184	9:11	9:31	Trigger live 2.8k, 76% live, XFP ~ 1.6 M
185	9:31	9:52	" " 2.8k, 76% " , XFP ~ 1.6 M
186	9:53	10:15	" " 2.8k, 76% " , XFP ~ 1.6 M
187	10:15	10:35	" " 2.9k, 76% " , XFP ~ 1.6 M
188	10:35	10:42	" " 2.9k, 76% " , XFP ~ 1.6 M beam lost at 10:42pm; Data size is about 400MB;
189	10:48	11:10	beam come back at 10:48pm; Trigger live 2.9k, 76% XFP ~ 1.6M (the beam is not stable at about 11:03pm)
190	11:10	11:31	Trigger live 2.7k 77% XFP ~ 1.5M
191	11:31	11:53	" : 2.8k 77% XFP ~ 1.5M
192	11:53	12:14	" 2.6k 79% XFP ~ 1.4M
193	12:14	12:40	" " " "
194	12:40	1:01	" " " "
195	1:01	1:21	Trigger live 2.9k 76% XFP ~ 1.6M
196	1:21	1:42	Trigger live 2.9k 77% XFP ~ 1.5M
197	1:42	2:02	Trigger live 2.7k 77% XFP ~ 1.5M
198	2:02	2:26	Trigger live 3.0k 76% XFP ~ 1.6M
199	2:26	2:45	Trigger live 3.1k 75% XFP ~ 1.7M
200	2:45	3:05	Trigger live 3.0k 75% XFP ~ 1.7M
201	3:05	3:24	Trigger live: 2.9k 76% XFP ~ 1.6M

Run	Start	Stop	Comments
02	3:24	3:45	Trigger live: 3.0k 75% XFP ~ 1.7M
03	3:45	4:06	Trigger live: 2.9k 76% XFP ~ 1.6M
04	4:06	4:26	Trigger live: 2.8k 76% XFP ~ 1.6M
05	4:26	4:45	Trigger live: 3.0k 75% XFP ~ 1.7M
06	4:45	5:05	Trigger live: 3.0k 75% XFP ~ 1.7M
07	5:05	5:24	Trigger live: 3.1k 74% XFP ~ 1.8M
08	5:24	5:48	Trigger live: 3.1k 74% XFP ~ 1.7M
09	5:48	6:08	Trigger live: 3.1k 74% XFP ~ 1.7M
10	6:08	6:27	Trigger live: 3.0k 75% XFP ~ 1.7M
11	6:27	6:46	Trigger live: 3.1k 74% XFP ~ 1.8M
12	6:46	7:05	Trigger live: 3.1k 74% XFP ~ 1.7M
13	7:05	7:23	Trigger live: 3.2k 75% XFP ~ 1.7M
14	7:23	7:43	Trigger live: 3.0k 75% XFP ~ 1.7M
15	7:43	8:03	Trigger live: 3.0k 75% XFP ~ 1.7M
16	8:03	8:27	Trigger live: 3.1k 74% XFP ~ 1.7M
17	8:27		

18 Juhl

19 8:49

20 8:49

21 9:05

22 9:19

23 9:33

24 9:46

25 10:01

26 10:15

9:06

9:18

9:33

9:46

10:00

10:15

10:28

no thresholds on CsI ADC's

XFP: 20k livetime: 76%

XFP: 1.5M Trigger live: 75%

XFP: 1.3M Trigger live: 78%

XFP: 1.3M Trigger live: 76%

XFP: 1.3M Trigger live: 77%

XFP: 1.7M Trigger live: 78%

XFP: 1.6M Trigger live: 73%

XFP: 1.58M Trigger live: 73%

Run	Start	Stop	Comments
227	10:29	10:52	leverage current 4.62 mA, XFP: 1.5M Ft
228	10:52	11:06	XFP: 1.4M T.L.: 75%
229	11:06	11:21	XFP: 1.38M T.L.: 76%
230	11:21	11:35	XFP: 1.31M T.L.: 76%
231	11:35	11:50	← replace w/ livetime
232	11:51	12:05	XFP ~ 1.26M 2.2K Livetime
233	12:06	12:20	XFP ~ 1.5M ~ 2.6K live time 75%
234	12:21	12:34	XFP ~ 1.6M ~ 2.8K livetime 72%
	nanvsh		Beam seems unstable - lots of spikes
235	12:35	12:48	XFP ~ 1.6M 2.9K livetime 72%
236	12:49	1:02	XFP ~ 1.6M 1.1t. 72%
237	1:03	1:16	XFP ~ 1.6M L.T. 72%
238	1:16	1:28	XFP ~ 1.6M L.T. 72%
239	1:29	1:44	XFP ~ 1.8M L.T. 71%
240	1:44	1:58	XFP ~ 1.7M L.T. 71%
241	1:59	2:11	XFP ~ 1.7M L.T. 71%
242	2:12	2:25	XFP ~ 1.7M L.T. 71%
243	2:25	2:40	XFP ~ 1.64M L.T. 71%
244	2:40	2:54	XFP ~ 1.67M L.T. 72%
245	2:54	3:07	XFP ~ 1.67M L.T. 72%
246	3:07	3:22	XFP ~ 1.6M L.T. 72%
247	3:22	3:35	XFP ~ 1.6M L.T. 72%
248	3:35	3:48	XFP ~ 1.57M L.T. 73%
249	3:48	4:02	XFP ~ 1.58M 74%
250	4:02 pm	4:16	XFP ~ 1.6M 72%
251	4:16	4:30 pm	XFP ~ 1.6M L.T. 73% --- lots of spikes.
252	4:30 pm	4:44 pm	XFP ~ 1.6M L.T. 73% ---- lots of spikes.
253	4:44 pm	4:58 pm	XFP ~ 1.6M L.T. 73% lots of spikes.
254	4:58 pm	5:12 pm	XFP ~ 1.6M L.T. 73%
255	5:12 pm	5:26 pm	XFP ~ 1.61M 73%
256	5:26 pm	5:42 pm	XFP ~ 1.58M 72.6%
257	5:42 pm	5:56 pm	XFP ~ 1.57M
258	5:56 pm	6:13 pm	XFP ~ 1.51M 74.02
259	6:13 pm	6:28 pm	
260	6:28	6:42 pm	XFP ~ 1.52M
261	6:42 pm	6:56 pm	XFP ~ 1.48M 74%
262	6:56 pm	7:24 pm	XFP ~ 1.46M 73%

26 May 20

	Start	Stop	Comments	
64	7:25 PM	7:37	XFP ~ 1.5 M	Live time: 74%
65	7:37 PM	7:56	1.58 M	73%
66	7:56	8:15	1.59 M	74%
67	8:15	8:28	1.58 M	73%
68	8:29	8:43	1.61 M	73%
69	8:43	8:58	1.58 M	73%
70	8:59	9:17	1.58 M	73%
71	9:18	9:31	1.51 M	75%
72	9:31	9:46	1.52 M	74%
73	9:46	10:01	1.52 M	73%
74	10:02	10:15	1.54 M	68%
75	10:15	10:34	1.57	66.7%
76	10:35	10:49	1.55	73%
77	10:49	10:59		

End of beam.

Changed trigger to Si F and B

78	11:05	11:50	α -source.	
79	8:32 AM	8:54	CAESAR Background.	
80	8:54 AM	9:09	CAESAR Background.	
81	9:35		CAESAR ^{60}Co calibration.	
82	9:40	9:55	" " "	
83	10:00		CAESAR ^{22}Na calibration	
84		10:30		
85			Pulsar ramp EF	0-8 V, 33 steps (HARA)
86			Pulsar ramp FB	0-10 V, 41 steps (HARA)
87			Pulsar ramp	

5/27/13 Notes on 5th exp.

MB3

A on front side of CHIP board

Slot

1 - 7 Back

5 - 7 Front

10 - 8 Back

~~43~~

14 - 8 Front

5/28/13 Pulses calibration for 5th exp.

using 2 LVDS XCMS & SIS, only

RUN #	Description
300	EF Pulser ramp 0-10V, 41 steps, 15 sec/step
301	EB Pulser ramp 0-10V, 41 steps, 15 sec/step
302	Alpha calibration (5 mins)
303	- " -

M1 SRA 16 - tripped