

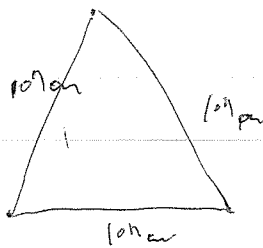
E299

実験ノート #2

2007 11/20, 11月実験準備,

- セオドライト設置,
前回の方法を踏襲.

セオに, 3点の間隔は, 107 cm くらいが妥当なお.



BLP2 直後の Q1, 0.2mm 未満の精度.

FP 出口の シリカ に合わせて, 鉛直方向に 0.13 mm

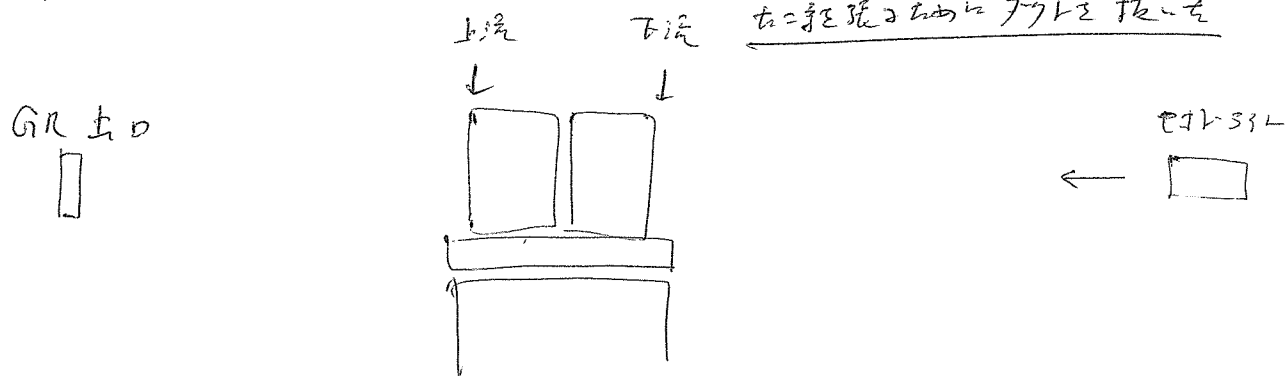


アシの下, 1+かさ線の, ~~0.3mm~~

0.3mm 左にずれている.
(お供11)

Q1 の範囲内とする.

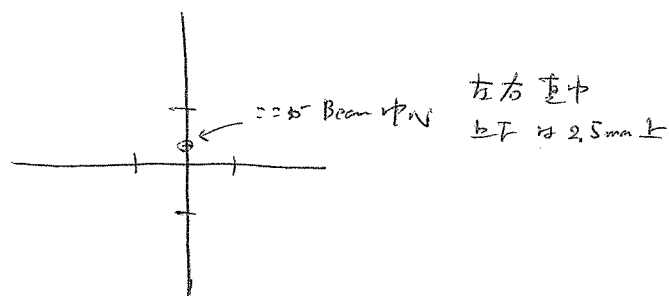
カメラで使う Q のアジャストメント



左右 上流下流とも 右に緊張の範囲内に左右を合わせる

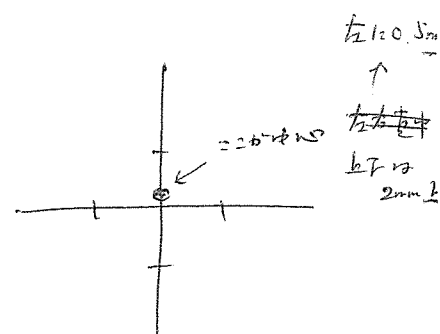
上下 Q の
 下流 1mm 高い → 調整は
 上流 0.5mm 低い → 〃

Q の View



View の中心 X に
 下流から見た

Dump の View



View の中心 X に
 下流から見た

F.P. Vomer

前々回 2.534V 2nd 電圧調整、調整中のうちに左に2nd
(E299 vol #1 p7)

→ 再調整メント

2.561V

2nd 左右の中心

上下は 1mm ほど低い

→ 2nd 調整 OK とする

BLP Target

BLP 1
2

CH₂ $\frac{\text{mg}}{\text{cm}^2}$ → プラント (50 μm) に交換
プラント (50 μm) (10月か3月か?) を新品のプラント 50

Elastic 用 CH₂ target $8.4 \frac{\text{mg}}{\text{cm}^2} \times 2$ を用意 (2-4台作業機)

$\uparrow$
 $50 \times 4.5 \times 2 \text{ mm} = 0.3798 \text{ g}$

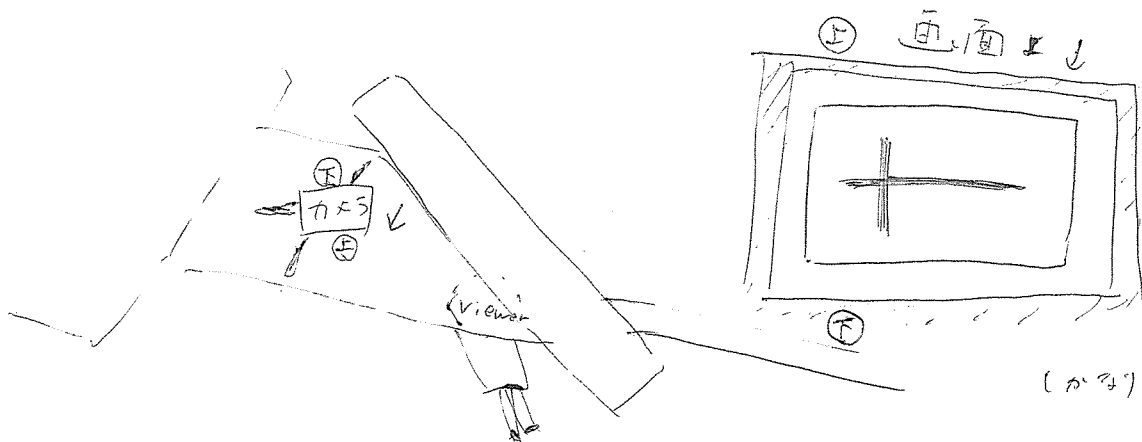
0° dump 部 垂直子に

rotary	~ 2 min	$5 \times 10^2 \text{ Pa}$	
	~ 3 min	$1.2 \times 10^2 \text{ Pa}$	
temp	~ 4 min	$4.1 \times 10^1 \text{ Pa}$	TRP
start	~ 1 min	$1.9 \times 10^1 \text{ Pa}$	26%
	~ 2	$6.1 \times 10^0 \text{ Pa}$	43%
	~ 3	$3.1 \times 10^0 \text{ Pa}$	62%
	4	$2.5 \times 10^0 \text{ Pa}$	87%
	5	$2.1 \times 10^0 \text{ Pa}$	100%

F-P. Viewer

カノ膜

(前回と同様のセット)



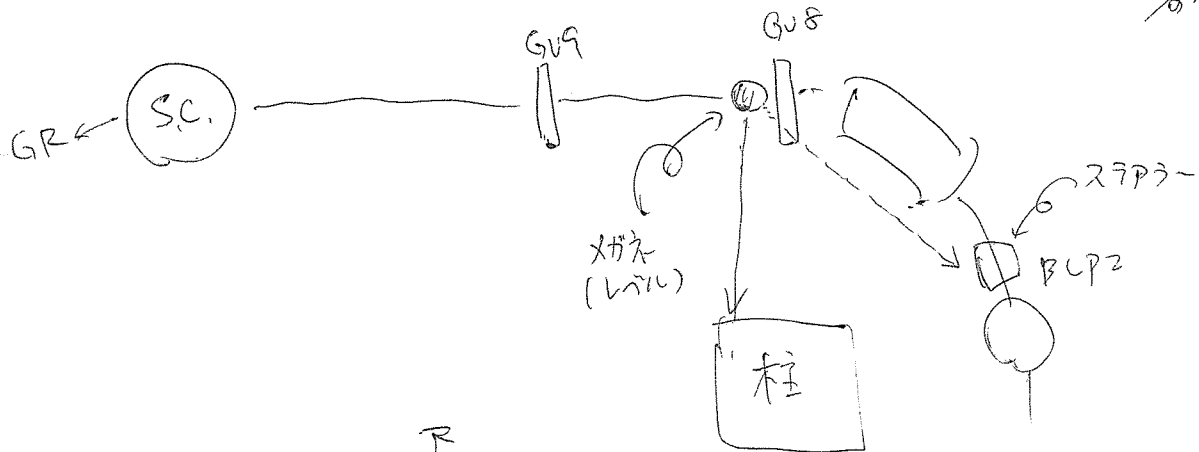
11/20~21

標的ラダー等 アライン 作業

作業者, 須田 石川

・ レベル 設置

散乱槽の上流のダクト (GV8の直下流) を外し, レベルを置く。
 高士の基準は, 北東中央の柱と, BLP2直下流のステプラーである。
 のケガキ線



- ・ ステプラーの上流, 下流, エカ所 にはケガキ線があるが,
 柱を基準に合わせると, 上流側のケガキ線の方が 0.5mm 程度低い。
 下流側は 柱と一致する。そこで, 基準としては
 → 柱のケガキ
 → ステプラー下流のケガキ
 を用いた。

・ レベルの 左右方向 合わせ。

GRのスリット 縦~~±~~ ±30 mrad × 横 ±20 mrad が入っていたので, そのケガキ線 (縦方向の) を基準に, レベルの左右方向を合わせた。
~~この状態でも~~

・ 標準ラダーの位置合わせ (ZnS viewer)

散乱槽に 標準ラダーを ~~セッ~~ セットしてみると, ^{ZnSの中心が} レベルの縦線より ~~左~~ 左に 1mm ずれていた。縦~~方向~~ 上下方向についても, ボラニシを 3.325 V にすると 1mm 高かった。

しても高さが合わず、3.311 V にすると良く合うことがわかった。

ラダーに対して ZNS の

ZNS の左右については、位置がずれたと受け取る。

5. ラダーの回転 ~~を~~ によっても高さが変わるのだ。

(ZNS の左右方向を合わせたいのが、)

⇒ ラダーの回転によっても高さが変化するので、まず回転を確かめることにした。

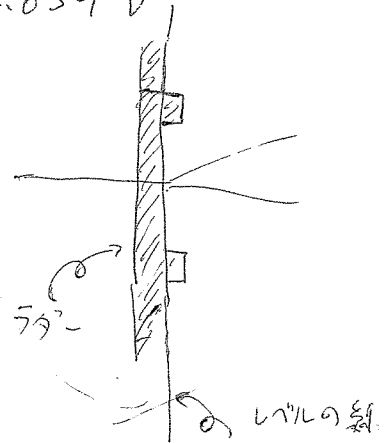
回転を -90° にして、真横になるポテンシを讀む → 2.639 V

パラメータによれば

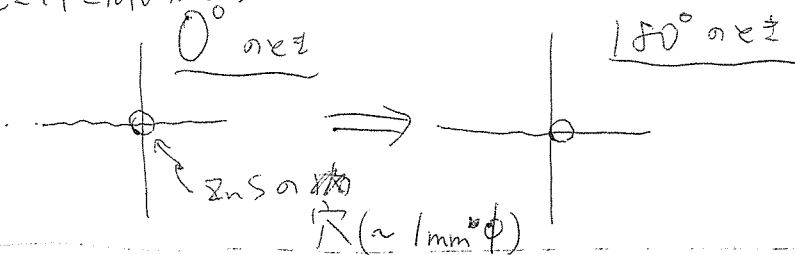
0.00827 V/deg なので、 0° になるポテンシは

$$2.639 + 0.00827 * 90 = 3.383 \text{ (V)}$$

実際に回転させてみると、カチカチ動く (滑らかな回転ではない) ラダー
→ 回転を 3.381 [V] に設定した。これを 0° とする。



次に ラダーを 0° と 180° に回転させて、ZNS が回転中心にあるかどうかを
調べた。 ~~また~~ (便宜上、~~この~~ 0° のときの ZNS 中心に レベルの左右を合わせている)
-- (10月の E299 と同じ方法)



10月の
E299 の時は
この状態であった

ZNS の穴が、 0° と 180° のときでずれている。

ZNS を少し右にずらして合わせる ($\sim 0.5\text{mm}$ くらい右)。

上流から見る

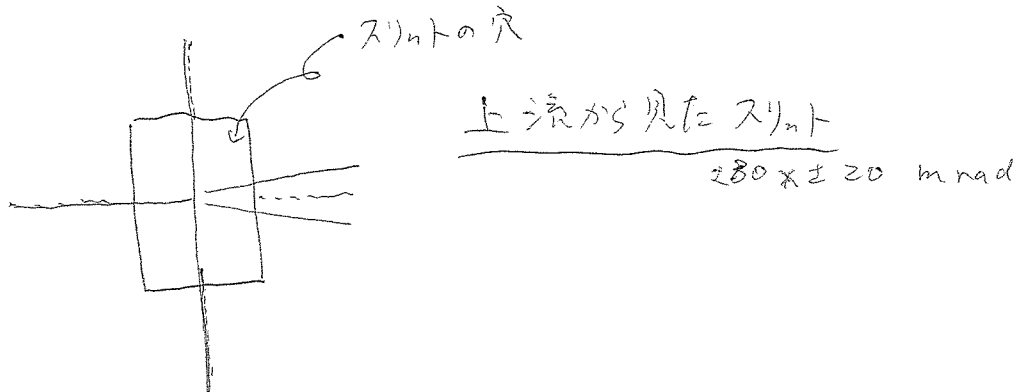


① ラダーの回転中心と ZNS viewer の
回転中心がほぼ一致した
(180° のときに中心が 0.2mm くらいズレ
ていた)

(ここで レベルの左右を 0° のときの ZNS 中心に合わせて直している)

結局、E299 の時の状態に戻した。
(10月) この状態 (P.91 参照)

- 次に、もう一度 レベルの左右を、スリットを基準に合わせようとしたが、他の実験の作業 ~~のため~~ スリットの位置が変わっていた(可能性はある。) $\rightarrow$ 岡村先生作業 (ねじが緩んで締めたスリットの位置がずれたこと)
- そこで、 $\pm 0^\circ$ のときの中心に ~~スリット~~ レベルの左右を合わせ、スリットの位置を確認した。



- 高さはレベルに合わせている (変化なし)
 - 左右方向は、下傾りのケガキ線に合っている
- 上傾りは線の本分ケガキ線が右にある (上流から見ると)
- $\Rightarrow$ スリットの位置は変化していないように見え、と考えて良さそう。
- 10月の E299 では、スリットの ~~レベルが~~ かレベルより 1mm 下であった (1-1 #1 P.9)
- 10月と同じ状態にしたいが、スリットを下げる方法がない。

- レベルの高さ、左右の調整は上記のままで良いとして、ラターの ± 0 の高さを合わせる

高さ

~~standard ラター~~

- 標準のラター 3.311 V (cf. 前回 E299 では 3.325 V)
- 3 段ラター (ガスセル使用時) " (土と同じ) (に使うもの)
- Mg, Ca 用ラター 3.322 V (元々ラターには 3.308 V と書かれていた。左記の値に書き直してあった)

11/22 追記

- 左右については、アラインをやり直し、スリット (20 x 30 mrad) のケガキ線に合わせてレベルの縦線と合わせた。(高さについては変化なし)
- viewer ± 0 は E299 (10月) の状態に戻した。

21 FC (散乱槽) 位置確認.

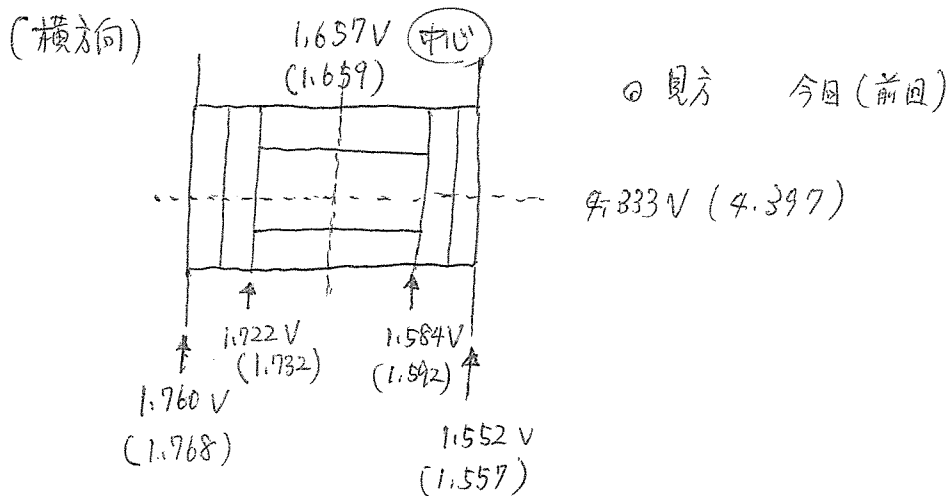
作業者 須田, 石川

- ・ 前回 E299 実験では, FC の高さ中心を 4.397 V にした,
横中心を 1.659 V

高さが再現しなかったため肉眼で中心を決めた → 4.333 V

横方向は全体的に前回と少しずれている。(下図)

tilt は standard の値 2.875 V を使用.



1 秋家 SLIT 位置確認

作業者 須田, 石川,

各 Scinti の先端がレベルの線に来り時のポテンシャルを言った。
wsdev では limit の下では Scinti が十分入らないので途中から手でパルスエター
を同じ Scinti を入れた。

以下、その時のポテンシャルの読み。

Left : 4.346 V
Right : 4.297 V
Up : 4.316 V
Down : 4.354 V

前回
 4.311 V
 4.354 V
 4.308 V
 4.404 V

10mm 動かすと,
 3.845 V
 3.794 V
 3.814 V
 3.848 V

11/22 14:30

 ^{40}Ca , ^{24}Mg target を mount した。

4-ポポンプロで測っている

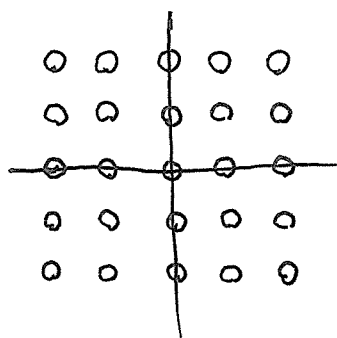
~~ホドテミミの X-ターの 11/22~~

Blank		
	^{24}Mg 2.5 mg/cm^2	
	^{40}Ca 3.5 mg/cm^2	
ZnS		
	^{40}Ca 11.8 mg/cm^2	

→ 3.322 V

11/22 シーフスリット

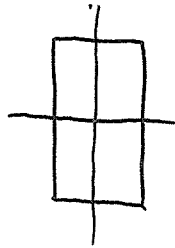
検出

~~検出~~

レベルの系泉 半分程度の範囲で 上下、左右の中心に合っている。

一度、シーフスリットを引き上げ、下ろした時の再現性はあった。

11/22 スリット 10 mm rad x 20 mm rad 須田



スリットのけがきに合わせて張った糸と
レベルの線が ~~重なって~~ 重なっている。 (上下, 左右)
一度スリットを引き上げて, 下した時の
再現性があった。 ともに

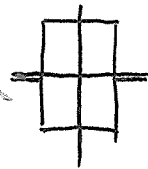


線幅の範囲で

(スリットが線幅分左にある) ←
(上下は大体いいた)

糸の精度に不安がある。

糸を外し, けがきを見る努力をした。



左右はけがきとレベルの線が
重なっている。

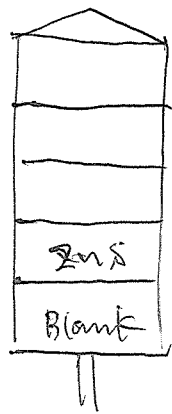
上下は、けがきが線の太さ以内の
範囲で下に見える。

BVG の viewer を入れて見る

viewer の中心が, 1 mm 上にある。

左右は OK (中心に ~~ある~~)

11/22 標準ラダー 各セル位置



ポテンシオの値(計算)

0.631
1.525
2.418
3.311
4.205

ZnSは 1/21 に合わせた。そのポテンシオが
各セルのポテンシオを求め、下から順に 4.205

0.642 に変更

計算で

合ってる

合ってる

再現

7ターミナル線とセルから見たら 0.5mm くらいずれていた
Blank からよいか?

⑥ ZnS の合わせ方

ポテンシオが ± 増える方向では 3.285V をとると
減る 3.340V

そうすると Actual が 3.311(V) 付近になる。

⑦ 3段ラダーの時

ガス標的を測るときは 0.631V で

beam loss monitor 設置 (浦田・R#1)

berga.2 blm 3 7 2 1 4 2

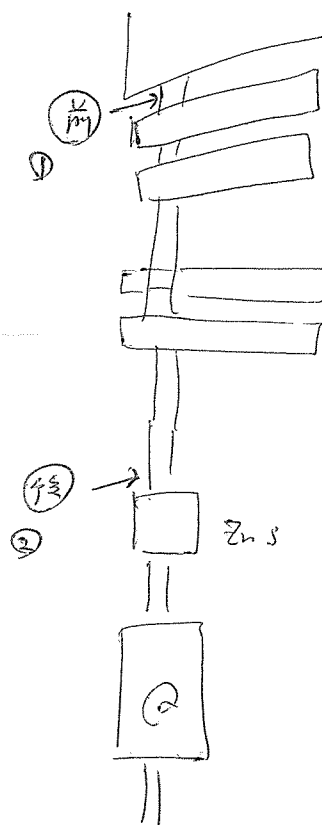
① 前、FP タクト に 付く

② 後 ② 前 2.1 の 前 の タクト に 付く

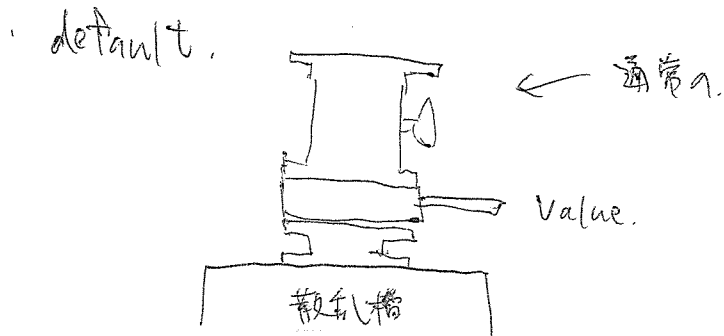
① → CAMAC Scale ch # 10

② → " ch # 11

0.3 秒 2 2



散乱槽、標的接続部 トランジ関連、



3段階の取り出し、1. 上図の valve をつけた状態で

ドライファン電源つなぎ、

上から { 黒
白
メス }

9 H-7M とおおよそ
(at GR 針)

11/23. ガス標的のアライメント

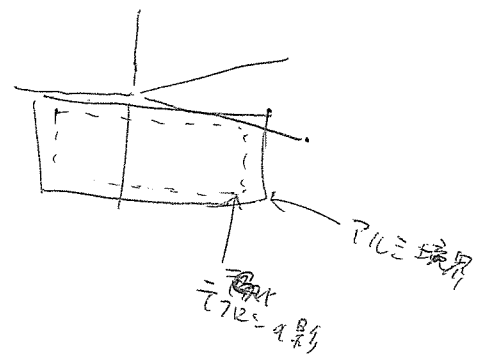
→ telnet utsw 7003.

→ h-

→ mc 1" 上限リミット1.

TEL 下枠 + 3000 + 2000 + 1000 +

下限リミットで 1012 の
上から



うーん.

→ h+

→ d 000

→ m; 1"

セルの上げ --- 下限リミットから. → h-
→ d 300
→ m;

セルの下枠 (1012 は無視) . 下限から ~~2000~~ ³⁰⁰⁰ steps,

1012 の位置 下限リミットから ~~2000~~ ³⁰⁰⁰ steps,

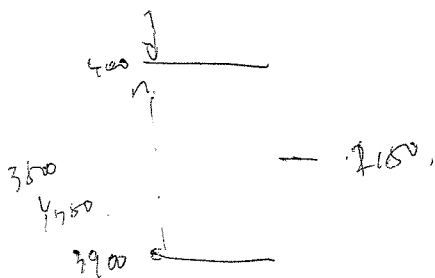
下限リミットから, ~~1012~~ ¹⁰⁵⁰ step がセルの中心 (1012 は無視)

1300 step は 1012 を境界

$$\begin{array}{r} 2150 \\ 1750 \\ \hline 3900 \\ 400 \end{array}$$

$$\begin{array}{r} 2150 \\ 1750 \\ \hline 400 \\ 3900 \end{array}$$

$$2600 / 2 \rightarrow 1300$$



1700

上段. NPLimit 上. 400 step

下段

3900 step.
7700
3000

セロの中心は. 2150 step (7700 上.)

7700 上の (右側で見た) 中心は 1900 step.

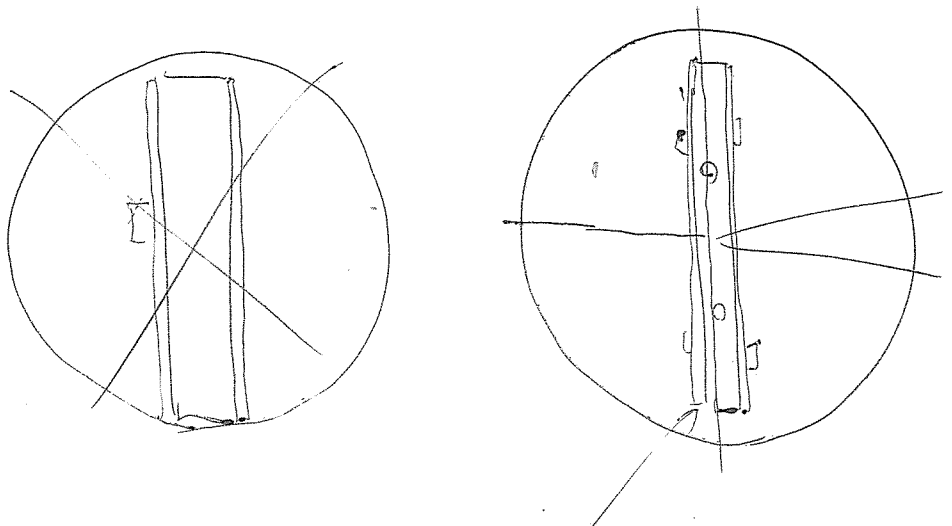
木体 2000 ~ 2150 の間 にかさる.

標

3段ラダーは. 一番上のポジション (0.633) 上.

1.5cm 以下の gas cell の余裕がある.

回転確認



90°に合わせると、回転軸がズレていることがわかった。

(~~ポ~~pt 100μmの穴の半径分、= 1.5mm)
(1.3mm?)

h
m

(下限ミット)



← ミット

h (逆方向)

d. 
↑ step

S (stop)

m (移動)

がス標的の高さ

再現性を確認

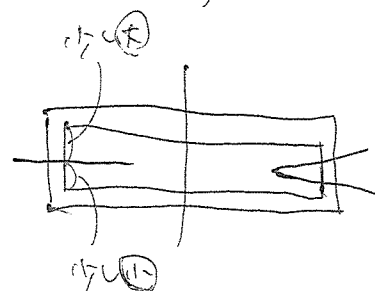
一度標的をとりはずし (グリーンでっけり) 再びとりつけた。

⇒ トランジットで見て高さ check.

(下限 + d2150) セル中心

⇒ ほぼ中心 (再現性有)

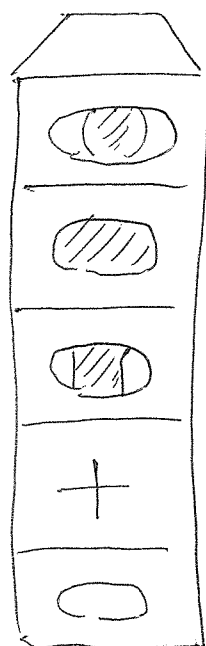
(下限 + d3900) でも一致していた。



11/23 20:30

標的 マウント

標準ラダー



S_i 1.86 mg/cm²

標的
修補 S_i

^{197}Au 1.68 mg/cm²

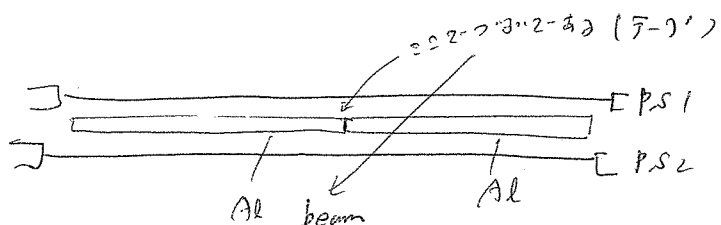
C 30 mg/cm²

ZnS

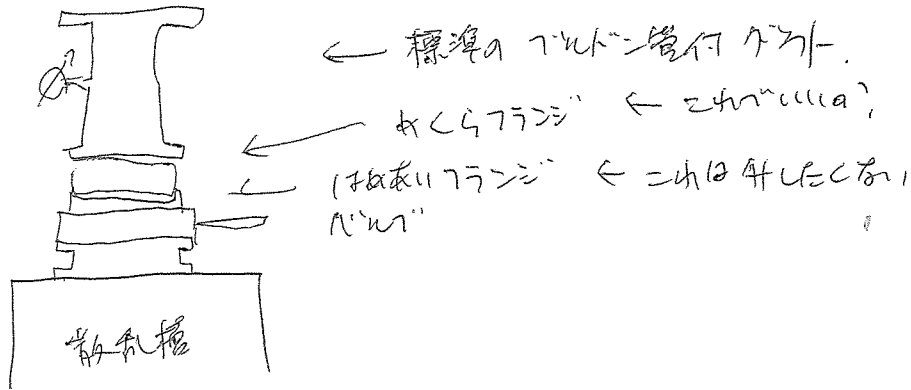
blank frame

GR 基上面 plastic scintillator

2枚の間は 5 mm の Al を入れる



標準ラターの付け方



2枚重ねるのか?

昇降の記録?

(10A実験ラジはね出しを外した方が
 回転の再現性も考えると、外したくない)

11/23 21:50

WS beam Transport 開始

GR 調整 1 本.

TBC HV. 前部とバック

GR cath - 5.6 kV.

pot 0.3 kV.

LAS cath - 5.3 kV.

pot 0.3 kV.

WS Magnet Controller

'07/11/23 22:45

WS/PIS

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1			mT	97.10	97.10 A			
GR SX			mT	18.70	18.60 A			
GR Q2			mT	8.80	8.80 A			
GR MQ			mT		0.00 A			
GR MS			mT		0.00 A			
GR D1	889.328	889.327	mT	236.2569	236.07 A			
GR D2	889.328	889.365	mT	444.6803	444.20 A			
GR DSR		19.065	mT		0.05 A			
LAS Q			mT	218	217.70 A			
LAS D	-748	-747.997	mT	280.2239	280.30 A			
GR DQ1			mT		0.00 A			
GR DQ2			mT		0.00 A			

Update

update Cycle 10 sec.

Hcopy

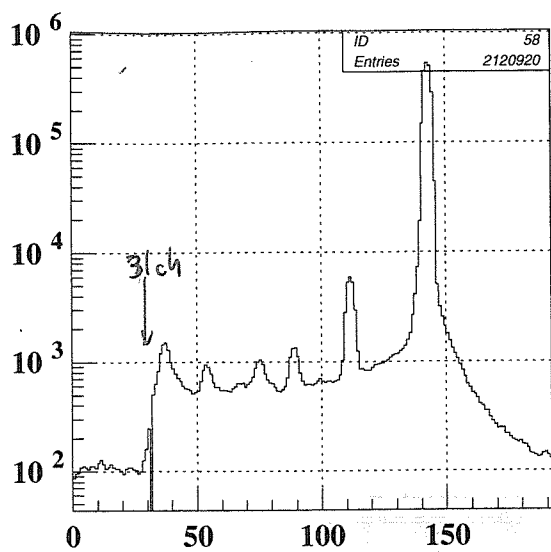
Queue acc2424

exit

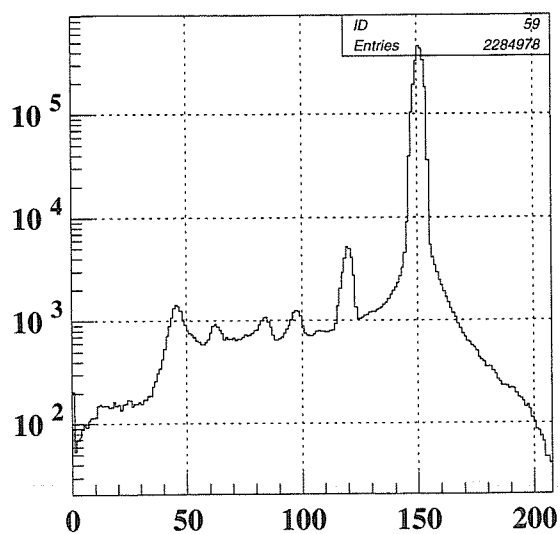
x (cast) A

x (cast) A

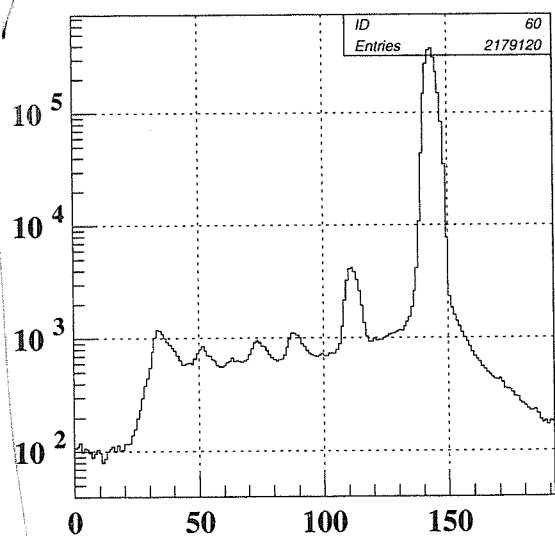
2007/11/23 22.41



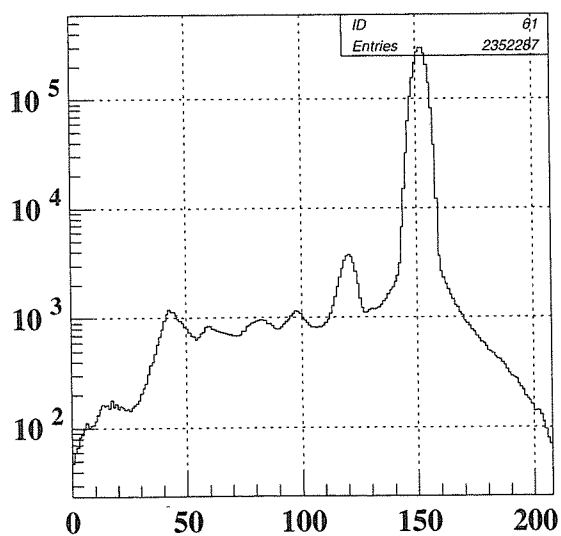
GWIREX1 GR WIRE X1



GWIREU1 GR WIRE U1

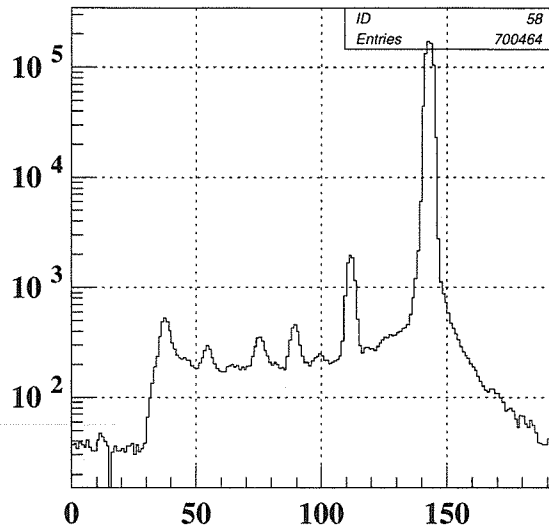


GWIREX2 GR WIRE X2

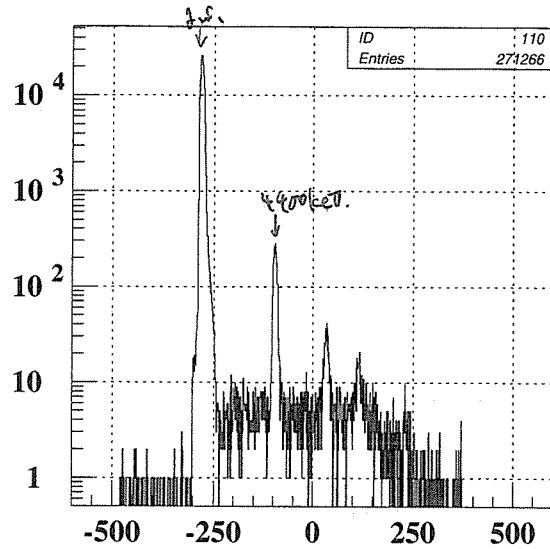


GWIREU2 GR WIRE U2

次ページにトリップ変更後の絵.



GWIREX1 GR WIRE X1

GXG GR X with PI_gate

Run 2001 12C elastic energy calibration. $20 \text{ mg}/\text{cm}^2$.

g.s. -281.73 mm

4400 keV -98.196 mm

$$\frac{4400 \text{ keV}}{(-98.196) - (-281.73)} = 23.99 \text{ keV/mm}$$

Run 2002. ^{12}C . 3000/cm². white spectrum.

WS Magnet Controller

07/11/24 00:14

WS/PIS

Magnet	Field(Preset Actual)	Current(Preset Actual)	Status	PS	NMR	FB
GR Q1	mT	97.025 97.10 A				
GR SX	mT	18.772 18.70 A				
GR Q2	mT	8.767 8.80 A				
GR MQ	mT	0.00 A				
GR MS	mT	0.00 A				
GR D1	844.782 844.796 mT	224.1567E 223.96 A				
GR D2	844.782 844.785 mT	421.8025E 421.31 A				
GR DSR	19.065 mT	0.0 0.05 A				
LAS Q	mT	217.70 A				
LAS D	-748 -747.990 mT	280.2096E 280.30 A				
GR DQ1	mT	0.00 A				
GR DQ2	mT	0.00 A				

Update

update Cycle 10 sec.

Hcopy

Queue acc2424

exit

GR D1, D2 at 95%
(#19 p. 29 #11)

GR. U1 a 90° も 交換して → 70° ポイント

U1 a 6 枚と 1 枚目を交換

↓

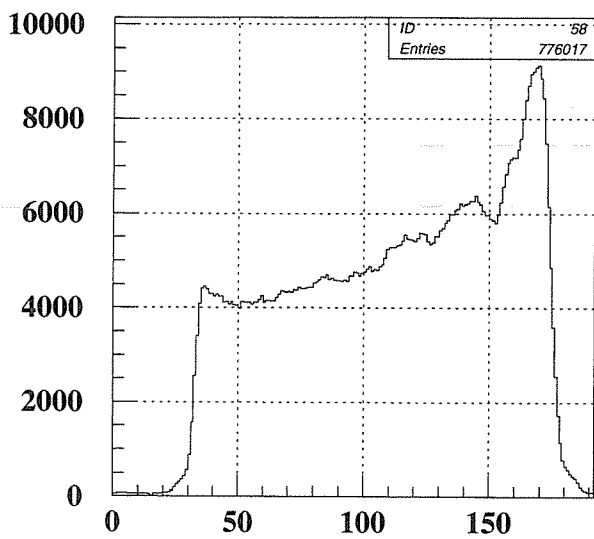
- 酸プロシ4回に2424の交換が見えたが、

数分のうちに70° 解消。

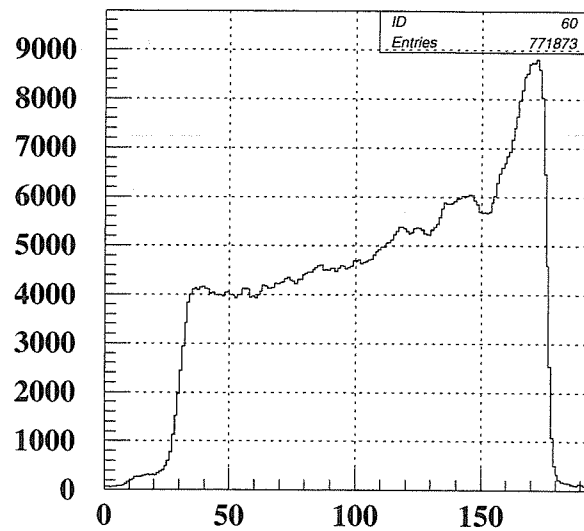
JC 力からないか。 29 までいり

GR wire.

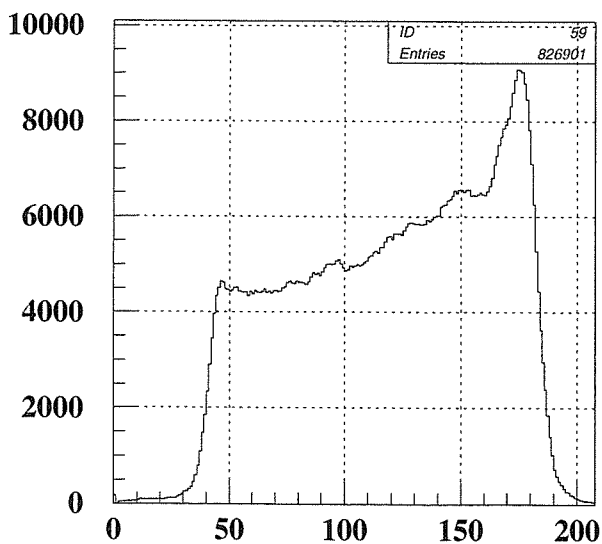
2007/11/24 01.05



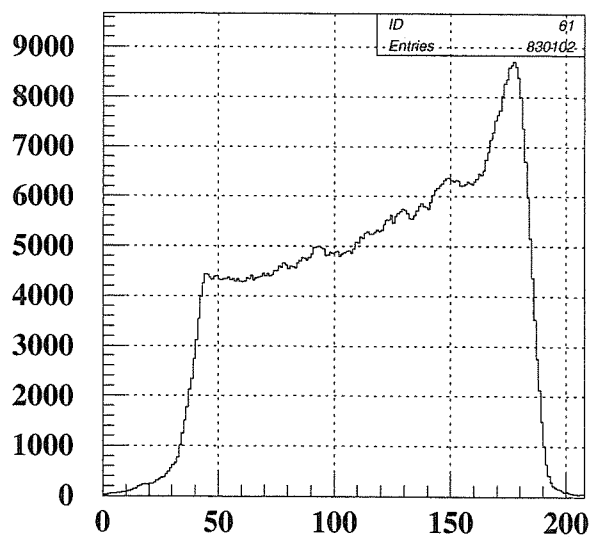
GWIREX1 GR WIRE X1



GWIREX2 GR WIRE X2



GWIREU1 GR WIRE U1



GWIREU2 GR WIRE U2

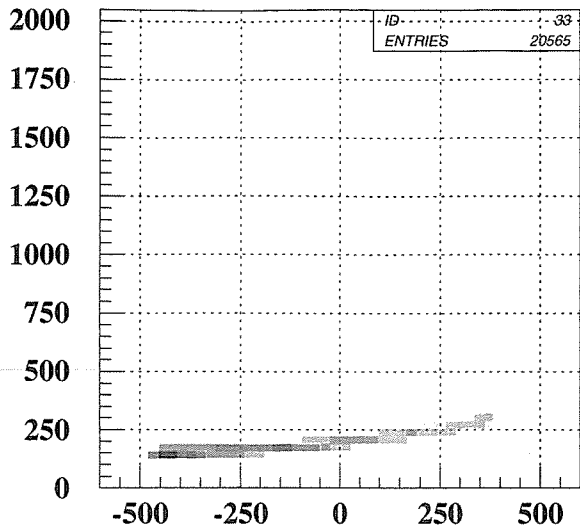
TDC 補正

gr-wtde, e 299-am- 07 nov. hist を保存したか。

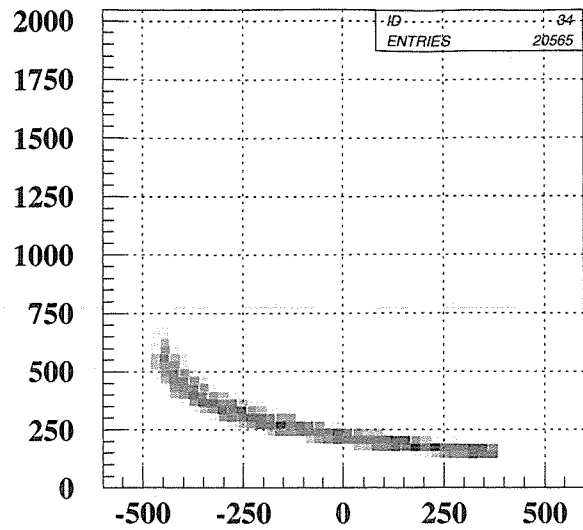
検算 07-oct-2. の方が結果は正しい 万Mj

ここの14行×4を保存。

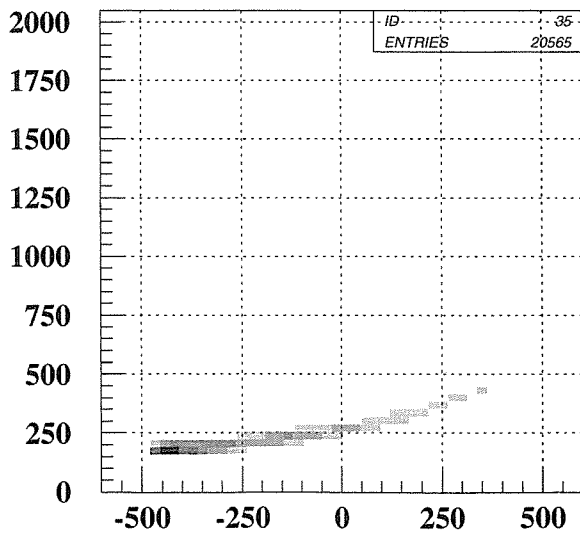
2007/11/24 01.25



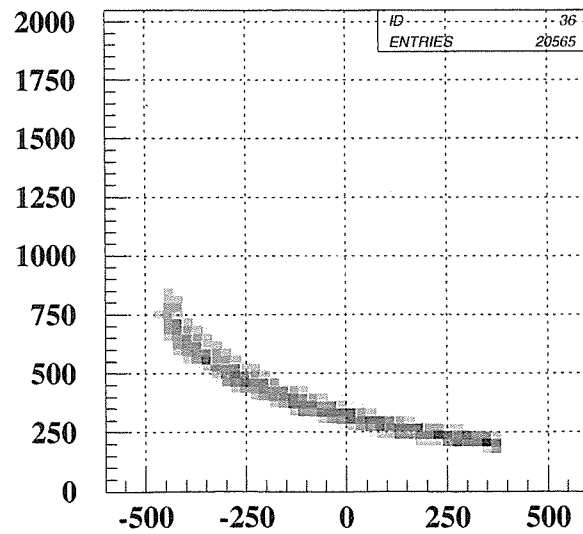
GXADC1LG GR ADC 1L vs X



GXADC1RG GR ADC 1R vs X



GXADC2LG GR ADC 2L vs X



GXADC2RG GR ADC 2R vs X

HTV の値は 10月実験の間:

↑
変化なし

((10月Aと線か ちがいの10

今日10 White 前月10

elastic 97da

RPH32010 Controller for GR+FPP

/Frame 0/Frame 1

Channel: Preset & True Voltage (Z=zero, R=restore)

1: 1650 1636 ▲ Z <untitled> ▼ R	9: 0 0 ▲ Z <untitled> ▼ R	17: 0 0 ▲ Z <untitled> ▼ R	25: 0 0 ▲ Z <untitled> ▼ R
2: 1700 1700 ▲ Z <untitled> ▼ R	10: 0 0 ▲ Z <untitled> ▼ R	18: 0 0 ▲ Z <untitled> ▼ R	26: 0 0 ▲ Z <untitled> ▼ R
3: 1830 1830 ▲ Z <untitled> ▼ R	11: 0 0 ▲ Z <untitled> ▼ R	19: 0 0 ▲ Z <untitled> ▼ R	27: 0 0 ▲ Z <untitled> ▼ R
4: 1870 1870 ▲ Z <untitled> ▼ R	12: 0 0 ▲ Z <untitled> ▼ R	20: 0 0 ▲ Z <untitled> ▼ R	28: 0 0 ▲ Z <untitled> ▼ R
5: 0 0 ▲ Z <untitled> ▼ R	13: 0 0 ▲ Z <untitled> ▼ R	21: 0 0 ▲ Z <untitled> ▼ R	29: 0 0 ▲ Z <untitled> ▼ R
6: 0 0 ▲ Z <untitled> ▼ R	14: 0 0 ▲ Z <untitled> ▼ R	22: 0 0 ▲ Z <untitled> ▼ R	30: 0 0 ▲ Z <untitled> ▼ R
7: 0 0 ▲ Z <untitled> ▼ R	15: 0 0 ▲ Z <untitled> ▼ R	23: 0 0 ▲ Z <untitled> ▼ R	31: 0 0 ▲ Z <untitled> ▼ R
8: 0 0 ▲ Z <untitled> ▼ R	16: 0 0 ▲ Z <untitled> ▼ R	24: 0 0 ▲ Z <untitled> ▼ R	32: 0 0 ▲ Z <untitled> ▼ R

HV ON Set All Update Set Common 0

HV All ON HV All OFF Read File Write File Update All Hcopy Queue acc2424 exit

今回の GR. HT.

target $^{12}\text{C} \rightarrow 199\text{A}$ $\rightarrow 168\text{mg}/\text{cm}^2$
 $11/24$ $1=45 \sim$ achromatic tuning 調整.

WS Magnet Controller

'07/11/24 01:43

WS/PIS

Magnet	Field(Preset Actual)	Current(Preset Actual)	Status	PS	NMR	FB
GR Q1	mT 97.130	97.20 A				
GR SX	mT 18.792	18.70 A				
GR Q2	mT 8.776	8.80 A				
GR MQ	mT 0.00	0.00 A				
GR MS	mT 0.00	0.00 A				
GR D1	890.200 890.182 mT	236.6096 236.35 A				
GR D2	890.200 890.201 mT	445.3059 444.95 A				
GR DSR	19.065 mT	0.0 0.05 A				
LAS Q	mT 217.70 A					
LAS D	-748 -747.989 mT	280.2126 280.30 A				
GR DQ1	mT 0.00 A					
GR DQ2	mT 0.00 A					

Update Update Cycle 10

調整前

 $\rightarrow$ software correction 10 A 宛 11.7 x 9.

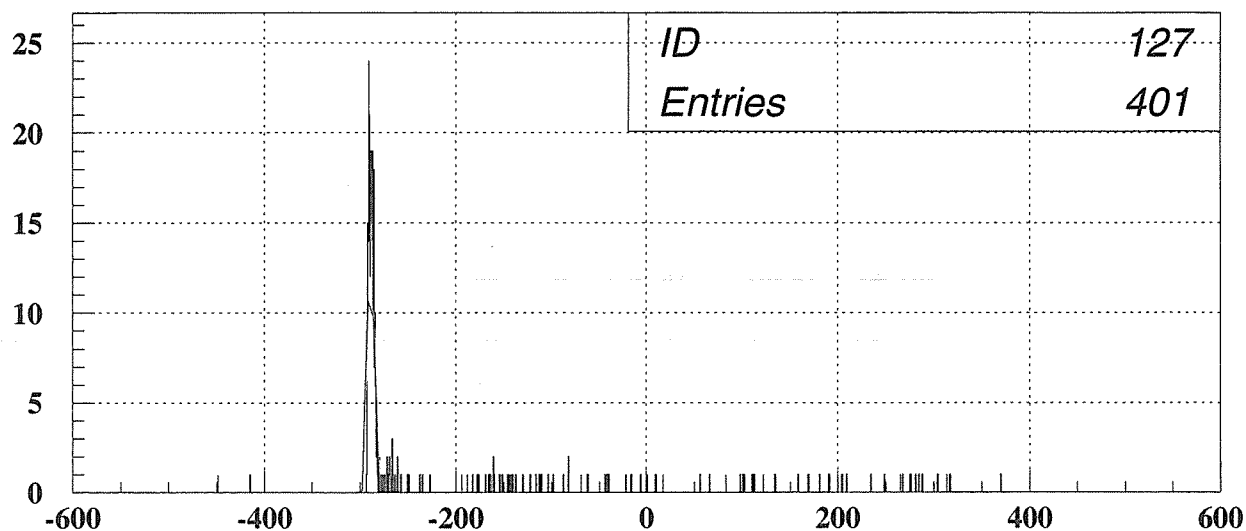
total

revolution check あり.

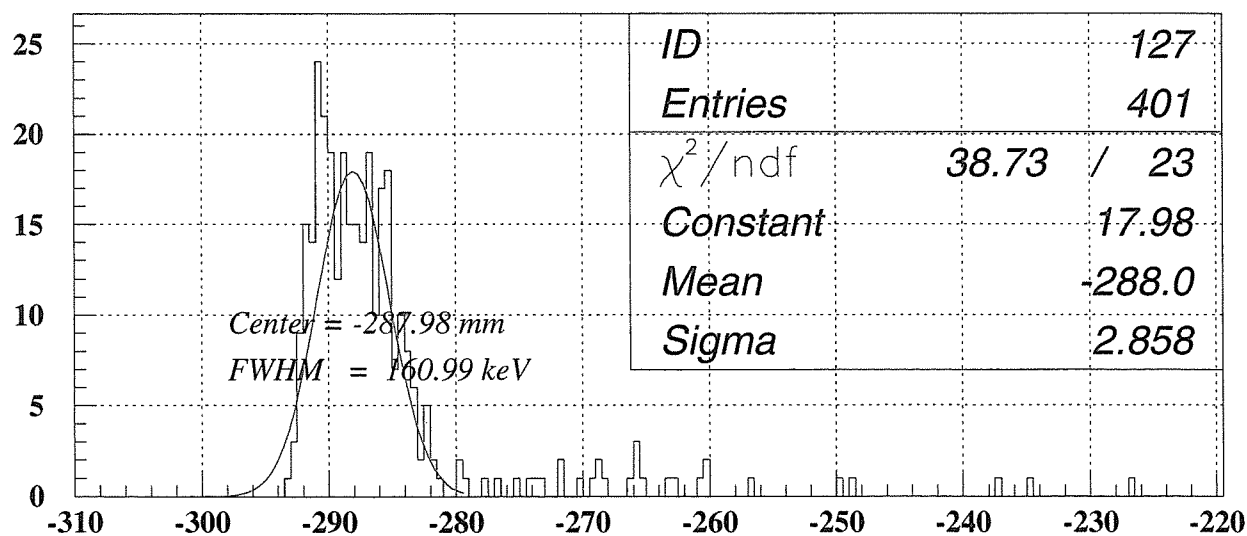
H 軸. $-0.5 \sim +0.5^\circ$ Y 軸. $-5 \sim 0$ Fring gate かけ. $\sim 70\text{keV} < 911$

何成分か混じり?

2007/11/24 02.21



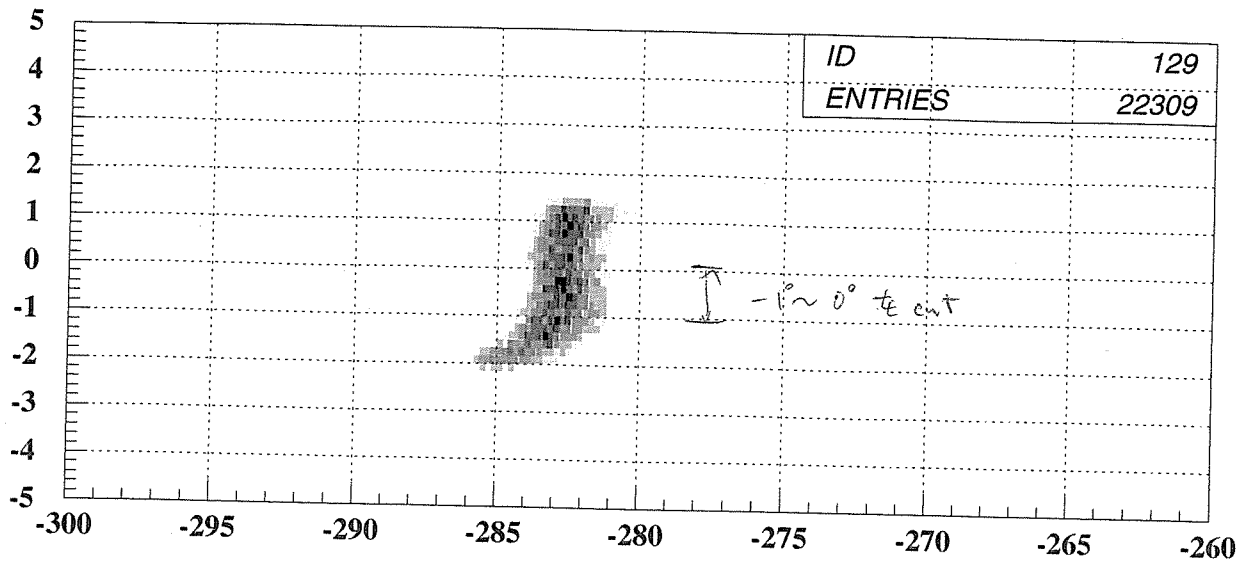
GXCCNG GR XCC Narrow (Y-Gate)



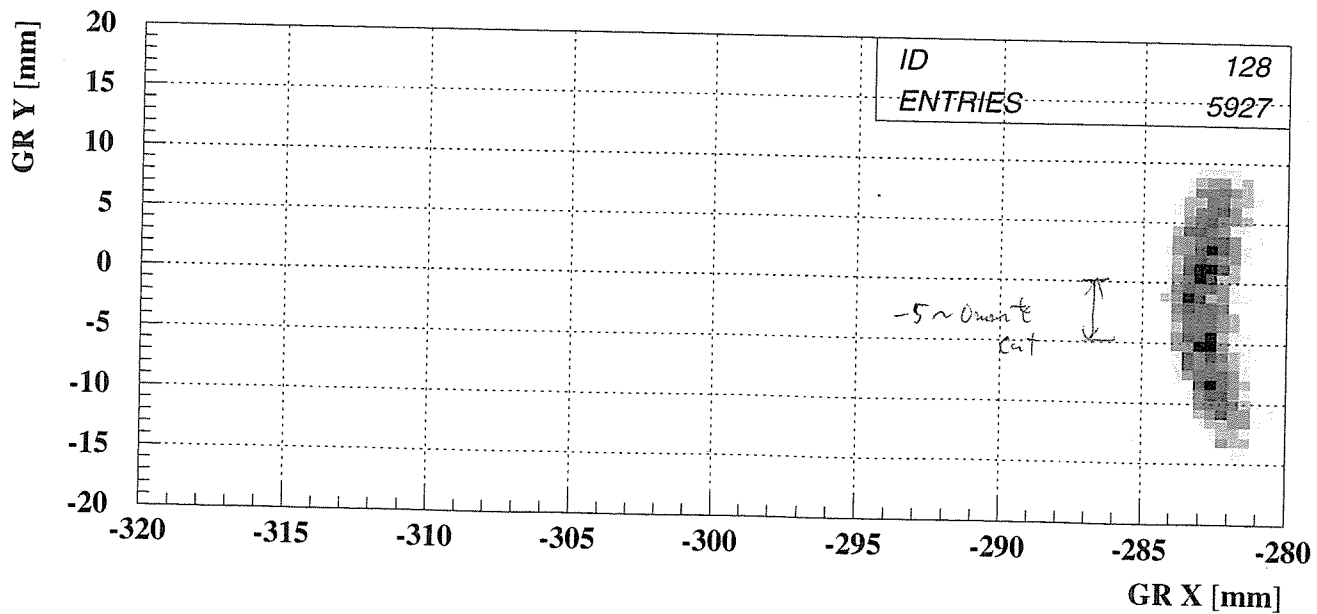
GXCCNG GR XCC Narrow (Y-Gate)

レポートのピークの切り方を変えてみると、
ずいぶん 40~50 keV になった。

2007/11/24 04.09



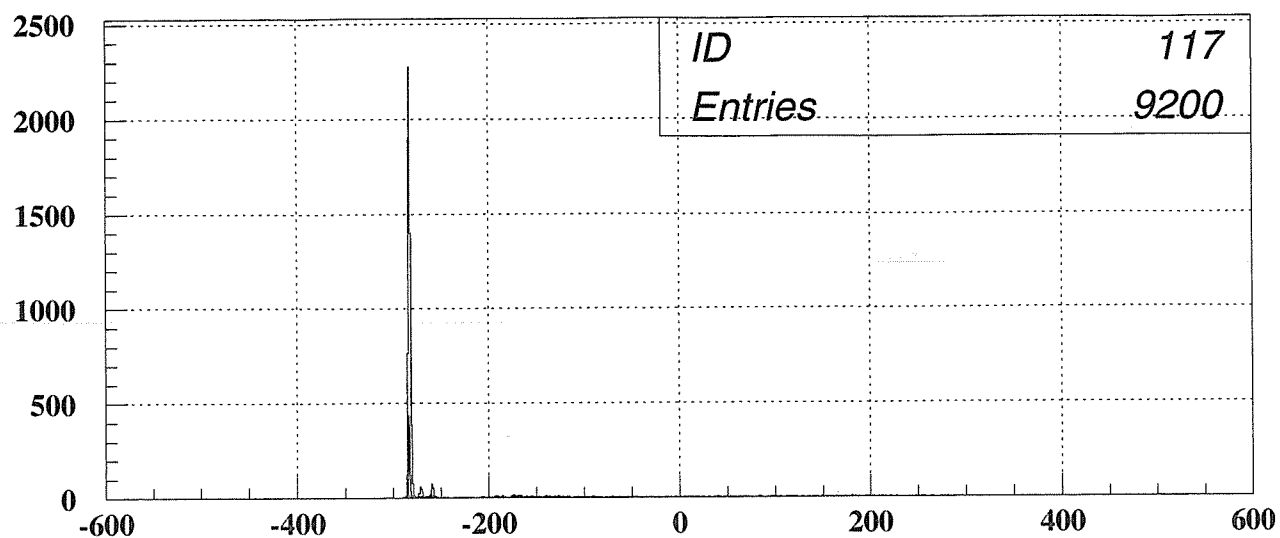
GXCCTH GR TH vs XCC



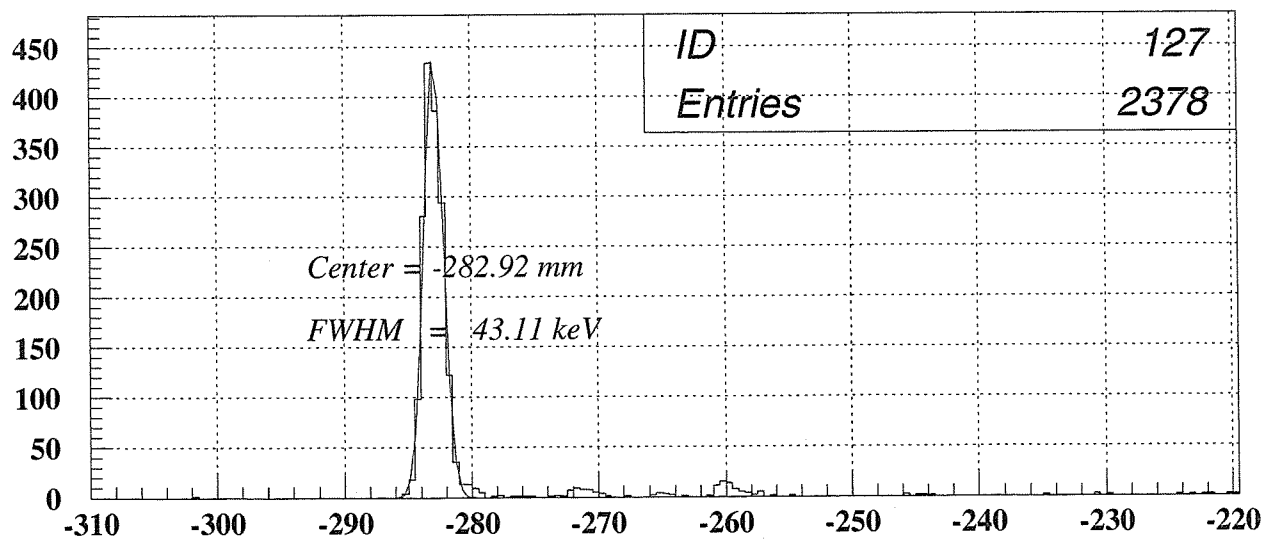
GXCCY GR Y vs XCC

上の th と ya gate をかけた あか 2 度 の 2 度 - 3 度

2007/11/24 04.11



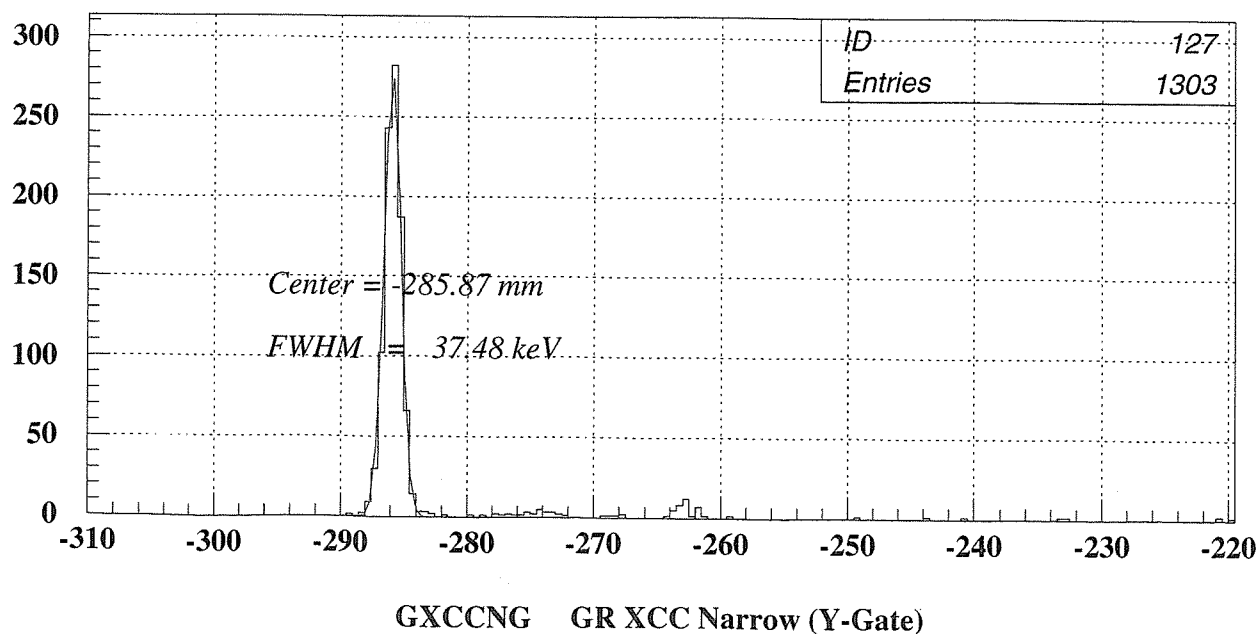
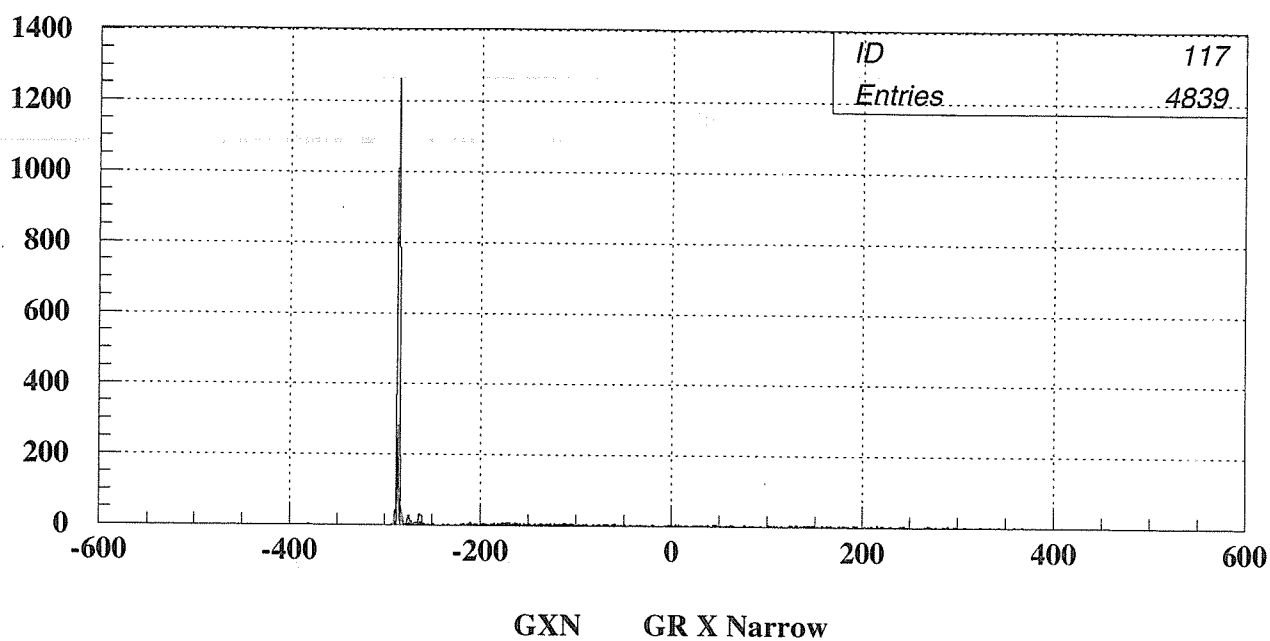
GXN GR X Narrow



GXCCNG GR XCC Narrow (Y-Gate)

Run 2003. ^{127}Au 1.68 mg/cm^2 , at θ^c
 42 keV. achromatic tuning

2007/11/24 04.38



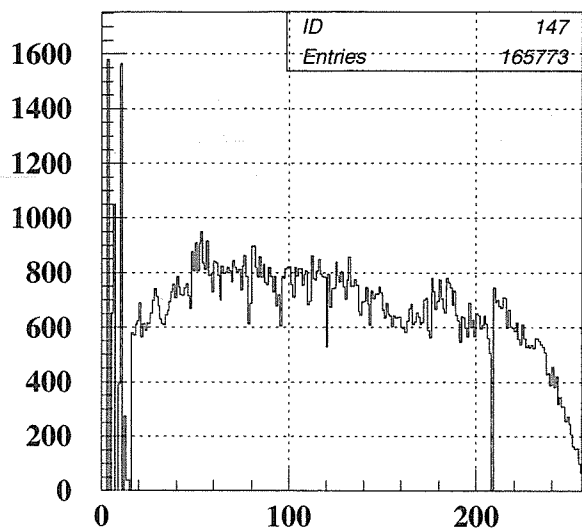
LASER BLP の立ち上がりがある。一旦 θ^c tuning は stop.
 (4:50)

11/24

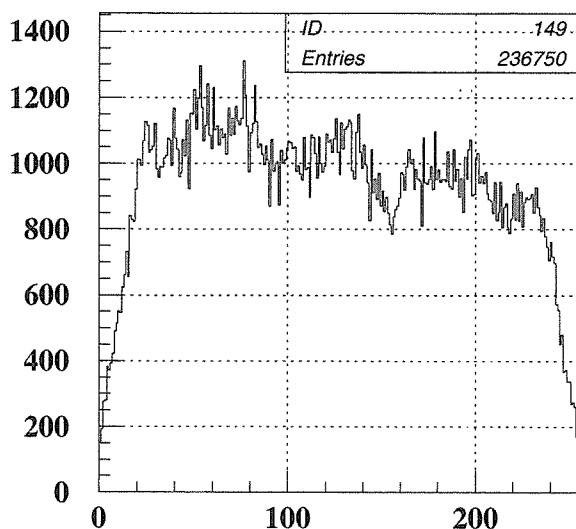
5:00 ~

LAD 立ち上げ

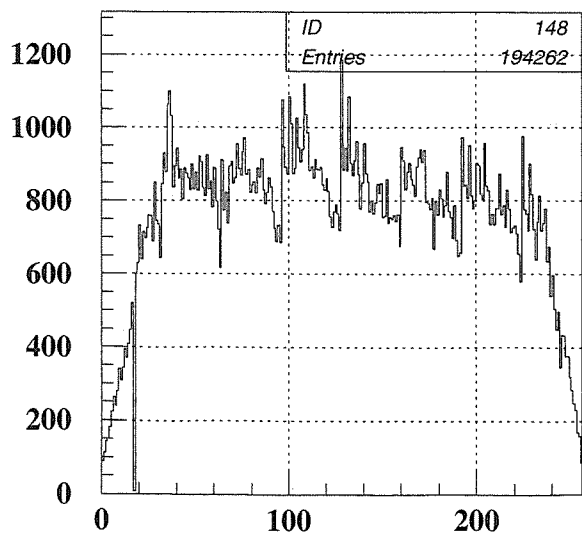
2007/11/24 04.58



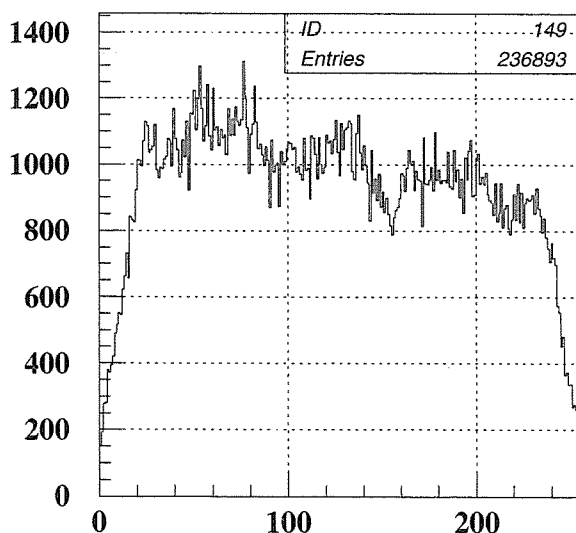
LWIREU1 LAS WIRE U1



LWIREU2 LAS WIRE U2



LWIREV1 LAS WIRE V1



LWIREU2 LAS WIRE U2

↑
 右のグラフは現時点での LAD の wire 状況。
 刻々で振動状況が変化するので、現時点では何れも新しい値に

rate1			rate3		
0	Beam Intensity	1.725 nA	0	BLP CLK req	:
1	GR event request	0.193 kcps	1	BLP CLK live	: 9.621 kcps
2	GR event live	0.191 kcps	2	BLP Trig req	: 9.620 kcps
3	LAS eventRequest	0.129 kcps	3	BLP Trig live	: 0.000 kcps
4	LAS event live	0.127 kcps	4	Akimune UP	: 0.000 kcps
5	GR clock request	9.620 kcps	5	Akimune Down	: 0.000 kcps
6	GR clock live	9.523 kcps	6	Akimune Left	: 0.000 kcps
7	GR Single	0.191 kcps	7	Akimune Right	: 0.000 kcps
8	GR Single Sample	0.127 kcps	8	Beam Monitor1	: 0.192 kcps
9	LAS Single	0.000 kcps	9	Beam Monitor2	: 0.190 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3	: 0.000 kcps
11	GR & LAS COIN	0.000 kcps	11	GR scinti.1	: 0.000 kcps
12	ALL accept Event	0.318 kcps	12	GR scinti.2	: 18.675 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	: 0.000 kcps
14	GR3377stop(TEND)	0.318 kcps	14		: 0.000 kcps
15	LAS-reject	0.000 kcps	15		: 0.000 kcps

Trig.(GR) live	: 99.015 percent
Trig.(LAS) live	: 98.519 percent
Clock live	: 98.990 percent

scaler down	2003 B.I. Range	6 nA
RUN NUM	2007-Nov-24	04:41:22
RUN START	2007-Nov-24	04:47:04
NOW	0 ch	Sca1
scaler	151200	Sca2

← #20030
scaler.

LASは15ナノ 790 だった

→ 59.6° へ変更.

HT #4,

RP32010 Controller for LAS

[Frame 0]

Channel: Preset & True Voltage (Z=zero, R=restore)

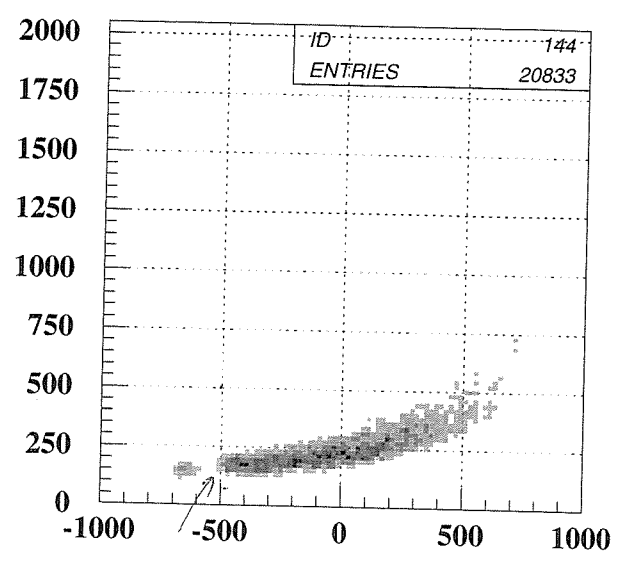
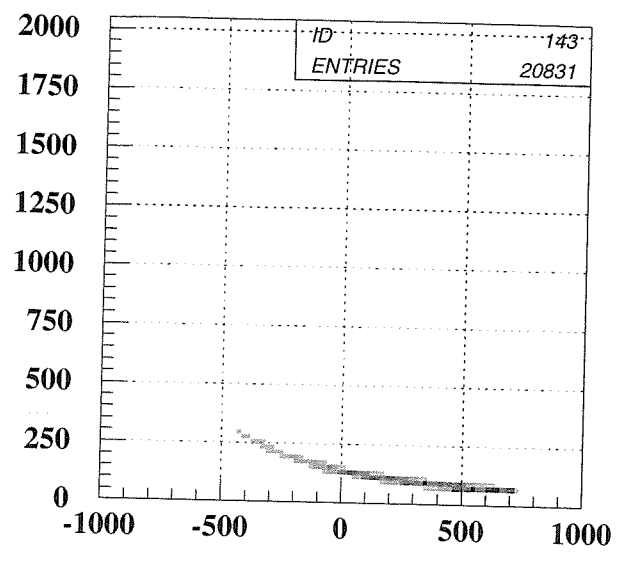
1: 0 0 ▲ Z	9: 2270 2276 ▲ Z	17: 0 0 ▲ Z	25: 0 0 ▲ Z
<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R
2: 57 57 ▲ Z	10: 2300 2294 ▲ Z	18: 0 0 ▲ Z	26: 0 0 ▲ Z
<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R
3: 2000 1956 ▲ Z	11: 69 69 ▲ Z	19: 0 0 ▲ Z	27: 0 0 ▲ Z
<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R
4: 2070 2027 ▲ Z	12: 0 0 ▲ Z	20: 0 0 ▲ Z	28: 0 0 ▲ Z
<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R
5: 0 0 ▲ Z	13: 0 0 ▲ Z	21: 0 0 ▲ Z	29: 0 0 ▲ Z
<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R
6: 0 0 ▲ Z	14: 0 0 ▲ Z	22: 0 0 ▲ Z	30: 0 0 ▲ Z
<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R
7: 0 0 ▲ Z	15: 0 0 ▲ Z	23: 0 0 ▲ Z	31: 0 0 ▲ Z
<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R
8: 0 0 ▲ Z	16: 0 0 ▲ Z	24: 0 0 ▲ Z	32: 0 0 ▲ Z
<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R	<untitled> ▼ R

HV ON	HV OFF	Set All	Update	Set Common	0
-------	--------	---------	--------	------------	---

HV All ON	HV All OFF	Read File	Write File	Update All	Hcopy	Queue	acc3626	eXit
-----------	------------	-----------	------------	------------	-------	-------	---------	------

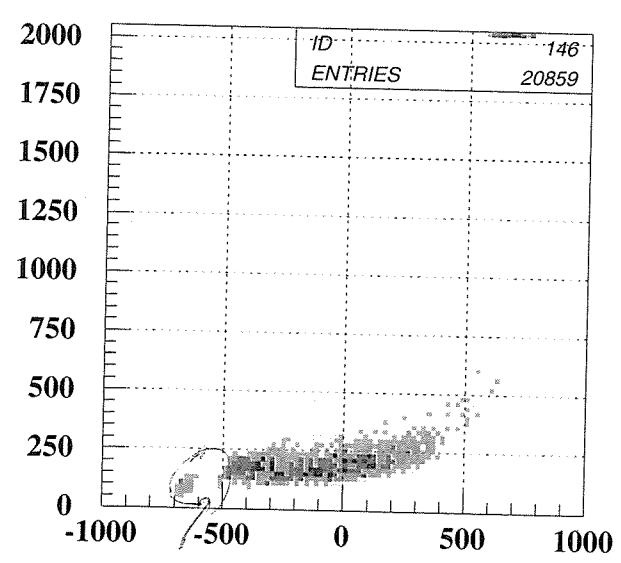
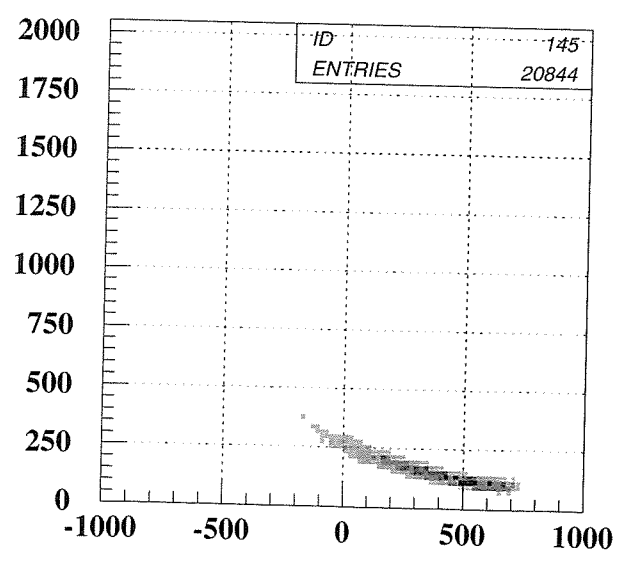
ニナベ 保存。テストは2003年

2007/11/24 05.48



LXADC2LG LAS ADC 2L vs LAS_X

LXADC2RG LAS ADC 2R vs LAS_X



LXADC5LG LAS ADC 5L vs LAS_X

LXADC5RG LAS ADC 5R vs LAS_X

-600 ~ -500 mm 付近に 検出器があるのか？
 (wire は 40mm 間隔で 143)

LAS collimator = 2.609T.

→ ミニマム ネットワークは
つながっている。

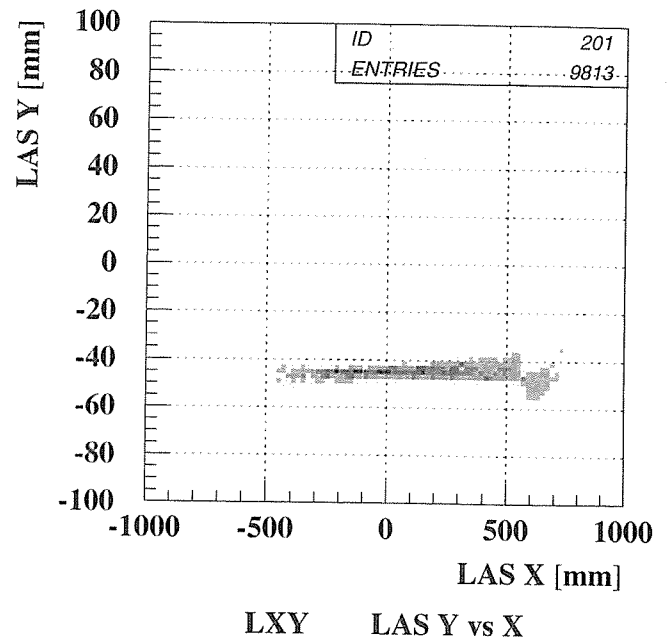
? LAS シーケンサ動かす: (電源抜きさしても動かない)
(他に原因があるのかも)

恐らく、前回の使用した値からそのまま残っているのかもしれない。

LAS collimator = 2.609T.

LASの $-50 \leq x \leq 750$ mm の gate を
おけたら hp log での fitting せよ

その 4 足ポイントの高さは、 -44.942 。



8:00 頃 BLP のフィルターを交換

10:30 頃 西に入室

↓

Xメモリジュール (X2) のうち 1 つが「おが(か)ったが」。

2 つを 入れ 替え (アドレスを 替える) と 直った。

(電源の ON/OFF もしたので「それが」原因かも (わからない。))

↓

~~おが~~ フィルターは 交換 しているが analyzer で 解析 できず。

民井 さん 来る。

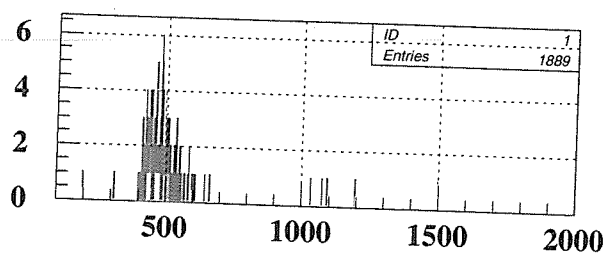
WS には あるが
WAO が ない

1220, BLPIのPに信号が来ている

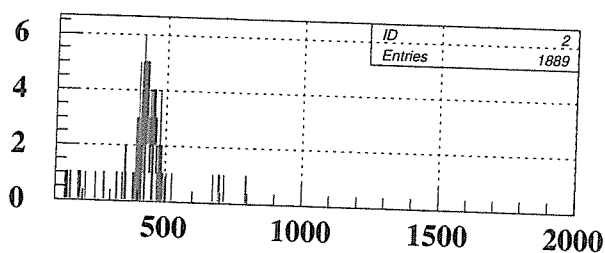
↓
接触不良?

exec bp-e#cul

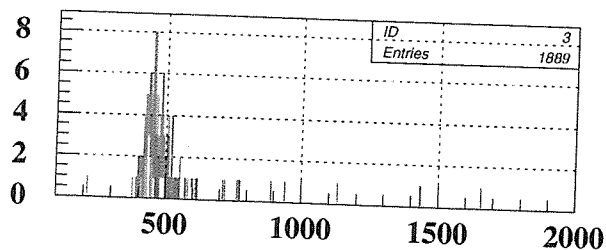
2007/11/24 14.43



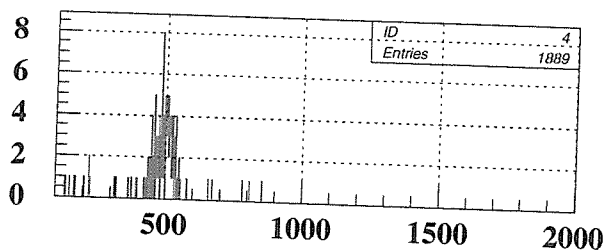
ADC CH1



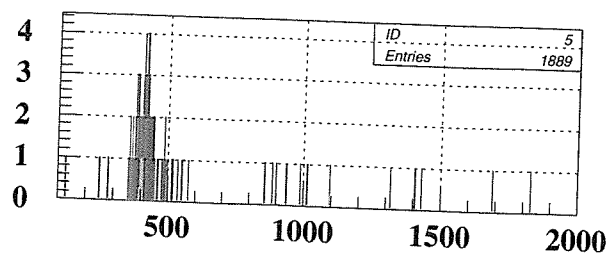
ADC CH2



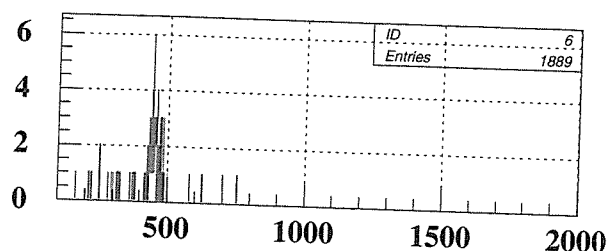
ADC CH3



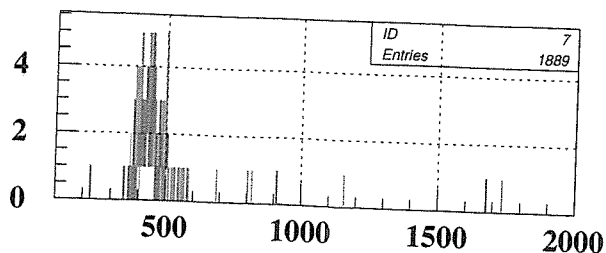
ADC CH4



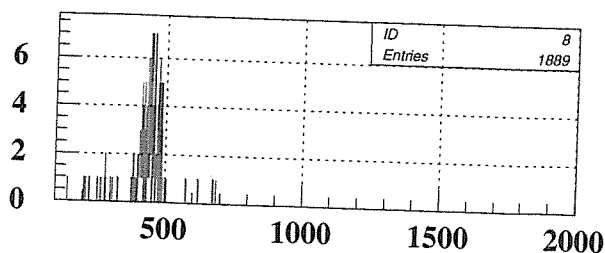
ADC CH5



ADC CH6

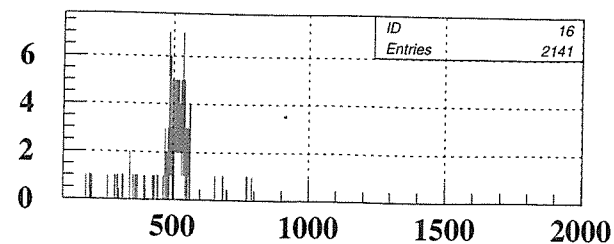
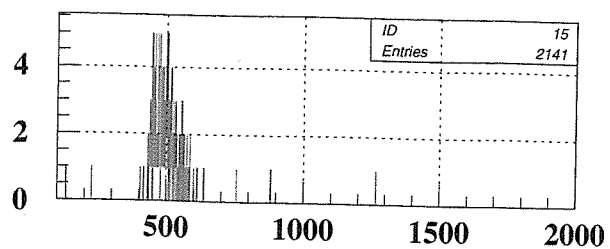
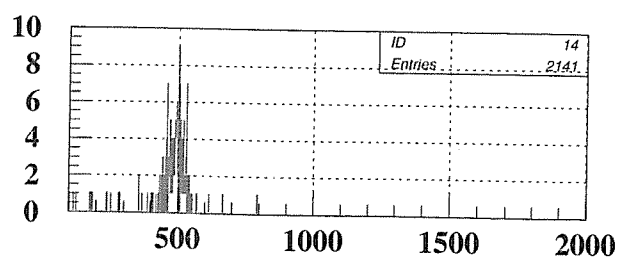
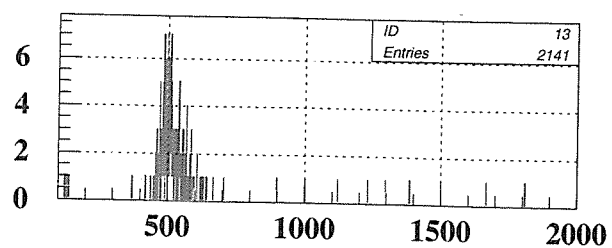
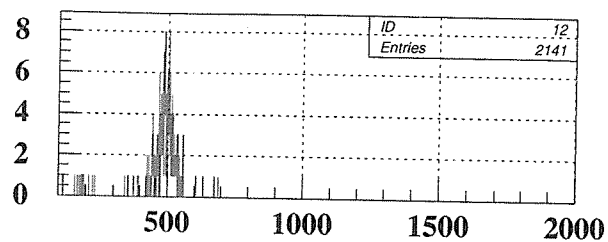
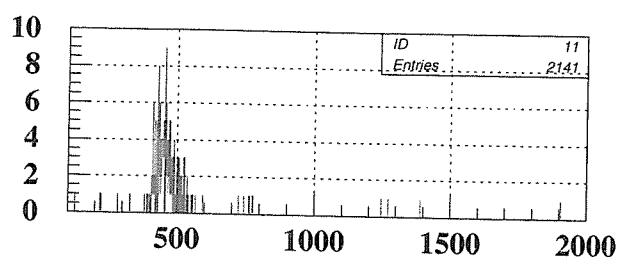
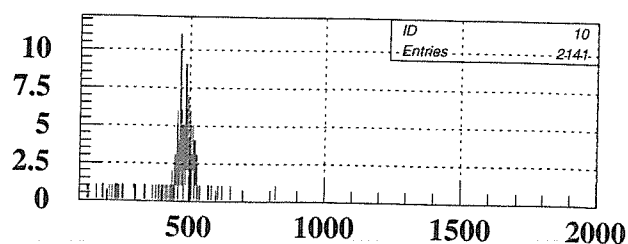
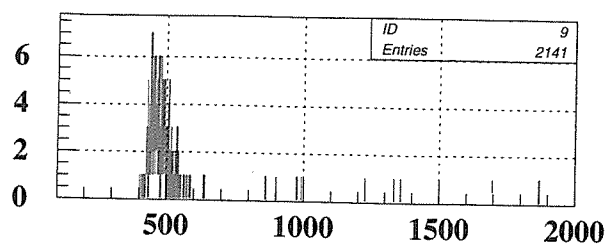


ADC CH7

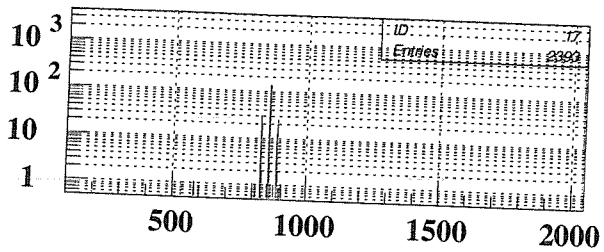


ADC CH8

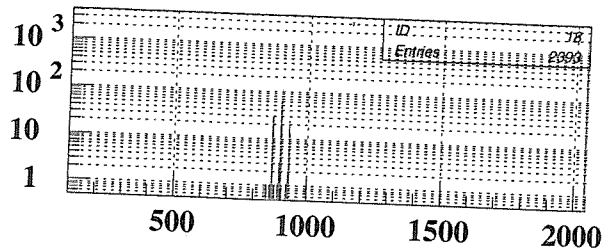
2007/11/24 14.44



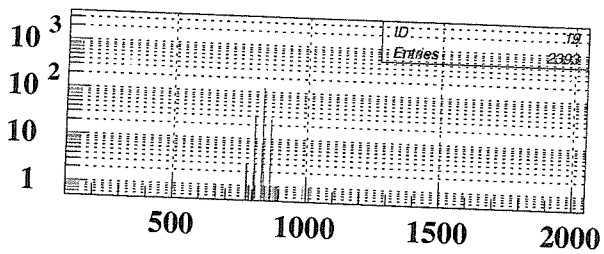
2007/11/24 14.44



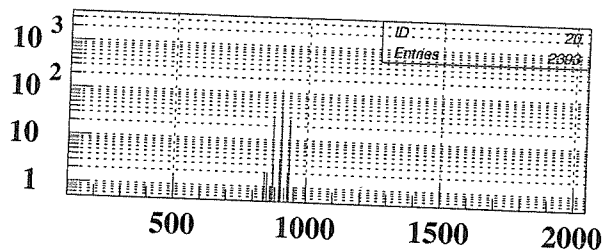
TDC CH1



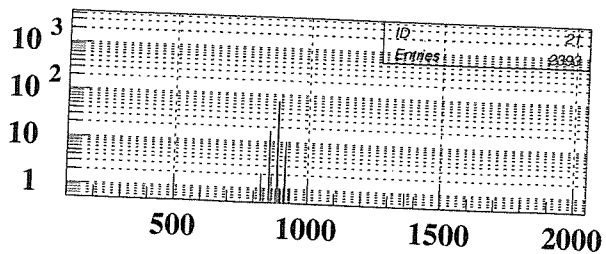
TDC CH2



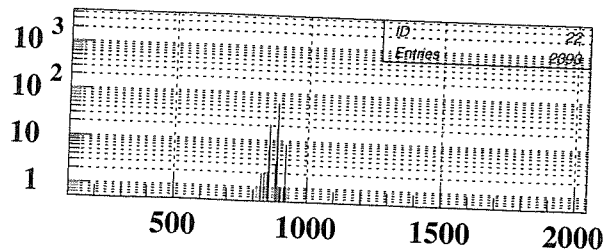
TDC CH3



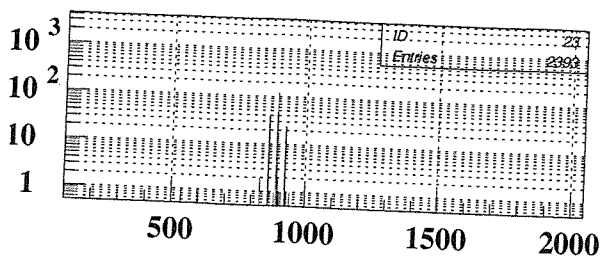
TDC CH4



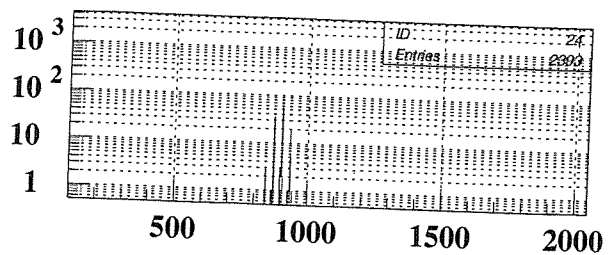
TDC CH5



TDC CH6

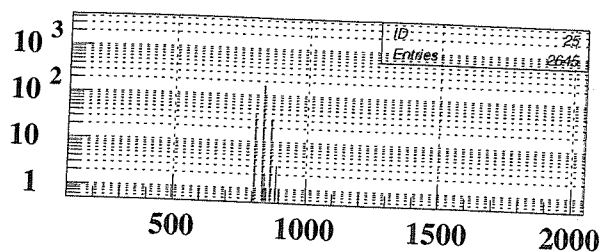


TDC CH7

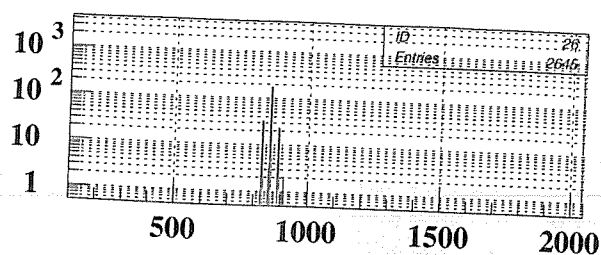


TDC CH8

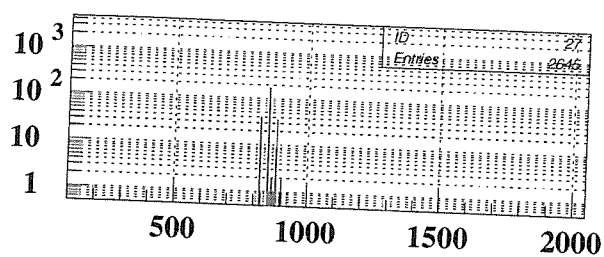
2007/11/24 14.44



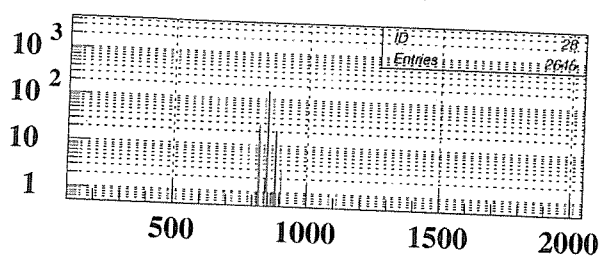
TDC CH9



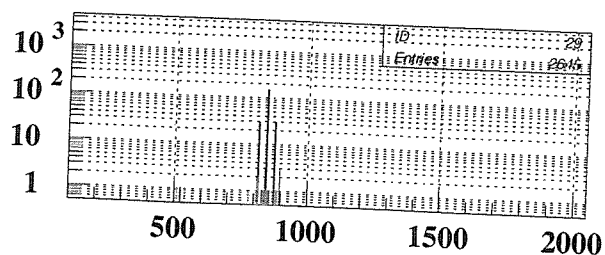
TDC CH10



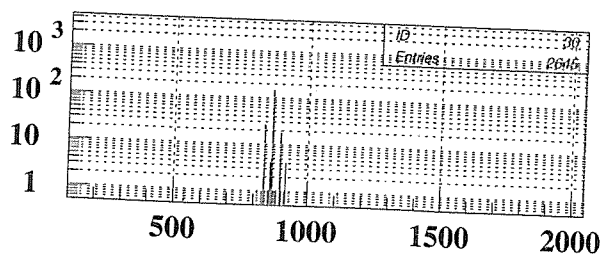
TDC CH11



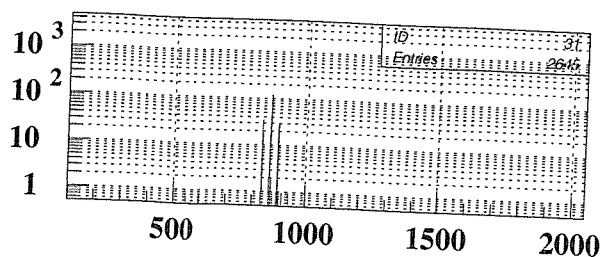
TDC CH12



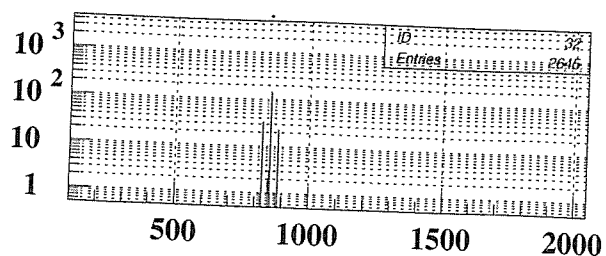
TDC CH13



TDC CH14



TDC CH15



TDC CH16

BLP RF調整終了

15:00.

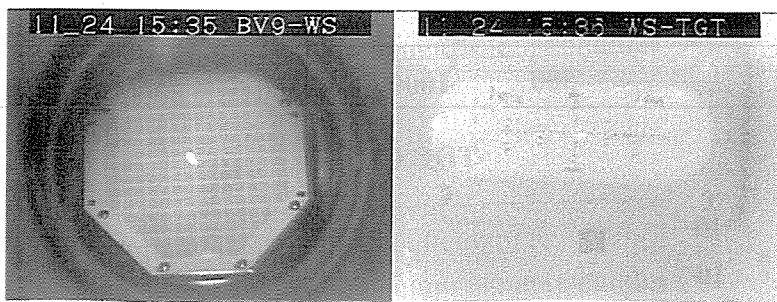
分解能 check.

~ 42keV C 511



software correction, gate 50-17.

軌. 0.6 AU.

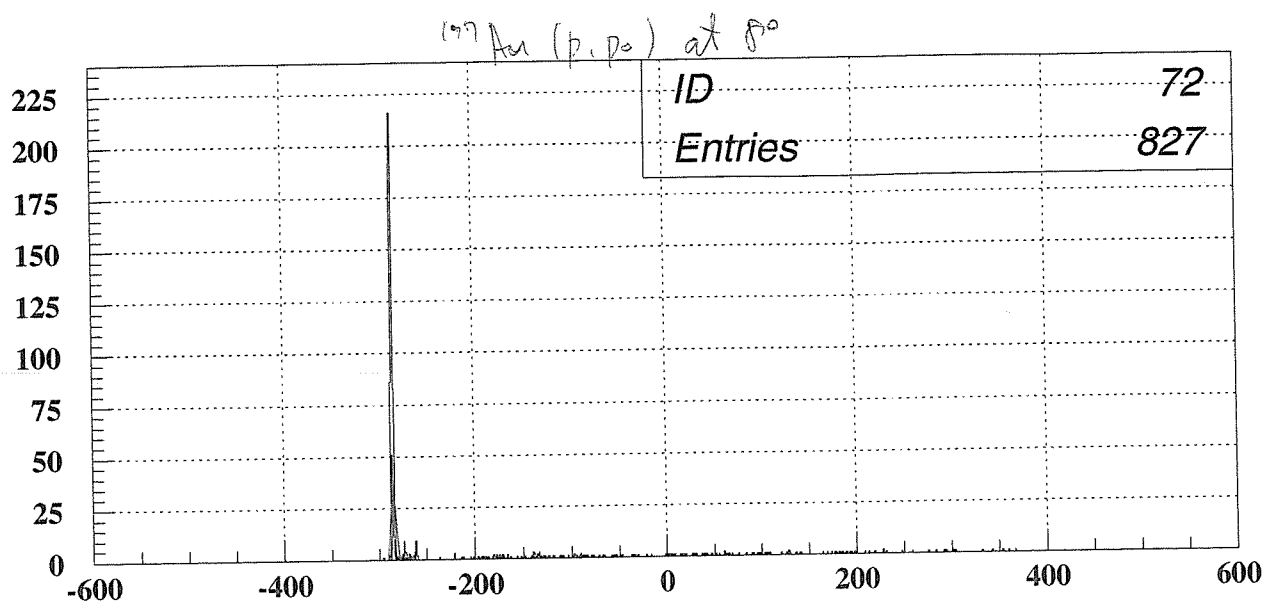


Run 2004

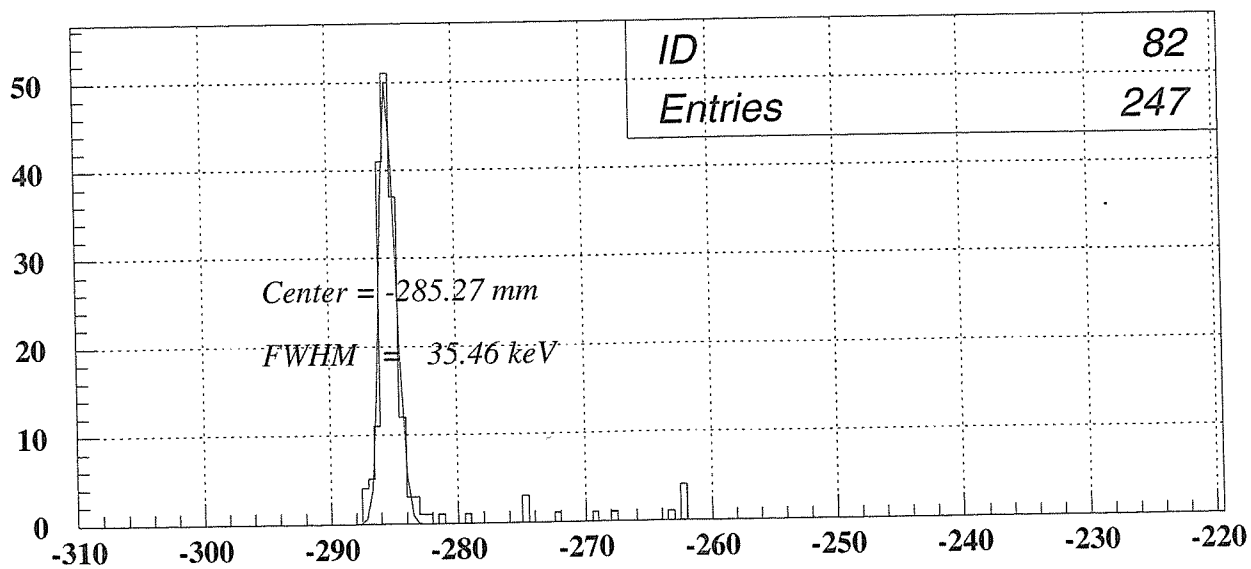
 ^{197}Au

achromatic tuning

2007/11/24 15.27



GXN GR X Narrow

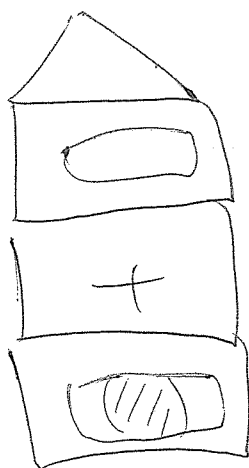


GXCCNG GR XCC Narrow (Y-Gate)

16:00 西入室.

GR 88 $\rightarrow$ 0°,

標的 標準 $\rightarrow$ 3段 + ガスシステム



Blank

ZnS

²⁵⁵Si (2.22 mg/L² methane).

新 ガス標的 empty 状態にインストール.

計数室に7, DPCの HT off.

Current Int. を ~~FC~~ S.C.FC + 0° FC の

Sumに合わせる.

BLP1.2の target 操作を. Tami viewer. 0° dump viewerに 変更.

BLP1 target 4 ch $\rightarrow$ Dump ~~Tami~~ viewer.
2 target 2 ch $\rightarrow$ Tami viewer.

BLP 1 target murata 2ch → TaniQ viewer
 2 target 4ch → 0deg. Dump viewer

18:00

0度 t=4 通し
 磁場設定

WS Magnet Controller

'07/11/24 18:02

WS/PIS

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1		mT	90.2	90.30 A				
GR SX		mT	18.2	18.10 A				
GR Q2		mT	8.5	8.50 A				
GR MQ		mT		0.00 A				
GR MS		mT		0.00 A				
GR D1	869.773	869.761 mT	230.9015t	230.64 A				
GR D2	869.814	869.800 mT	434.5273t	433.88 A				
GR DSR		110.281 mT	12.36	12.41 A				
LAS Q		mT		217.70 A				
LAS D		-747.987 mT		280.30 A				
GR DQ1		mT	50	50.00 A				
GR DQ2		mT	65.1	65.10 A				

Update

update Cycle 10 sec.

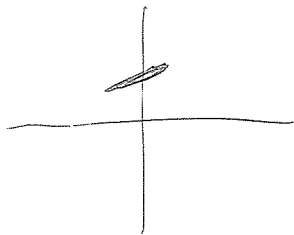
Hcopy

Queue acc3626

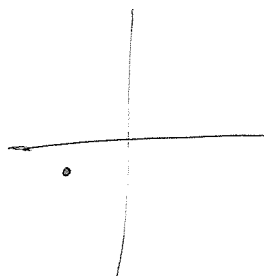
exit

← 以前の磁場
 設定と同様の
 設定にしている

Tami Q viner



Dump v'eer-



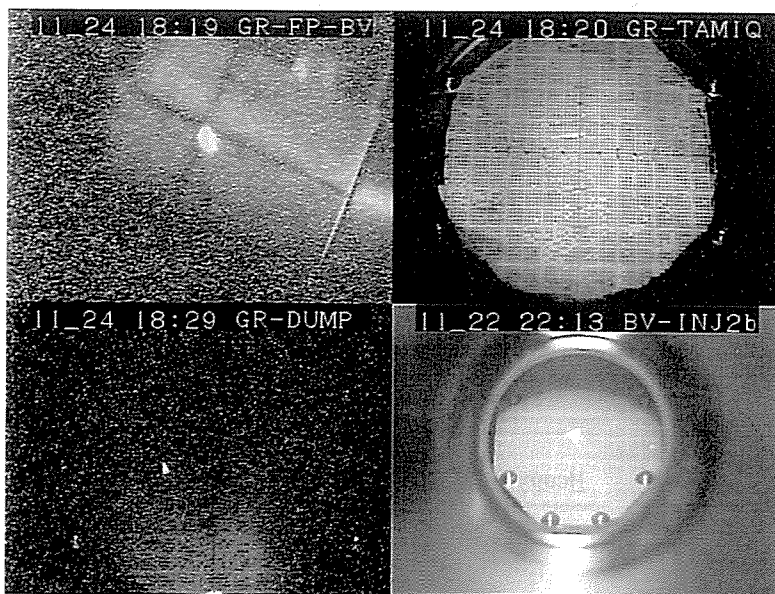
2. 調整の必要はなし Pump 2 通入。

- トリカ: L-L $\sim \frac{70}{50} \text{ cps/nA}$

- $$0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5$$

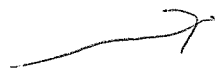
BFS	1.0 nA
Beam Dump	1.0 nA

周 $\sim 100^\circ$



Run 2005

Blank flame, Achromatic, 0°

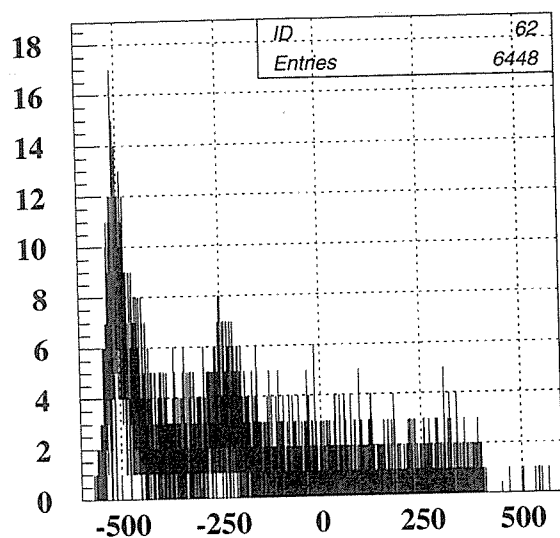


Run 2006

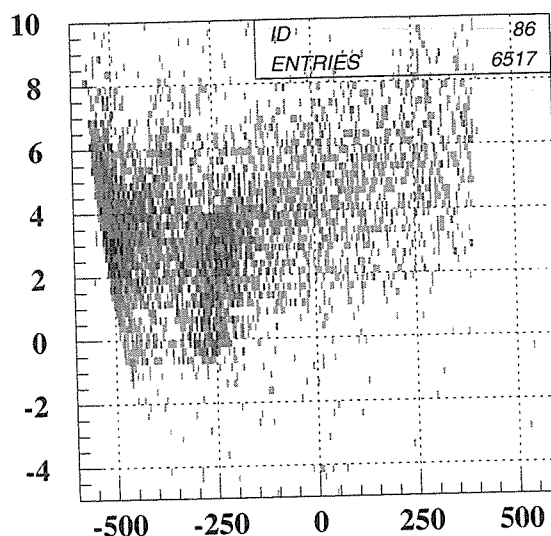
Blank, Achromatic, 0° ↑
ラターもなし。(ラター位置-最下)

Run 2005

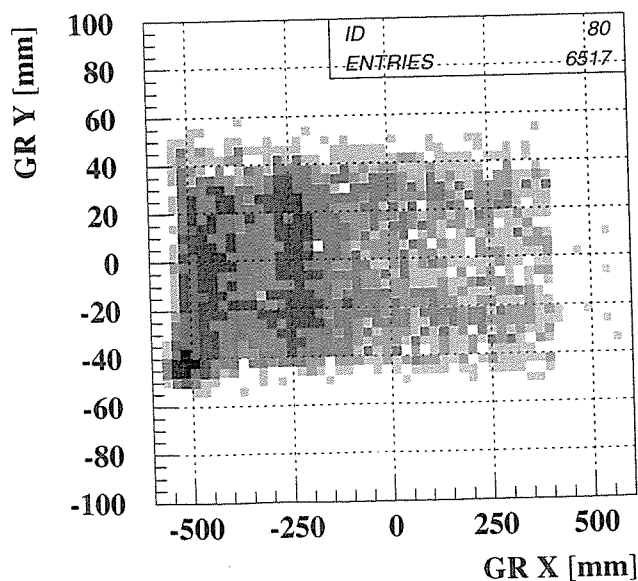
2007/11/24 18.43



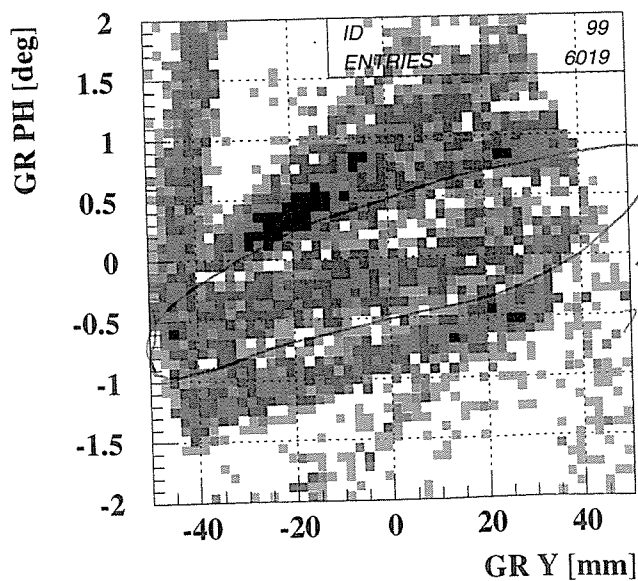
GX GR X



GXTH GR TH vs X



GXY GR Y vs X



GYPH GR Phi vs Y

rate1			rate3		
0	Beam Intensity	0.754 nA	0	BLP CLK req :	9.621 kcps
1	GR event request	0.033 kcps	1	BLP CLK live :	9.621 kcps
2	GR event live	0.033 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.005 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.005 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.622 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.610 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	0.033 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	0.033 kcps	8	Beam Monitor1 :	0.033 kcps
9	LAS Single	0.005 kcps	9	Beam Monitor2 :	0.033 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.006 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	0.038 kcps	12	GR scinti.2 :	2.158 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	0.038 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

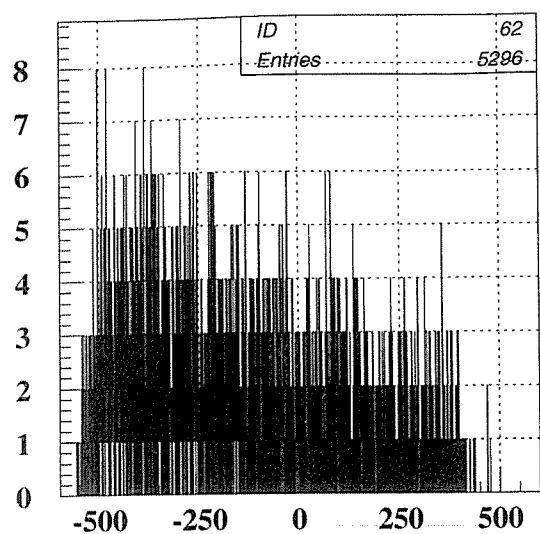
Trig.(GR) live : 100.000 percent
 Trig.(LAS) live : 100.000 percent
 Clock live : 99.881 percent

500

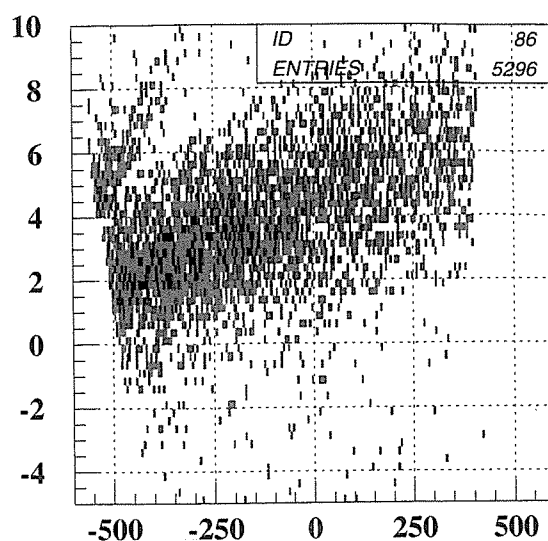
scaler down
 RUN NUM 2006 B.I. Range 6 nA
 RUN START 2007-Nov-24 18:50:51
 NOW 2007-Nov-24 19:01:34

Run 2006

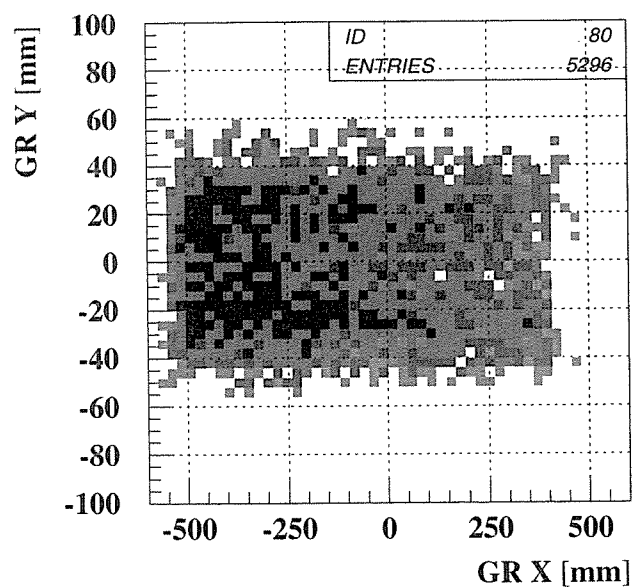
2007/11/24 19.02



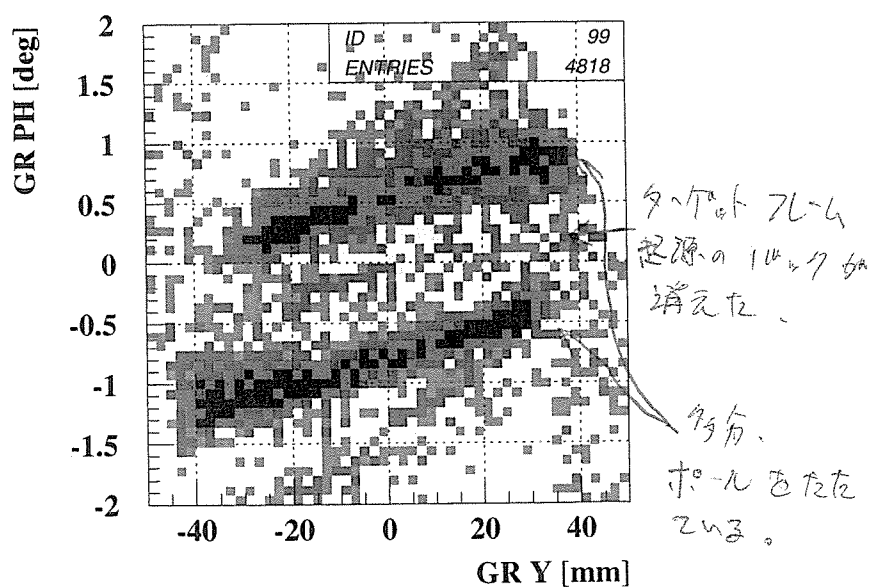
GX GR X



GXTH GR TH vs X



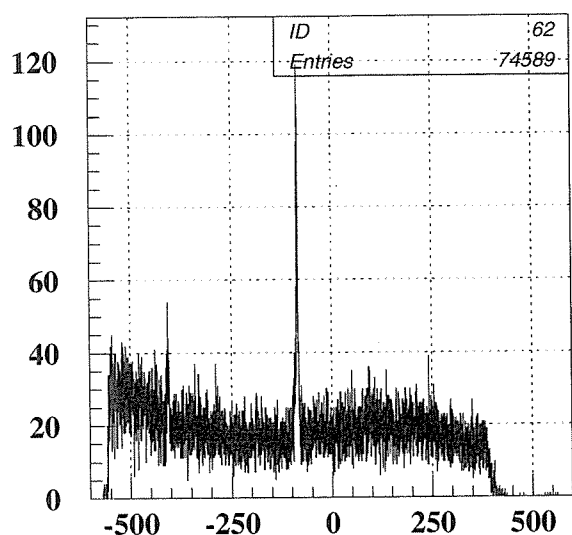
GXY GR Y vs X



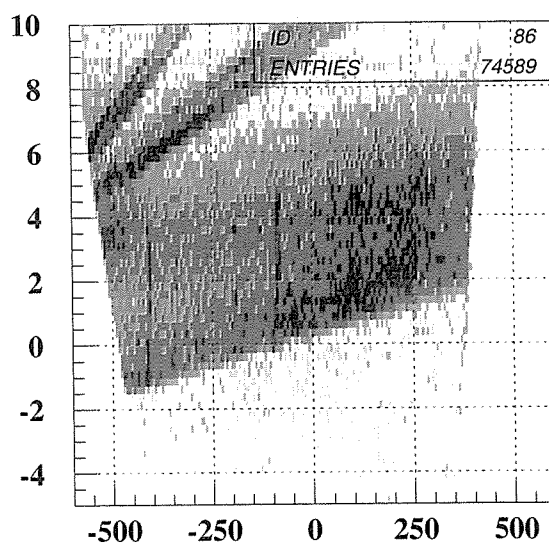
GYPH GR Phi vs Y

Run 2007 アラミドターゲット , テスト測定
Achromatic

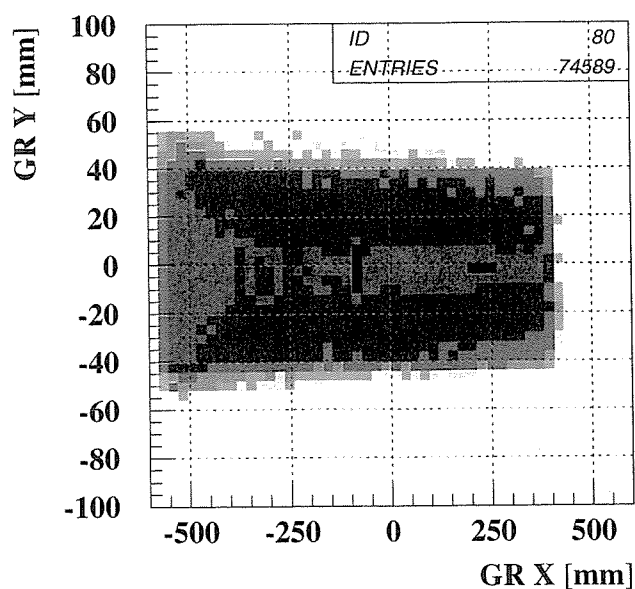
2007/11/24 19.22



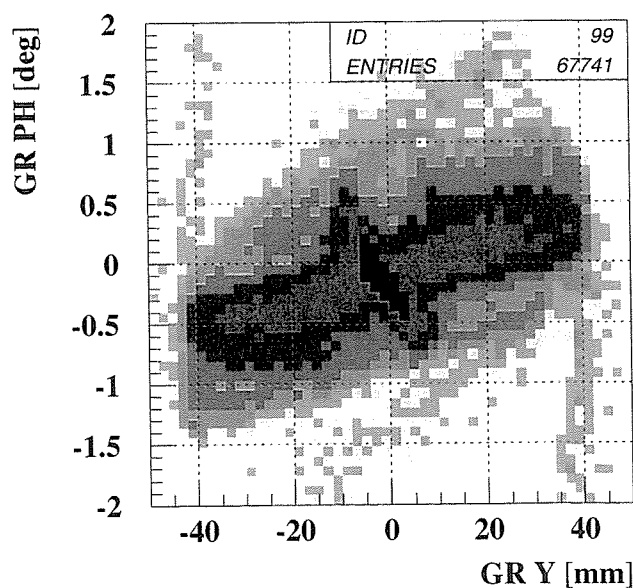
GX GR X



GXTH GR TH vs X



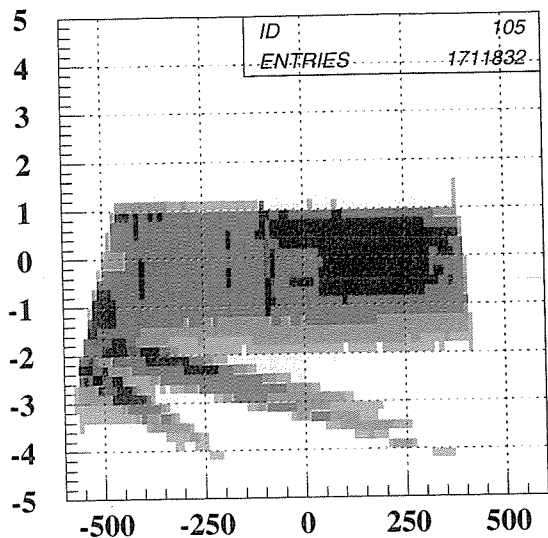
GXY GR Y vs X



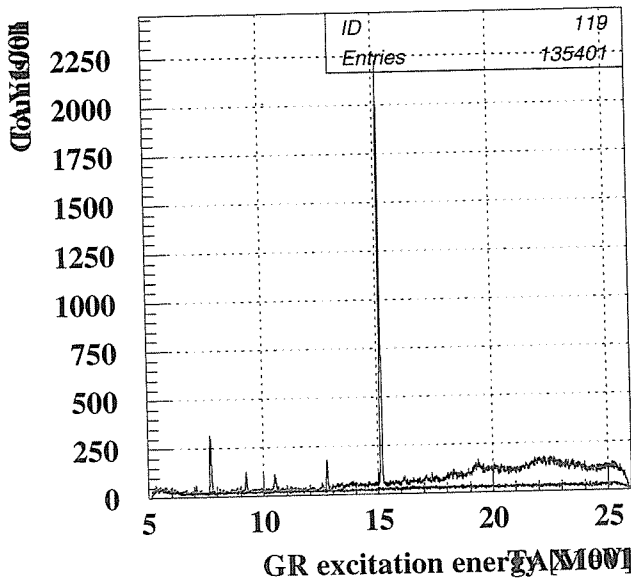
GYPH GR Phi vs Y

run 2007

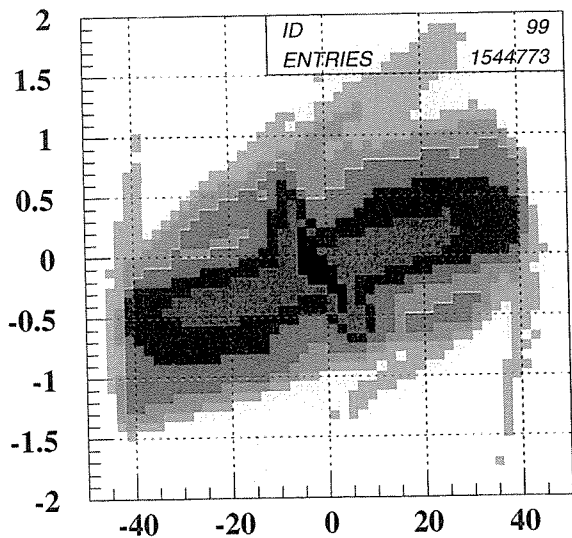
2007/11/24 20.40



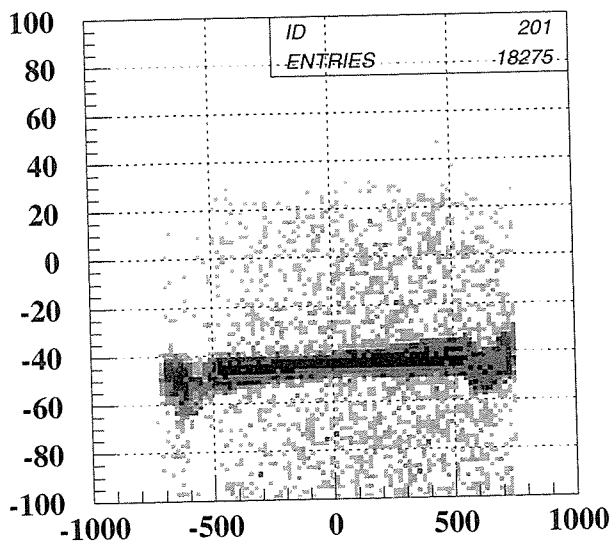
GXTHC GR THC vs X



GEXG GR excitation energy (Y, TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

dispersive mode ^

1-30 target field to stop + 終了

WS Magnet Controller

'07/11/24 21:39

WS/PIS

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1			mT	90.2 90.30 A				
GR SX			mT	18.2 18.10 A				
GR Q2			mT	8.5 8.50 A				
GR MQ			mT	0.00 A				
GR MS			mT	0.00 A				
GR D1	869.773	869.784	mT	230.90342 230.64 A				
GR D2	869.814	869.817	mT	434.51802 434.13 A				
GR DSR		110.280	mT	12.36 12.41 A				
LAS Q			mT	217.70 A				
LAS D		-747.986	mT	280.30 A				
GR DQ1			mT	50 50.00 A				
GR DQ2			mT	65.1 65.10 A				

← run 2007 9
石室 2 号

Update

update Cycle 10 sec.

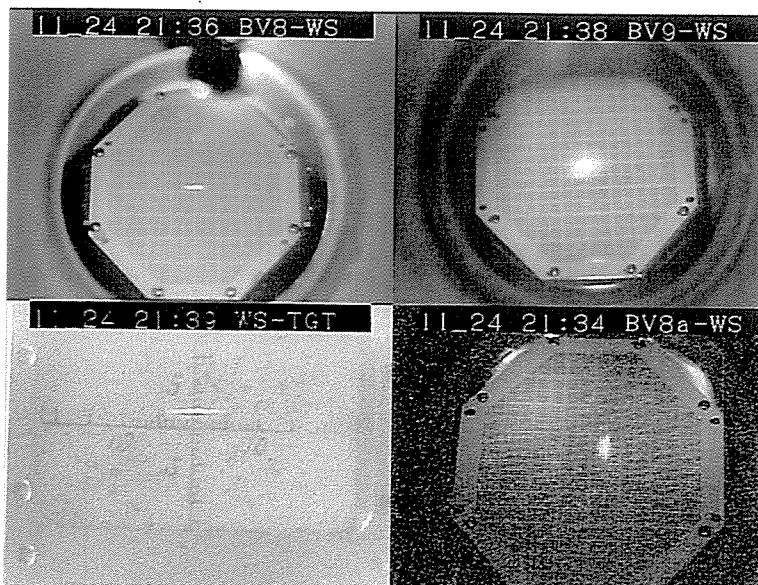
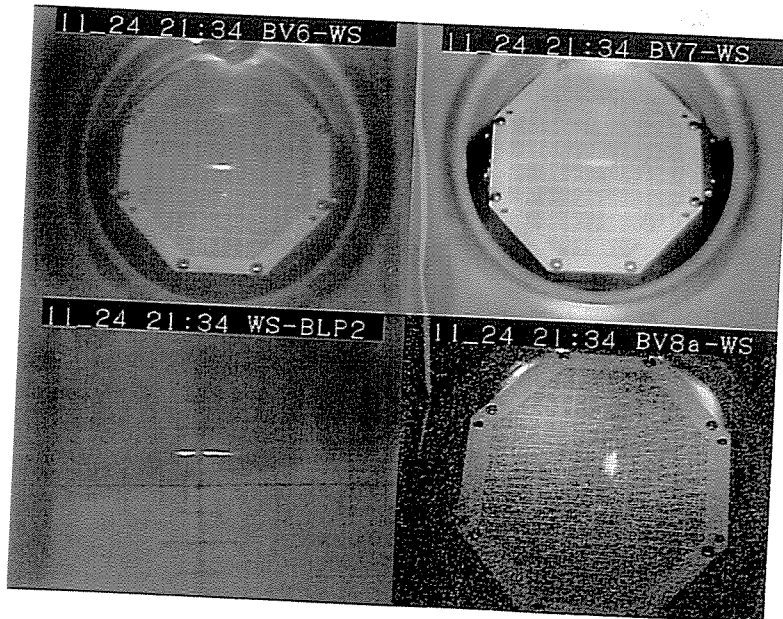
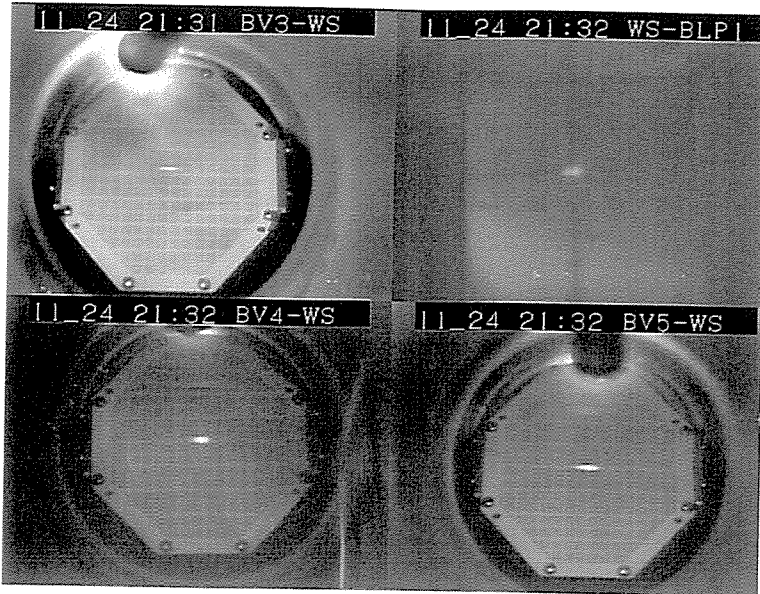
Hcopy

Queue acc3626

exit

GR 石室 2 号 2 号 1 号 beam 用 1 号 変更

E299 vol 1 p106



710V
-5a
b7c

12-00

dispersion matching H-F

Q10 Y (A) Q10 M (A) δx (mm) ΔE (keV)
 25.71 -41.42 0.89 ~~14.3~~ 12.1

GRのYの値(FWHM)

25.71 -41.47 0.89 15.5

26.71 -42.22 0.87 27.3

25.91 -41.59 0.74 14.1

26.11 -41.72 17.1

25.51 -41.27 0.80 14.9

25.31 -41.12 0.93 17.9

25.71 -41.42 0.74 12.9 ←

1番 (おめ) の設定に戻し
 H-Fとこの2つを再現性
 この設定に決定

Magnet Controller

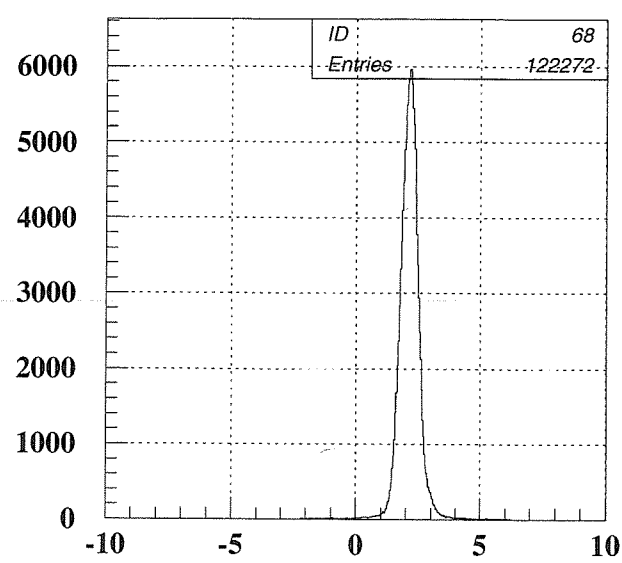
'07/11/24 21:52

Magnet	Field(Preset Actual)	Current(Preset Actual)	Status	PS	NMR	FB
IR Q1		mT 92.181 92.30 A				
IR SX		mT 18.773 18.70 A				
IR Q2		mT 8.768 8.80 A				
IR MQ		mT 0.00 A				
IR MS		mT 0.00 A				
IR D1	889.309 889.311 mT	236.36291 236.21 A				
IR D2	889.039 889.039 mT	444.63110 443.94 A				
IR DSR	130.315 mT	14.63 14.67 A				
AS Q	mT	217.70 A				
AS D	-747.986 mT	280.30 A				
IR DQ1	mT	50 50.00 A				
IR DQ2	mT	65.1 65.10 A				

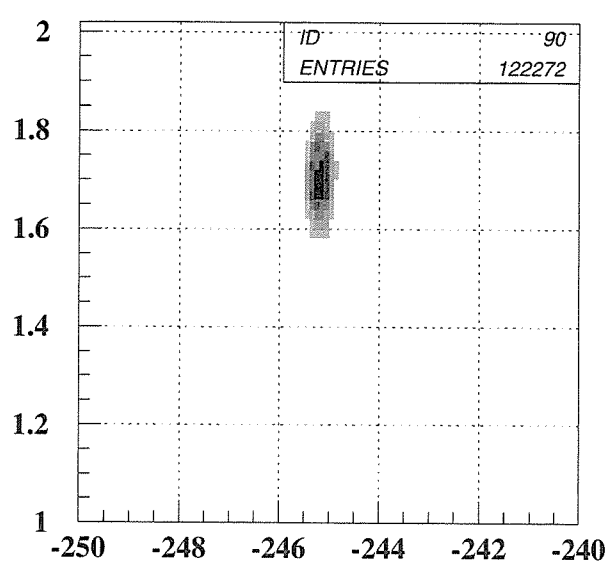
← faint beam
 run 2009 8 月の磁場

Update update Cycle 10 sec. Hcopy Queue acc3626 exit

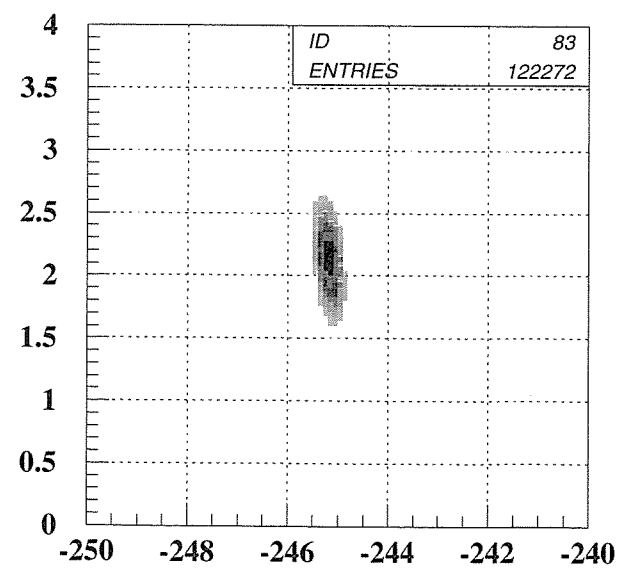
2007/11/24 22.45



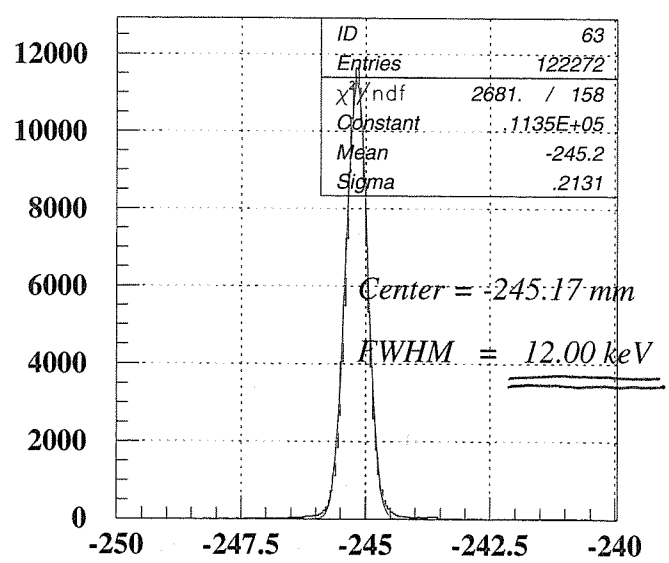
GYS GR Y (Small)



GXTHS GR TH vs X (Small)



GXYS GR Y vs X (Small)



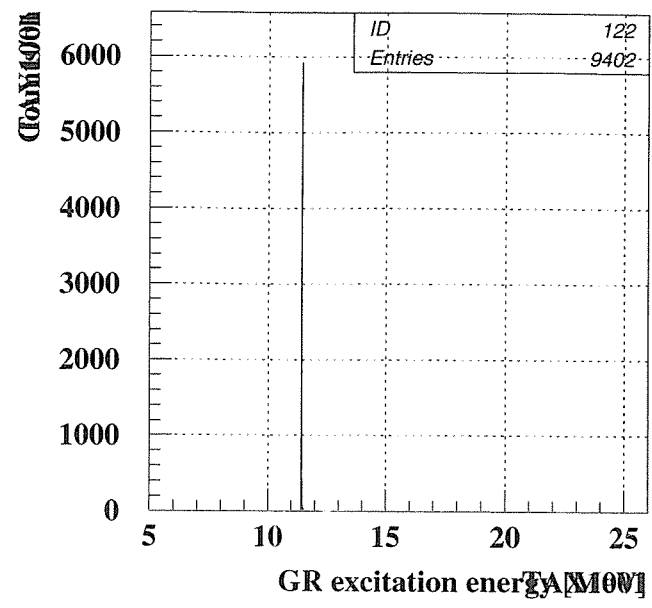
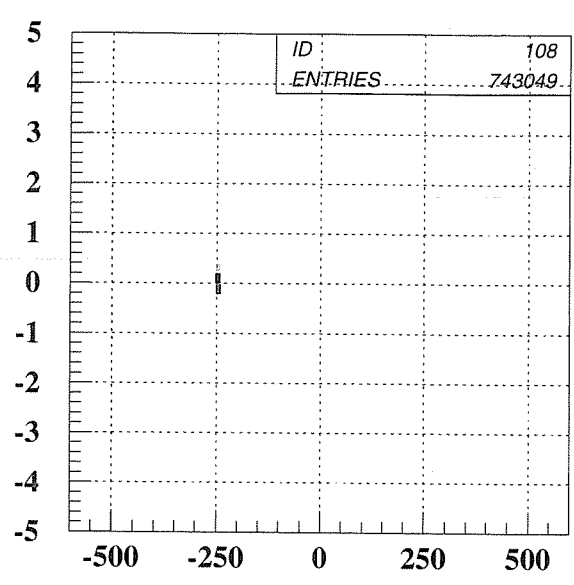
GXS GR X (Small)

run 2008 はまだかき合ひ?? か、その後は残して113

run 2009 faint beam Blank target

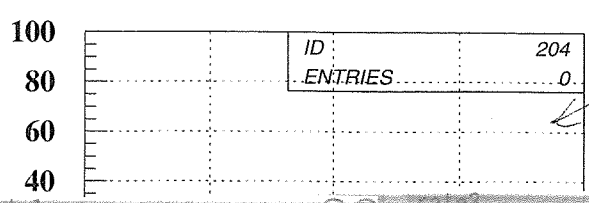
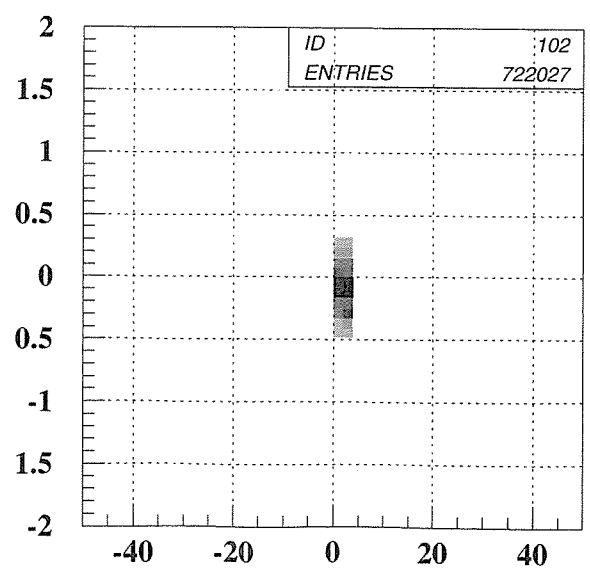
run 2009

2007/11/24 22.54



GXTHC GR THC vs X

GEXG GR excitation energy (Y, TH-gated)



LASは
何もありません

GYPH GR Phi vs Y

rate1		rate3	
0	Beam Intensity 0.000 nA	0	BLP CLK req : 9.748 kcps
1	GR event request 2.162 kcps	1	BLP CLK live : 9.748 kcps
2	GR event live 1.962 kcps	2	BLP Trig req : 0.000 kcps
3	LAS eventRequest 0.000 kcps	3	BLP Trig live : 0.000 kcps
4	LAS event live 0.000 kcps	4	Akimune UP : 0.000 kcps
5	GR clock request 9.748 kcps	5	Akimune Down : 0.000 kcps
6	GR clock live 9.161 kcps	6	Akimune Left : 0.000 kcps
7	GR Single 1.962 kcps	7	Akimune Right : 0.000 kcps
8	GR Single Sample 1.962 kcps	8	Beam Monitor1 : 2.162 kcps
9	LAS Single 0.000 kcps	9	Beam Monitor2 : 1.962 kcps
10	LAS SingleSample 0.000 kcps	10	Beam Monitor3 : 0.000 kcps
11	GR & LAS COIN 0.000 kcps	11	GR scinti.1 : 0.000 kcps
12	ALL accept Event 1.967 kcps	12	GR scinti.2 : 2.193 kcps
13	Reject event 0.000 kcps	13	GR X-hodo : 0.000 kcps
14	GR3377stop(TEND) 1.969 kcps	14	: 0.000 kcps
15	LAS-reject 0.000 kcps	15	: 0.000 kcps

Trig.(GR) live : 90.737 percent	
Trig.(LAS) live : NaN percent	
Clock live : 93.977 percent	

SCD	
scaler up	
RUN NUM	2009 B.I. Range 6 nA
RUN START	2007-Nov-24 22:44:05
NOW	2007-Nov-24 22:54:43

23:00

0 度用の磁場設定に変更

trigger rateが思ったより微少

WS Magnet Controller

07/11/24 23:37

WS/FIS

Magnet	Field(Preset Actual)	Current(Preset Actual)	Status	PS	NMR	FB
GR Q1	mT	90.2 90.30 A	☐	☐	☐	☐
GR SX	mT	18.2 18.10 A	☐	☐	☐	☐
GR Q2	mT	8.5 8.50 A	☐	☐	☐	☐
GR MQ	mT	0.00 A	☐	☐	☐	☐
GR MS	mT	0.00 A	☐	☐	☐	☐
GR D1	869.773 868.963 mT	230.64 230.51 A	☐	☐	☐	☐
GR D2	869.814 869.224 mT	434.13 433.63 A	☐	☐	☐	☐
GR DSR	130.179 mT	14.63 14.67 A	☐	☐	☐	☐
LAS Q	mT	217.70 A	☐	☐	☐	☐
LAS D	-747.987 mT	280.30 A	☐	☐	☐	☐
GR DQ1	mT	50 50.00 A	☐	☐	☐	☐
GR DQ2	mT	65.1 65.10 A	☐	☐	☐	☐

Update

update Cycle 10 sec.

Hcopy

Queue acc3626

exit

rate1	rate3
0 Beam Intensity 1.166 nA	0 BLP CLK req : 9.623 kcps
1 GR event request 0.242 kcps	1 BLP CLK live : 9.623 kcps
2 GR event live 0.236 kcps	2 BLP Trig req : 0.000 kcps
3 LAS eventRequest 0.005 kcps	3 BLP Trig live : 0.000 kcps
4 LAS event live 0.005 kcps	4 Akimune UP : 0.000 kcps
5 GR clock request 9.623 kcps	5 Akimune Down : 0.000 kcps
6 GR clock live 9.552 kcps	6 Akimune Left : 0.000 kcps
7 GR Single 0.236 kcps	7 Akimune Right : 0.000 kcps
8 GR Single Sample 0.236 kcps	8 Beam Monitor1 : 0.242 kcps
9 LAS Single 0.005 kcps	9 Beam Monitor2 : 0.236 kcps
10 LAS SingleSample 0.008 kcps	10 Beam Monitor3 : 0.000 kcps
11 GR & LAS COIN 0.071 kcps	11 GR scinti.1 : 0.000 kcps
12 ALL accept Event 0.241 kcps	12 GR scinti.2 : 3.609 kcps
13 Reject event 0.000 kcps	13 GR X-hodo : 0.000 kcps
14 GR3377stop(TEND) 0.241 kcps	14 : 0.000 kcps
15 LAS-reject 0.000 kcps	15 : 0.000 kcps

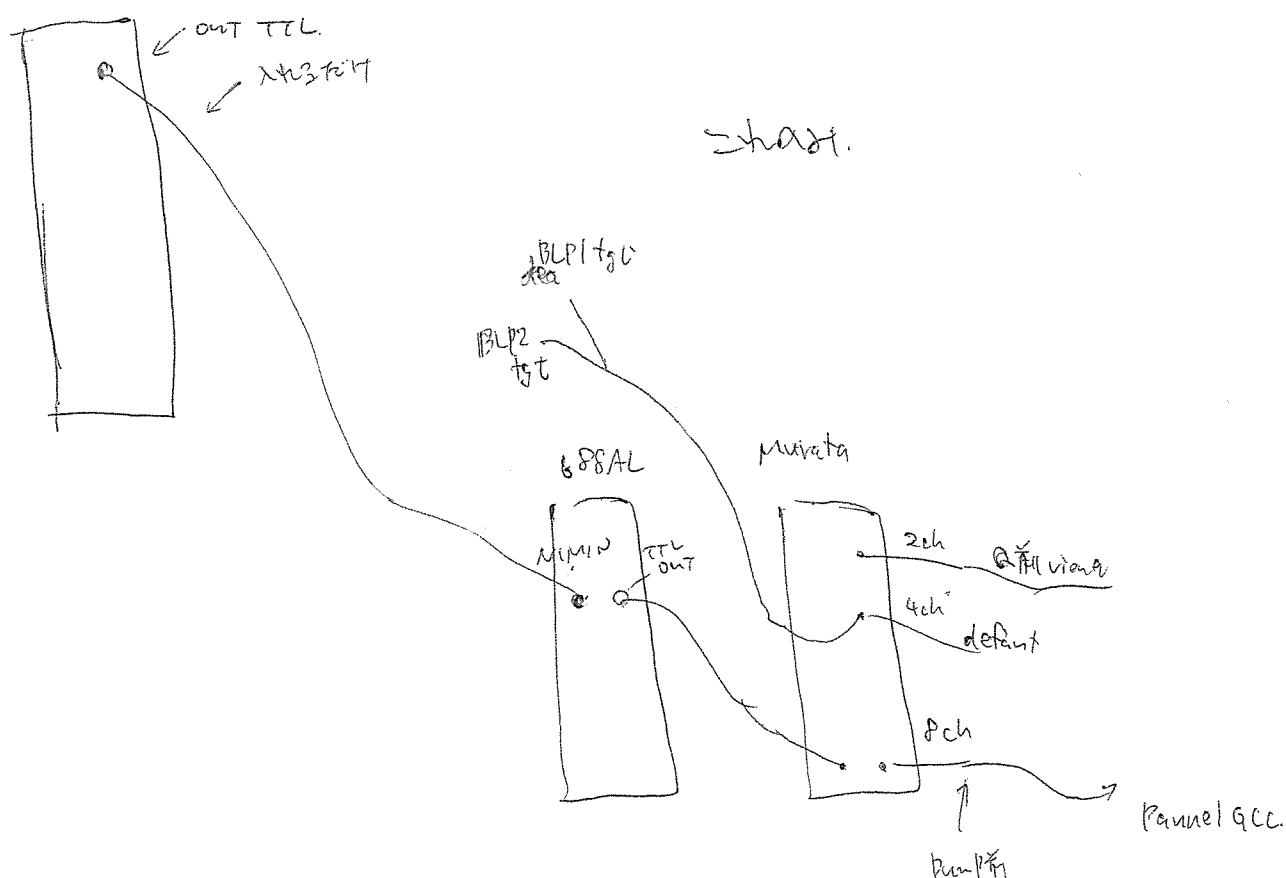
Trig.(GR) live : 97.638 percent	scaler up
Trig.(LAS) live : 100.000 percent	RUN NUM 2010 B.I. Range 6 nA
Clock live : 99.258 percent	RUN START 2007-Nov-24 23:04:19
	NOW 2007-Nov-24 23:35:43
	scaler 1 ch 6nA

BLPの操作を変更 (本測定用)

詳しくは #10 p.110, 111

- BLP1と2の targetは、連動 (BLP2 target 7" 動か)
- Q前 viewerは、BLP1 target 7" 動か.
- Pump前 viewerは、X11, 12" (動か)

Pump前 viewer 操作



File Window Temp 07/11/24 23:36

/Main/Change Set/check state/change pol

Spin UP/DOWN(1<T<999) 10 10 x0.1 sec Refresh

Veto Time(>10) 1000 msec Refresh

AUTO HATA IN/OUT/NUE 10 99 20 Refresh

hata hata
調整

Run# 2010 Comment ^{28}Si dispersive 0 deg 1st

Date 11/124

Start 23 : 30

Stop :

GR angle 0 deg

Beam current 1 nA

C.I. range 6 nA

Target

☐ ^{20}Ne inela or elast

☐ ^{36}Ar inela or elast

☐ CO_2 inela or elast

☐ Empty inela or elast

☒ ^{28}Si 2.22 (1.86) mg/cm²

☐ mg/cm²

VDC ☒ OK ☐ Tripped E.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

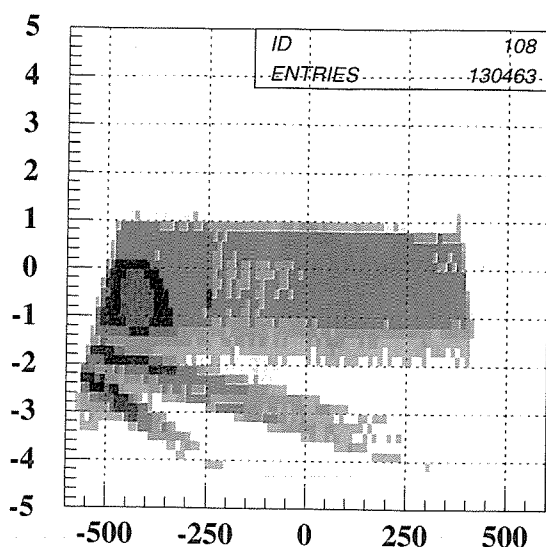
Gas cell Temp 26.8 deg Press -0.015 atm thickness -0.012 mg/cm²*

Print out? ☐ histograms ☐ rate table ☐ magnet table

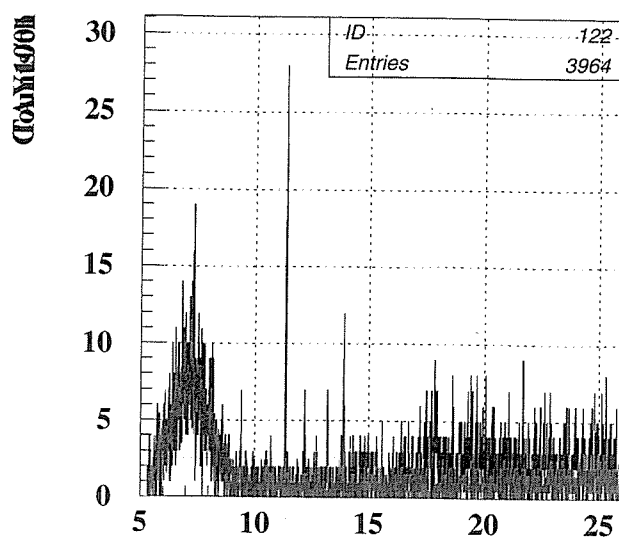
h. there e-u hata hata
イン中に、h-hatト動かした

Dispersive 1212 h3
tussu ~200 cps/nA
GRa調整 20 減55

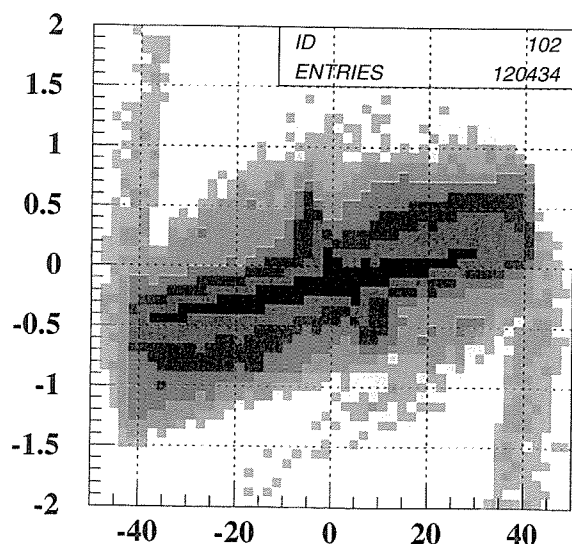
2007/11/25 00.26



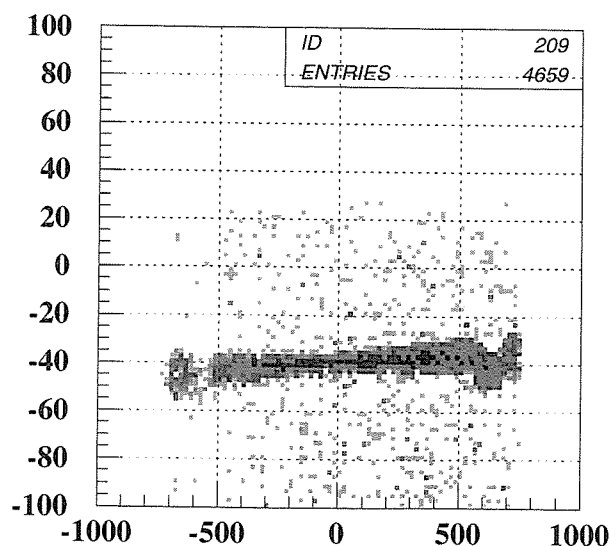
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

rate1			rate3		
0	Beam Intensity	1.175 nA	0	BLP CLK req :	9.897 kcps
1	GR event request	0.918 kcps	1	BLP CLK live :	9.897 kcps
2	GR event live	0.866 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.013 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.013 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.897 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.634 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	0.866 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	0.866 kcps	8	Beam Monitor1 :	0.918 kcps
9	LAS Single	0.013 kcps	9	Beam Monitor2 :	0.866 kcps
10	LAS SingleSample	0.004 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.363 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	0.879 kcps	12	GR scinti.2 :	4.392 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	0.879 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live :	94.344 percent
Trig.(LAS) live :	100.000 percent
Clock live :	97.338 percent

RUN NUM	2010	B.I.	Range	6 nA
START	2007-Nov-24		23:38:23	
RUN STOP	2007-Nov-25		00:26:50	
NOW	2007-Nov-25		00:27:34	

WS Magnet Controller

'07/11/24 22:55

WS/PIS

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1			mT	92.181	92.30 A			
GR SX			mT	18.773	18.70 A			
GR Q2			mT	8.768	8.80 A			
GR MQ			mT		0.00 A			
GR MS			mT		0.00 A			
GR D1	889.309	889.307	mT	236.3476	236.21 A			
GR D2	889.039	889.042	mT	444.5811	444.20 A			
GR DSR		130.317	mT	14.63	14.67 A			
LAS Q			mT		217.70 A			
LAS D		-747.986	mT		280.30 A			
GR DQ1			mT	50	50.00 A			
GR DQ2			mT	65.1	65.10 A			

Update

update Cycle 10 sec.

Hcopy

Queue acc3626

exit

WS 1.3-2 1.1-1 ched

31 1.3-2 1.1-1 上流灯 1.1-1
 ~ 5mm の 95度

rate1			rate3		
0	Beam Intensity	1.294 nA	0	BLP CLK req :	9.902 kcps
1	GR event request	0.310 kcps	1	BLP CLK live :	9.902 kcps
2	GR event live	0.305 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.005 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.005 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.902 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.810 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	0.305 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	0.305 kcps	8	Beam Monitor1 :	0.310 kcps
9	LAS Single	0.005 kcps	9	Beam Monitor2 :	0.305 kcps
10	LAS SingleSample	0.006 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.013 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	0.310 kcps	12	GR scinti.2 :	3.802 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	0.310 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live :	98.418 percent
Trig.(LAS) live :	100.000 percent
Clock live :	99.070 percent

SCA		
scaler down		
RUN NUM	9999	B.I. Range 6 nA
RUN START	2007-Nov-25	00:47:52
NOW	2007-Nov-25	00:54:24

↑
 標的をセーラー軸から、角度 α 以上離れた時、
 trigger rateが下がらないのは、散乱槽の上流から、
 散乱レールから7"以内

11/25 1200

西実馬倉入室. カイ標的 CO₂に.Wsgas と Cnl + C₂ 終了

791112 Nov25-010513.dat

(Cnl + C₂ 終了後. Wsgas の 70000 kill 12 ~~old~~ clamm
を数回 71000 に)

2:50 標的作業終了

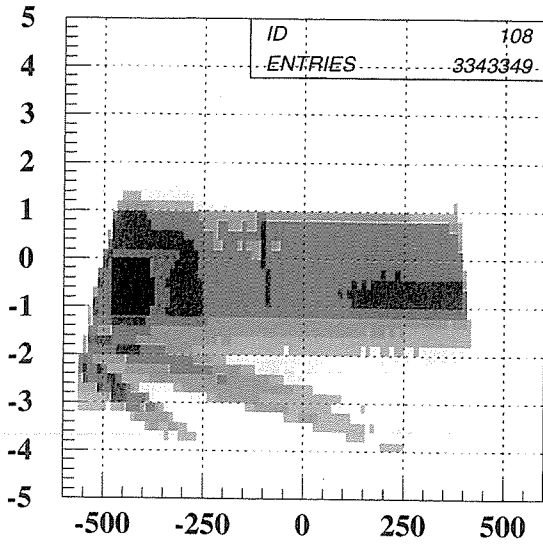
target Zns の "正確な"
beam spot4mm ELL
→ 7mm ELLRun# 2011 Comment CO₂ inela disp 0 deg #1

Date	11/1/25	Target
Start	3:03	☐ ²⁰ Ne inela or elast
Stop	:	☐ ³⁶ Ar inela or elast
GR angle	0 deg	☒ CO ₂ inela or elast
Beam current	3.5 nA	☐ Empty inela or elast
C.I. range	6 nA	☐ ²⁸ Si 2.22 (1.86) mg/cm ²
		☐ mg/cm ²

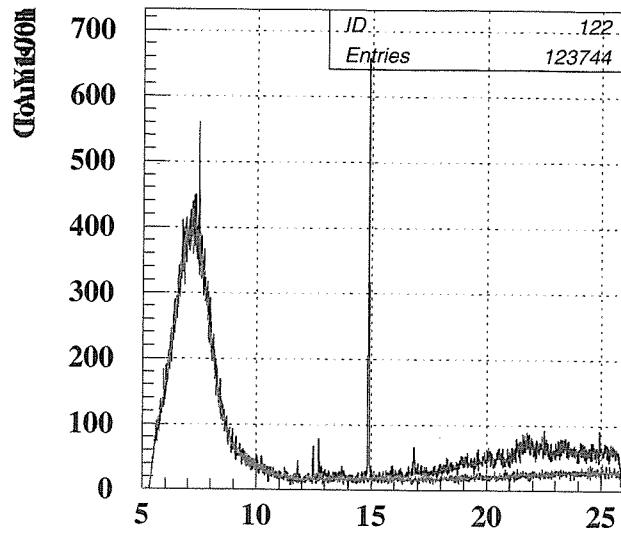
VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. VGas cell Temp 27 deg Press 0.96 atm thickness 1.7 mg/cm²Print out? ☐ histograms ☐ rate table ☐ magnet table

7. A, 3~4 kcps.

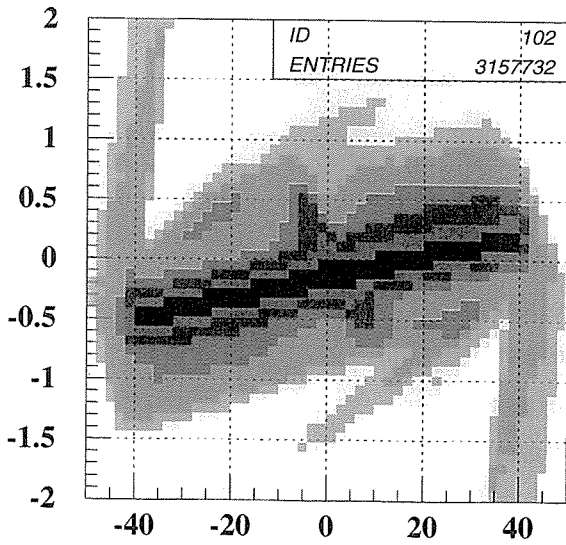
2007/11/25 03.59



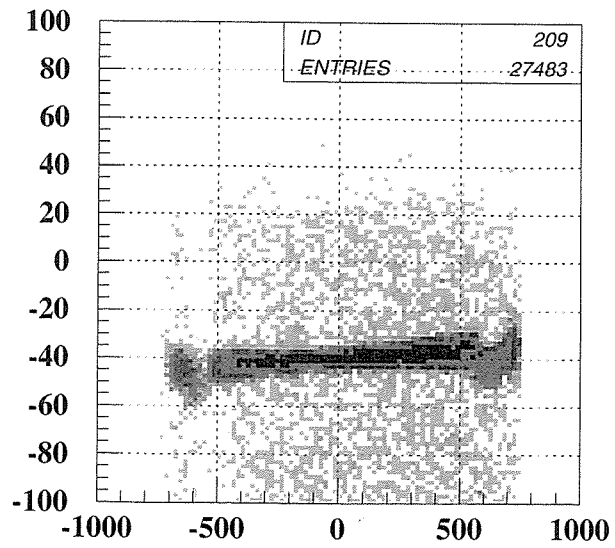
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

(for the voltage (or not?) is
42集 LE の 2nd vstop.

Beam stop (or not) (or not) or not.

↓
Scaler a Ep 100 70 20 20 20 20.

先の 4mm P1142. 0.1atm/h 7" もあつた。

これだけ、 ^{36}Ar で使いたいので、最後の 6mm cell に交換
(4mm の 2つりかきする)。

交換作業 5:20 頃終了

6-4 軸出し。

Run# 2012 Comment CO₂ 6mm-cell inela disp 0° #1

Date 11 / 25

Start 5 : 54

Stop 6 : 59

GR angle 0 deg

Beam current 2.5 nA

C.I. range 6 nA

Target

☐ ^{20}Ne inela or elast

☐ ^{36}Ar inela or elast

☒ CO_2 inela or elast

☐ Empty inela or elast

☐ ^{28}Si 2.22 (1.86) mg/cm²

☐ _____ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. _____ V

Gas cell Temp 26.8 deg Press 1.05 atm thickness 1.85 mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

0	Beam Intensity	2.834 nA
1	GR event request	3.077 kcps
2	GR event live	2.688 kcps
3	LAS eventRequest	0.052 kcps
4	LAS event live	0.046 kcps
5	GR clock request	9.904 kcps
6	GR clock live	9.083 kcps
7	GR Single	2.688 kcps
8	GR Single Sample	2.688 kcps
9	LAS Single	0.046 kcps
10	LAS SingleSample	0.019 kcps
11	GR & LAS COIN	0.298 kcps
12	ALL accept Event	2.734 kcps
13	Reject event	0.000 kcps
14	GR3377stop(TEND)	2.734 kcps
15	LAS-reject	0.000 kcps
Trig.(GR) live : 87.357 percent		
Trig.(LAS) live : 88.679 percent		
Clock live : 91.717 percent		

0	BLP CLK req :	9.903 kcps
1	BLP CLK live :	9.903 kcps
2	BLP Trig req :	0.000 kcps
3	BLP Trig live :	0.000 kcps
4	Akimune UP :	0.000 kcps
5	Akimune Down :	0.000 kcps
6	Akimune Left :	0.000 kcps
7	Akimune Right :	0.000 kcps
8	Beam Monitor1 :	3.077 kcps
9	Beam Monitor2 :	2.688 kcps
10	Beam Monitor3 :	0.000 kcps
11	GR scinti.1 :	0.000 kcps
12	GR scinti.2 :	11.585 kcps
13	GR X-hodo :	0.000 kcps
14	:	0.000 kcps
15	:	0.000 kcps

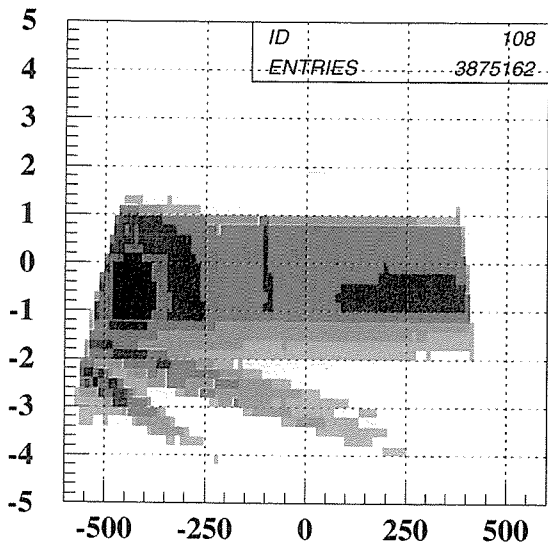
- ・ 20Ne 亮 7 分中、冷却中に beam 電圧 破断、
- ・ Ca 4 チャンネル を準備、セルが製作できずマフ

40 (2) 電圧

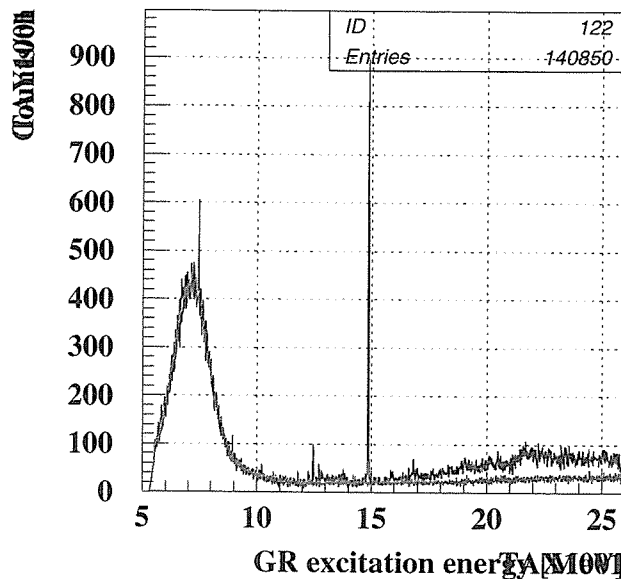
- ・ 作業中に 真空管 GR9 コンセント 破断 電圧

(電圧が 2.4kV まで
ショートした)

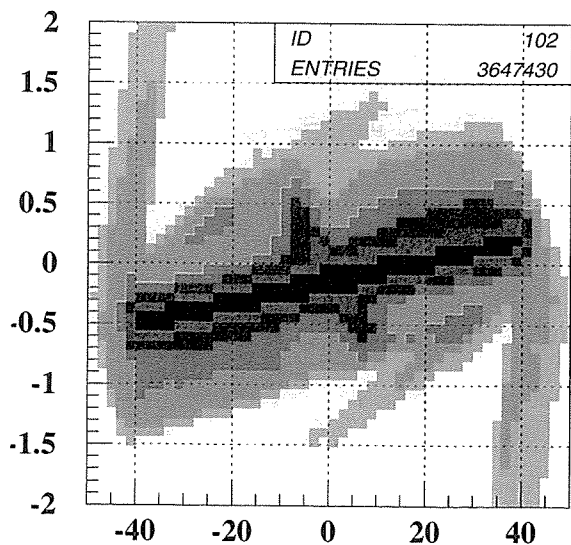
2007/11/25 06.53



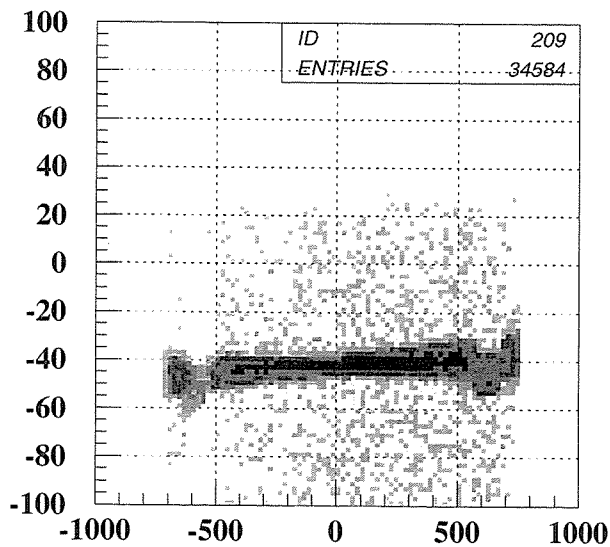
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

9:45

run # 2013 ^{40}Ca @ 0 deg

Run# 2013 Comment ^{40}Ca 3.51 mg/cm² dip 0 deg #1

Date <u>11 / 25</u>	Target
Start <u>9 : 46</u>	☐ ^{20}Ne inela or elast
Stop <u>:</u>	☐ ^{36}Ar inela or elast
GR angle <u>0</u> deg	☐ CO_2 inela or elast
Beam current <u>2.7</u> nA	☐ Empty inela or elast
C.I. range <u>6</u> nA	☐ ^{28}Si 2.22 (1.86) mg/cm ²
	☐ ^{40}Ca 3.51 mg/cm ²

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

9.55

LAS に 7" が 来 ない の と

trigger rate が 1 % (GR, LAS と E) 程 度
 なの で と り あ え ず Abort

trig init → GR + LAS (coin = 1")
 trig setup → GR 1/1
 LAS 1/1) sampling rate
 Coin width 25 × (0 + 2) ns
 ↑
 OT = 1E

↓
 trigger rate は 思 い ま ず

↓

DAQ を 全 て お と す

11:00 西に入室

GR, LAS 各 Nim & CAMAC プートの電源を OFF/ON
する。

(fella
3377) } イニシャリス"
LAS & GR

{ trig init
trig setup ⇒

↓
frc03 をリポート

再び trig init & trig setup

↓
LAS のソフトウェアは見えるようになったが live rate は 1% のまま。

↓
11:30頃 再び 西に入室 (岡村さんに来られた)

(吉田さんに電話)

- Fera, 3377 (GR & LAS) の
Busy out の 1 信号を見る。

↓
回路がうまく動作していない場合は 13 msec 2" Timeout
するか、それぞれを check したところ、

①	GR	Fera	OK	} (数 + μ sec)
②	"	3377	<u>13 msec</u>	
③	LAS	Fera	OK	
④	"	3377	OK	

となり、GRの3377が おかしい様子

- GR おక్క의 initialize に 失敗 している様なので、
おక్క フレートの ULM を とりかえる。

↓

BRP フレートの 余っているものと とりかえたが、
I/O の 設定が おక్కの フレートの ものと
異なるようで、 やはり うまくいかず。

Lecroy 2366

↑

FCRT

↓

NPOL 近くの 回路ラックに 余っていた ULM ととりかえる。
I/O の 設定も おక్కの フレートの ものと 似ている。

↓

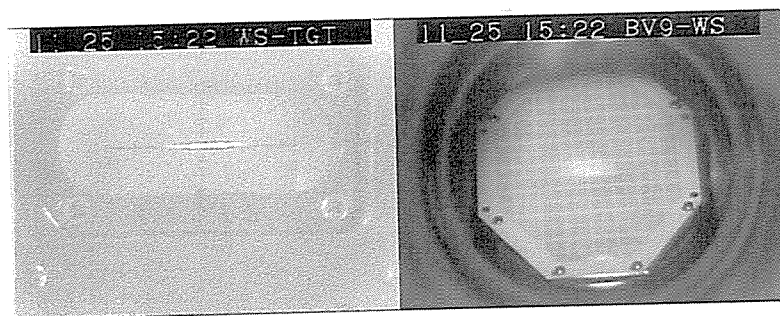
{ Initialize 成功
{ 13 msec で タイムアウト すること も なかった。(15 msec)
(Busy かい)

15:00 Live ratio が正常に戻ったので、
ビームスポットを check.

本票的: viewer
F.C.: 中心 (0°)

ビーム軸を正しく調整して像が弱冠でいい?

- ・ リンク入りの入射を少しいじる。
カレントリースが増えるように調整を少し。
リンクの入りと出で半分ほどになっている。
少しいじれば (上下に少しいじる) センシ量が増え
改善されるので、やってみよう。



~100 Transmission side Ring

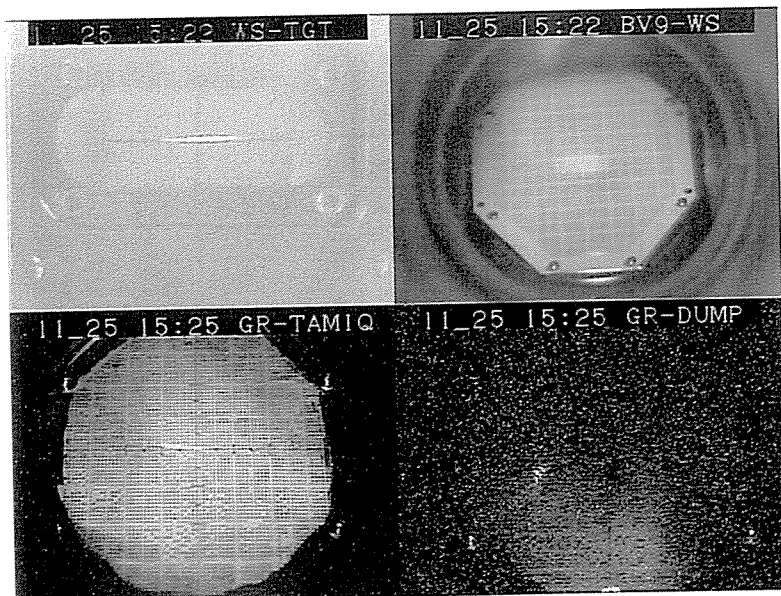
0	Beam Intensity	2.251 nA	0	BLP CLK req :	9.622 kcps
1	GR event request	0.323 kcps	1	BLP CLK live :	9.621 kcps
2	GR event live	0.311 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.006 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.006 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.621 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.526 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	0.311 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	0.311 kcps	8	Beam Monitor1 :	0.328 kcps
9	LAS Single	0.006 kcps	9	Beam Monitor2 :	0.312 kcps
10	LAS SingleSample	0.002 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.005 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	0.317 kcps	12	GR scinti.2 :	6.222 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	0.317 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live :	96.460 percent
Trig.(LAS) live :	100.000 percent
Clock live :	99.010 percent

Sca			
scaler down			
RUN NUM	9999	B.I. Range	6 nA
RUN START	2007-Nov-25	15:26:21	
NOW	2007-Nov-25	15:26:49	
scaler	0	ch	Sca1
	0	11401	Sca2

← blank 2°

GR 0度から外通し中



ASK for. Intensity auto 9 272/117 default k → P.189 table

Run# 2014 Comment Ca 3.51 ⁴⁰Ca₂ disp 0deg #2

Date 11 / 25
Start 15 : 35
Stop :
GR angle 0 deg
Beam current nA
C.I. range 6 nA

Target
☐ ²⁰Ne inela or elast
☐ ³⁶Ar inela or elast
☐ CO2 inela or elast
☐ Empty inela or elast
☐ ²⁸Si 2.22 (1.86) mg/cm²
☒ ⁴⁰Ca 3.5 mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V
Gas cell Temp deg Press atm thickness mg/cm2
Print out? ☐ histograms ☐ rate table ☐ magnet table

0	Beam Intensity	2.964 nA	0	BLP CLK req :	9.416 kcps
1	GR event request	4.186 kcps	1	BLP CLK live :	9.416 kcps
2	GR event live	3.518 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.066 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.057 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.416 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.353 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	3.518 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	3.518 kcps	8	Beam Monitor1 :	4.186 kcps
9	LAS Single	0.057 kcps	9	Beam Monitor2 :	3.518 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.500 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.575 kcps	12	GR scinti.2 :	13.715 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.574 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 84.057 percent
Trig.(LAS) live : 85.915 percent
Clock live : 88.706 percent

Sca			
scaler down			
RUN NUM	2014	B.I. Range	6 nA
RUN START	2007-Nov-25	15:35:34	
NOW	2007-Nov-25	15:47:51	
scaler	0	ch	Sca1 Sca2
n	216822		2450

WS Magnet Controller

'07/11/25 16:00

WS/PIS

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1		mT	90.2	90.30 A				
GR SX		mT	18.2	18.10 A				
GR Q2		mT	8.5	8.50 A				
GR MQ		mT		0.00 A				
GR MS		mT		0.00 A				
GR D1	869.773	868.961 mT	230.64	230.51 A				
GR D2	869.814	869.219 mT	434.13	433.63 A				
GR DSR		120.441 mT	13.5	13.54 A				
LAS Q		mT		217.70 A				
LAS D		-747.984 mT		280.30 A				
GR DQ1		mT	50	50.00 A				
GR DQ2		mT	65.1	65.10 A				

Update

update Cycle 10 sec.

Hcopy

Queue acc3626

exit

16:20 run stop
 (live ratio 7" 75~79% c + 2, 2 of 2") (2n ~ 2.5n)

16:28 beam 2 1.5mA = 12 run 2015 start.

Run# 2015 Comment ^{40}Ca 3.51 mg/cm² disp 0deg #3

Date 11 / 25 Target
 Start 16 : 23:30 ☐ ^{20}Ne inela or elast
 Stop 18 : 33 ☐ ^{36}Ar inela or elast
 GR angle 0 deg ☐ CO2 inela or elast
 Beam current 1.5 nA ☐ Empty inela or elast
 C.I. range 6 nA ☐ ^{28}Si 2.22 (1.86) mg/cm²
☒ ^{40}Ca 3.51 mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

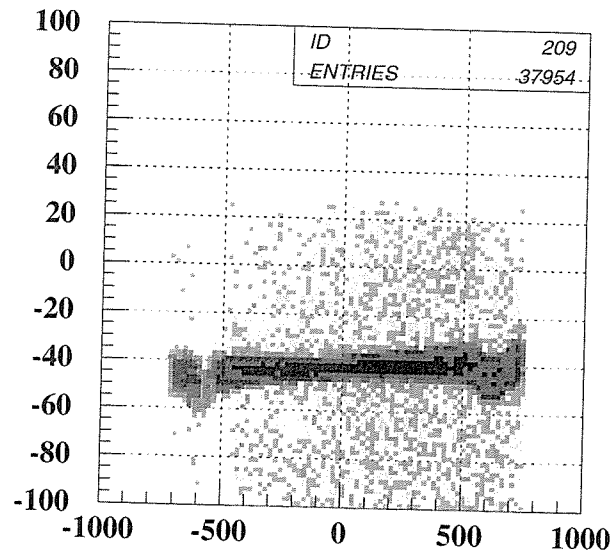
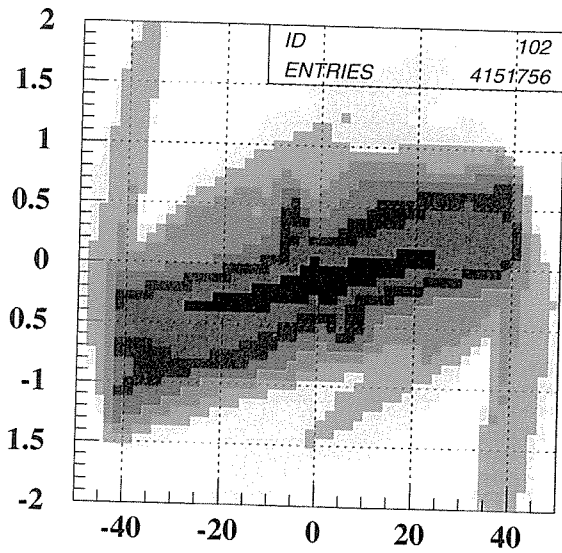
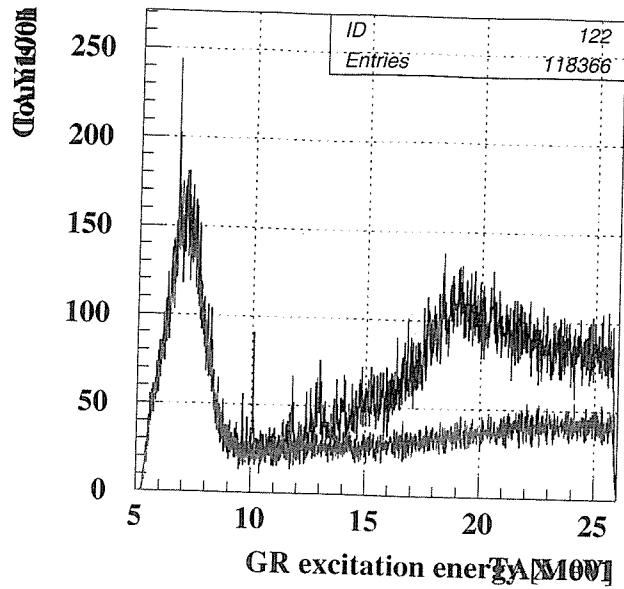
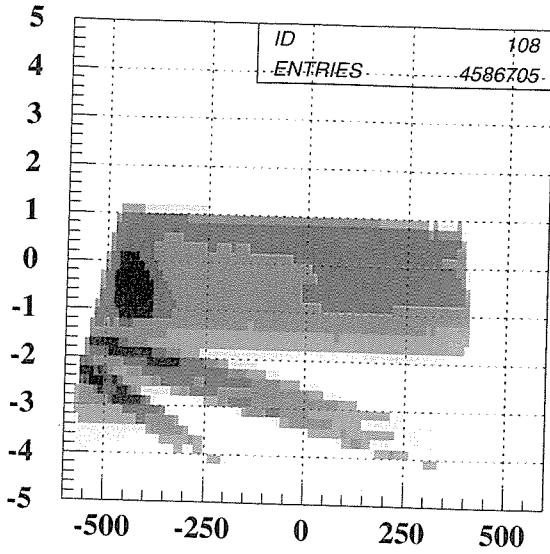
0	Beam Intensity	1,331 nA	0	BLP CLK req :	9,621 kcps
1	GR event request	1,833 kcps	1	BLP CLK live :	9,621 kcps
2	GR event live	1,586 kcps	2	BLP Trig req :	0,000 kcps
3	LAS eventRequest	0,026 kcps	3	BLP Trig live :	0,000 kcps
4	LAS event live	0,021 kcps	4	Akimune UP :	0,000 kcps
5	GR clock request	9,622 kcps	5	Akimune Down :	0,000 kcps
6	GR clock live	9,145 kcps	6	Akimune Left :	0,000 kcps
7	GR Single	1,586 kcps	7	Akimune Right :	0,000 kcps
8	GR Single Sample	1,586 kcps	8	Beam Monitor1 :	1,833 kcps
9	LAS Single	0,021 kcps	9	Beam Monitor2 :	1,586 kcps
10	LAS SingleSample	0,000 kcps	10	Beam Monitor3 :	0,000 kcps
11	GR & LAS COIN	0,205 kcps	11	GR scinti.1 :	0,000 kcps
12	ALL accept Event	1,607 kcps	12	GR scinti.2 :	6,060 kcps
13	Reject event	0,000 kcps	13	GR X-hodo :	0,000 kcps
14	GR3377stop(TEND)	1,607 kcps	14	:	0,000 kcps
15	LAS-reject	0,000 kcps	15	:	0,000 kcps

Trig.(GR) live : 86.545 percent			
Trig.(LAS) live : 81.481 percent			
Clock live : 95.042 percent			

SCB			
scaler down			
RUN NUM	9999	B.I. Range	6 nA
RUN START	2007-Nov-25	16:26:54	
NOW	2007-Nov-25	16:28:06	
scaler	0	ch	Scal
n	15624		187

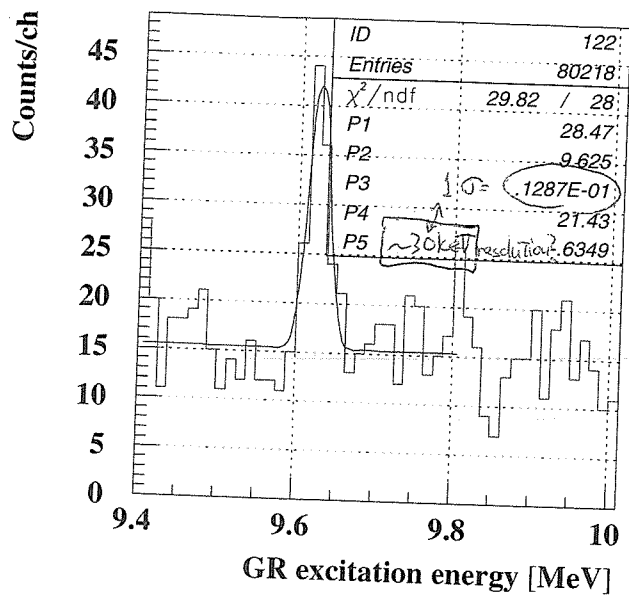
run number 35が、たのて
 runをリセットした。

2007/11/25 16.21



イン終了後、onlineのfdc接続をマシナ変更

2007/11/25 18.



Online spectrum (gexg) has Energy Resolution ≈ 30 keV
 ≈ 30 keV = (gaussian + linear fit)
 ≈ 30 keV?

1) GEXG GR excitation energy (Y, TH-gated)

0	Beam Intensity	1.360 nA	0	BLP CLK req	:	9.620 kcps
1	GR event request	1.891 kcps	1	BLP CLK live	:	9.620 kcps
2	GR event live	1.735 kcps	2	BLP Trig req	:	0.000 kcps
3	LAS eventRequest	0.025 kcps	3	BLP Trig live	:	0.000 kcps
4	LAS event live	0.023 kcps	4	Akimune UP	:	0.000 kcps
5	GR clock request	9.620 kcps	5	Akimune Down	:	0.000 kcps
6	GR clock live	9.098 kcps	6	Akimune Left	:	0.000 kcps
7	GR Single	1.735 kcps	7	Akimune Right	:	0.000 kcps
8	GR Single Sample	1.735 kcps	8	Beam Monitor1	:	1.891 kcps
9	LAS Single	0.023 kcps	9	Beam Monitor2	:	1.735 kcps
10	LAS SingleSample	0.002 kcps	10	Beam Monitor3	:	0.000 kcps
11	GR & LAS COIN	0.275 kcps	11	GR scinti.1	:	0.000 kcps
12	ALL accept Event	1.758 kcps	12	GR scinti.2	:	6.361 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	:	0.000 kcps
14	GR3377stop(TEND)	1.758 kcps	14	:	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	:	0.000 kcps

Trig.(GR) live	:	91.742 percent
Trig.(LAS) live	:	92.308 percent
Clock live	:	94.576 percent

Scaler	up
RUN NUM	2015 B.I. Range 6 nA
RUN START	2007-Nov-25 16:31:39
NOW	2007-Nov-25 18:32:42
Scaler	1 ch Sca1 Sca2
n	1697282 11352

Run# 2016 Comment ^{40}Ca 351 $\mu\text{g}/\text{cm}^2$ disp 0deg #4

Date 11 / 25
 Start 18 : 34
 Stop 20 : 03
 GR angle 0 deg
 Beam current 1.5 nA
 C.I. range 6 nA

Target
☐ ^{20}Ne inela or elast
☐ ^{36}Ar inela or elast
☐ CO_2 inela or elast
☐ Empty inela or elast
☐ ^{28}Si 2.22 (1.86) mg/cm^2
☒ ^{40}Ca 351 mg/cm^2

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm^2

Print out? ☐ histograms ☐ rate table ☐ magnet table

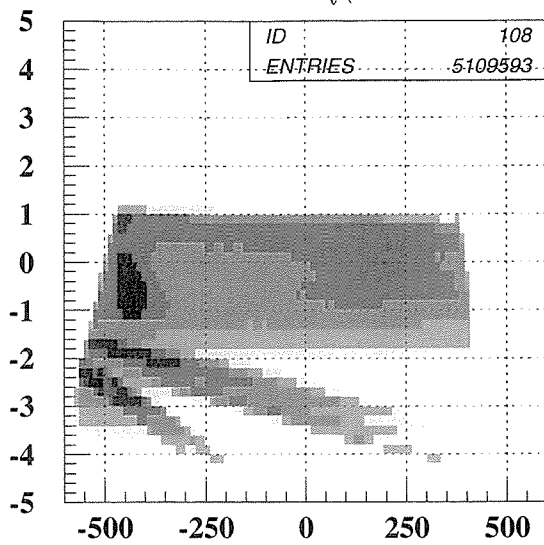
0	Beam Intensity	1.247 nA	0	BLP CLK req :	0.000 kcps
1	GR event request	1.852 kcps	1	BLP CLK live :	0.000 kcps
2	GR event live	1.726 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.025 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.022 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.629 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.111 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.726 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.726 kcps	8	Beam Monitor1 :	0.000 kcps
9	LAS Single	0.022 kcps	9	Beam Monitor2 :	0.000 kcps
10	LAS SingleSample	0.004 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.341 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	1.748 kcps	12	GR scinti.2 :	0.000 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	1.748 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 93.206 percent
 Trig.(LAS) live : 88.462 percent
 Clock live : 94.614 percent

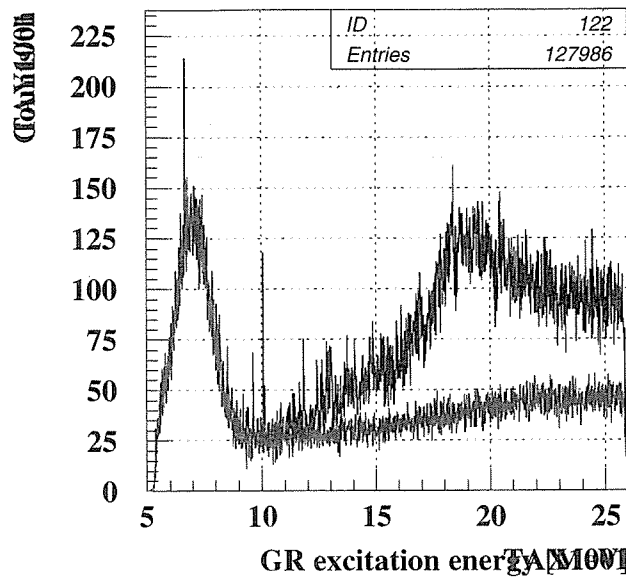
Sca			
RUN NUM	2016	B.I. Range	6 nA
START	2007-Nov-25	18:34:50	
RUN STOP	2007-Nov-25	20:03:28	
NOW	2007-Nov-25	20:03:50	
scaler	1	ch	Sca1
n	1303324		Sca2

#2015

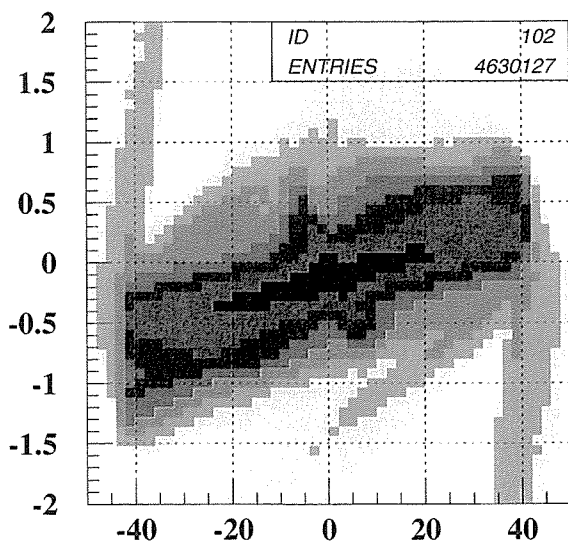
2007/11/25 18.33



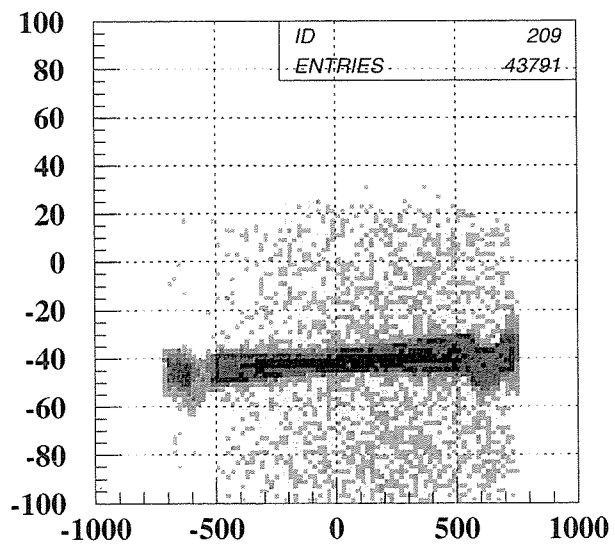
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



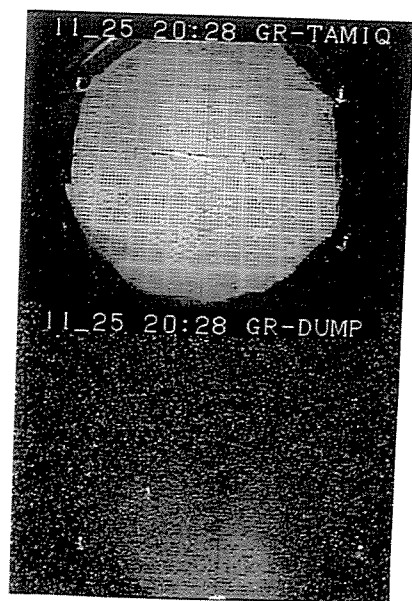
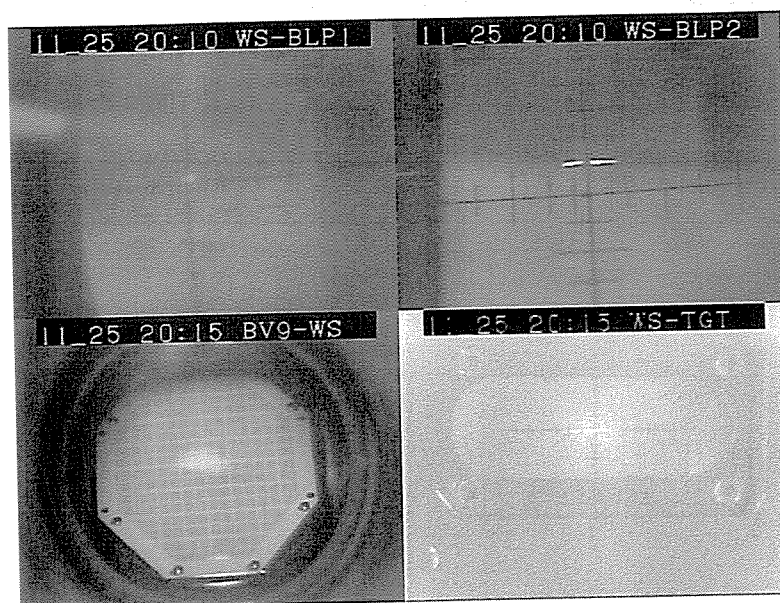
GYPH GR Phi vs Y



LXY LAS Y vs X

20:00 $40^\circ \text{Ca } 0^\circ$
 ✓ 7-9 合計 4R 2.7m 2" beam spot 確認 終了 2" run stop.
 run 2016 のテスト 3a 出力 中止 120

C-6 像 4R-9 (BV9 2.4m 上にあり、 T_{202} Steerer 2 調整)



Run# 2017 Comment ^{40}Ca 3.51 $\mu\text{g}/\text{cm}^2$ disp 0deg

Date 11/25

Start 20:32

Stop :

GR angle 0 deg

Beam current 1.5 nA

C.I. range 6 nA

Target

☐ ^{20}Ne inela or elast

☐ ^{36}Ar inela or elast

☐ CO_2 inela or elast

☐ Empty inela or elast

☐ ^{28}Si 2.22 (1.86) mg/cm^2

☒ ^{40}Ca 3.51 mg/cm^2

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm^2

Print out? ☐ histograms ☐ rate table ☐ magnet table

hataa" auto = 12201203T = 02" 途中 2" λ 4T = (20244)
 TAMU viewer" λ 2012 = 02" run stop

run 2018 start (20-47)

Run# 2018 Comment ^{40}Ca 3.51 mg/cm^2 disp. 0deg

Date 11/25

Start 20:46

Stop 21:30

GR angle 0 deg

Beam current 1.4 nA

C.I. range 6 nA

Target

☐ ^{20}Ne inela or elast

☐ ^{36}Ar inela or elast

☐ CO_2 inela or elast

☐ Empty inela or elast

☐ ^{28}Si 2.22 (1.86) mg/cm^2

☒ ^{40}Ca 3.51 mg/cm^2

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm^2

Print out? ☐ histograms ☒ rate table ☒ magnet table

WS Magnet Controller

'07/11/25 20:50

WS/PIS

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1			mT	90.2	90.30 A			
GR SX			mT	18.2	18.10 A			
GR Q2			mT	8.5	8.50 A			
GR MQ			mT		0.00 A			
GR MS			mT		0.00 A			
GR D1	869.773	868.958	mT	230.64	230.51 A			
GR D2	869.814	869.220	mT	434.13	433.63 A			
GR DSR		120.441	mT	13.5	13.54 A			
LAS Q			mT		217.70 A			
LAS D		-747.985	mT		280.30 A			
GR DQ1			mT	50	50.00 A			
GR DQ2			mT	65.1	65.10 A			

run 20 (84)
24-10

21:30. beam 0" 7 8 7 2 2 1 run stop.

0	Beam Intensity	1.245 nA	0	BLP CLK req :	9.616 kcps
1	GR event request	2.004 kcps	1	BLP CLK live :	9.616 kcps
2	GR event live	1.826 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.022 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.021 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.617 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.067 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.826 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.826 kcps	8	Beam Monitor1 :	2.004 kcps
9	LAS Single	0.021 kcps	9	Beam Monitor2 :	1.826 kcps
10	LAS SingleSample	0.004 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.351 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	1.847 kcps	12	GR scinti.2 :	6.143 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	1.847 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live :	91.116 percent
Trig.(LAS) live :	95.652 percent
Clock live :	94.278 percent

Sca				
RUN NUM	2018	B.I.	Range	6 nA
START	2007-Nov-25		20:46:57	
RUN STOP	2007-Nov-25		21:29:36	
NOW	2007-Nov-25		21:30:27	
scaler	0	ch	Sca1	Sca2
n	511369		3425	

Run# 2019 Comment ^{40}Ca 3.5/mg/cm² disp 0deg
 Date 11/25 Target #7
 Start 21:31 ☐ ^{20}Ne inela or elast
 Stop 22:42 ☐ ^{36}Ar inela or elast
 GR angle 0 deg ☐ CO_2 inela or elast
 Beam current 1.4 nA ☐ Empty inela or elast
 C.I. range 6 nA ☐ ^{28}Si 2.22 (1.86) mg/cm²
☒ ^{40}Ca 3.5 mg/cm²
 VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V
 Gas cell Temp deg Press atm thickness mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

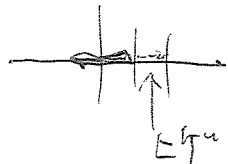
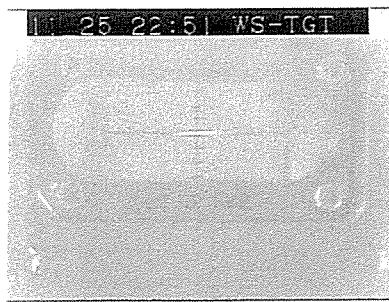
22:43 バックグラウンドが土増えたとおりにおとしたので。 run stop

スポットを確認する

target 上での像は元々ほとんど壊れていていないように見える。ヒゲが
 出ているように見える。(オペレータにすると、このヒゲも数秒も以前のものであろう)

このまま測定を続けることにする。

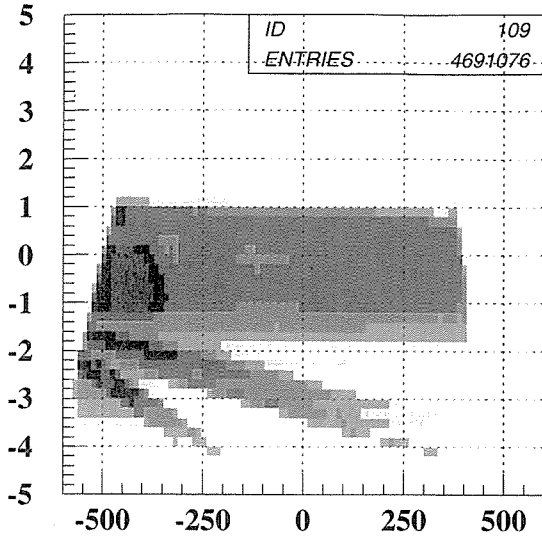
22:55



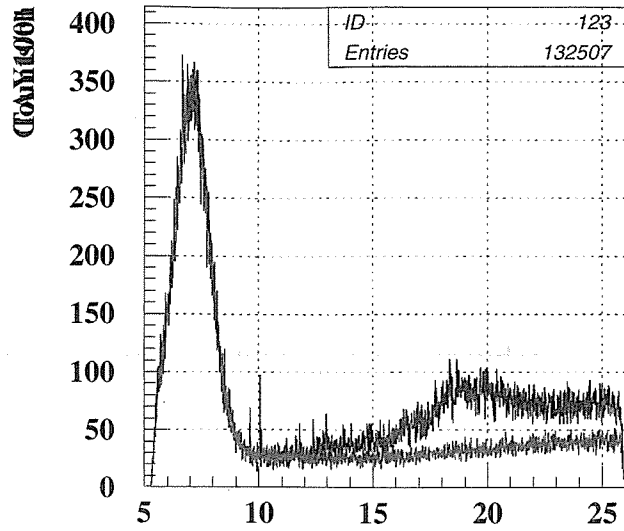
- 左図では ヒゲが見えないが
右側に 2~3 秒に 1 回 ヒゲが伸びる
- ヒゲが フレーム を たたく ているのかも
しれない
- オペレータの人の話では、夕方に引っぱり
を受けてから ずっとこの状況であった
とのこと。

run 2019

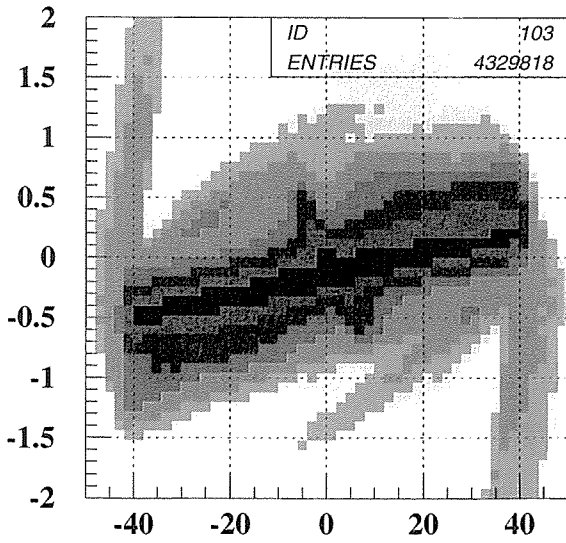
2007/11/25 22.42



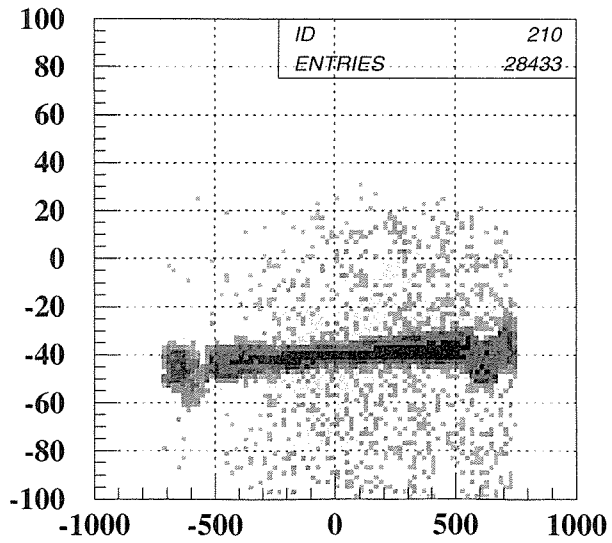
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

Run# 2020 Comment ^{40}Ca 3.5 mg/cm² desp 0deg

Date 11/25

Start 22:56

Stop :

GR angle 0 deg

Beam current 1.5 nA

C.I. range 6 nA

Target

☐ ²⁰Ne inela or elast

☐ ³⁶Ar inela or elast

☐ CO₂ inela or elast

☐ Empty inela or elast

☐ ²⁸Si 2.22 (1.86) mg/cm²

☒ ^{40}Ca 3.5 mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm²

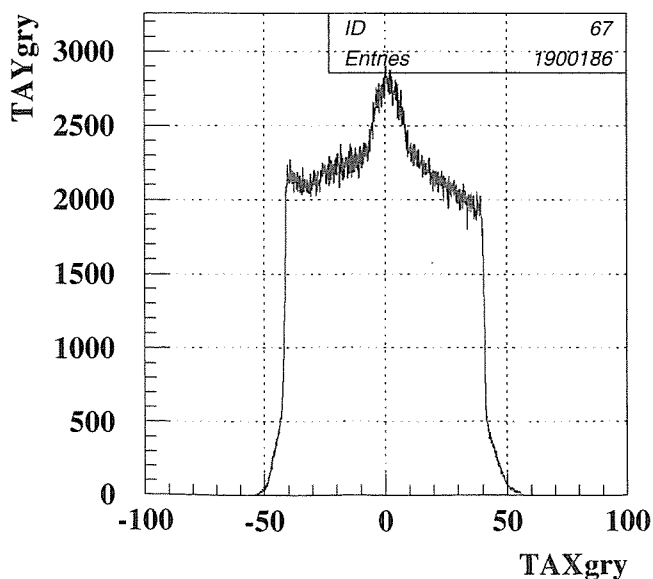
Print out? ☐ histograms ☐ rate table ☐ magnet table

Run Start 時 scaler

0	Beam Intensity	1.286 nA	0	BLP CLK req	9.622 kcps
1	GR event request	2.616 kcps	1	BLP CLK live	9.621 kcps
2	GR event live	2.295 kcps	2	BLP Trig req	0.000 kcps
3	LAS eventRequest	0.020 kcps	3	BLP Trig live	0.000 kcps
4	LAS event live	0.019 kcps	4	Akimune UP	0.000 kcps
5	GR clock request	9.622 kcps	5	Akimune Down	0.000 kcps
6	GR clock live	8.933 kcps	6	Akimune Left	0.000 kcps
7	GR Single	2.295 kcps	7	Akimune Right	0.000 kcps
8	GR Single Sample	2.295 kcps	8	Beam Monitor1	2.616 kcps
9	LAS Single	0.019 kcps	9	Beam Monitor2	2.295 kcps
10	LAS SingleSample	0.006 kcps	10	Beam Monitor3	0.000 kcps
11	GR & LAS COIN	0.407 kcps	11	GR scinti.1	0.000 kcps
12	ALL accept Event	2.314 kcps	12	GR scinti.2	6.702 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	0.000 kcps
14	GR3377stop(TEND)	2.314 kcps	14		0.000 kcps
15	LAS-reject	0.000 kcps	15		0.000 kcps

Trig.(GR) live : 87.732 percent	
Trig.(LAS) live : 95.238 percent	
Clock live : 92.844 percent	

Sca			
scaler up	2020	B.I. Range	6 nA
RUN NUM	2020	B.I. Range	6 nA
RUN START	2007-Nov-25	22:56:10	
NOW	2007-Nov-25	22:56:49	
scaler	1	ch	Scal
n	ann		166 Sca2



R a 10-3 u. Scaler 1 for
GR & a 2.295 kcps
(TAYh. reset 12421175
前 run と同じ条件で

GR event Request a rate 100
同 1a run 中 10 97 (2.295 kcps)
-100 100 12.

rate1			rate3		
0	Beam Intensity	1.406 nA	0	BLP CLK req :	9.621 kcps
1	GR event request	3.518 kcps	1	BLP CLK live :	9.622 kcps
2	GR event live	3.008 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.027 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.025 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.620 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.719 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	3.008 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	3.008 kcps	8	Beam Monitor1 :	3.522 kcps
9	LAS Single	0.025 kcps	9	Beam Monitor2 :	3.011 kcps
10	LAS SingleSample	0.015 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.561 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.033 kcps	12	GR scinti.2 :	7.893 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.033 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps
Trig.(GR) live : 85.517 percent			SC0		
Trig.(LAS) live : 92.857 percent			scaler up		
Clock live : 90.636 percent			RUN NUM 2020 B.I. Range 6 nA		
			RUN START 2007-Nov-25 22:56:10		
			NAME 2007-Nov-25 22:16:20		

PM.11:00
(23:00)

0:10 beam intensity を上げたら。
B.I. $\approx 1.8 \text{ nA}$

Trig. Live $\sim 85\%$

12:42 イオン源の調子が悪く、1分間ほど
ビーム量が不安定になった。最小で
 0.1 nA 近くまで落ちた。

11/26

1200

2h 7th 9th 20(2921) run stop.

rate1			rate3		
0	Beam Intensity	1.846 nA	0	BLP CLK req :	0.000 kcps
1	GR event request	3.964 kcps	1	BLP CLK live :	0.000 kcps
2	GR event live	3.454 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.052 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.049 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.618 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.577 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	3.454 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	3.454 kcps	8	Beam Monitor1 :	0.000 kcps
9	LAS Single	0.049 kcps	9	Beam Monitor2 :	0.000 kcps
10	LAS SingleSample	0.014 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.611 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.503 kcps	12	GR scinti.2 :	0.000 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.503 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live :	87.125 percent
Trig.(LAS) live :	92.727 percent
Clock live :	89.168 percent

Sca		
RUN NUM	2020 B.I. Range	6 nA
START	2007-Nov-25	22:56:10
RUN STOP	2007-Nov-26	00:59:09
NOW	2007-Nov-26	00:59:11
Scaler	0 ch	Sca1

1215

ビームスポット確認



#2021 27-1時の磁場

WS Magnet Controller

'07/11/26 01:18

WS/PIS

Magnet	Field(Preset Actual)	Current(Preset Actual)	Status	PS	NMR	FB
GR Q1	mT	90.2 90.30 A				
GR SX	mT	18.2 18.10 A				
GR Q2	mT	8.5 8.50 A				
GR MQ	mT	0.00 A				
GR MS	mT	0.00 A				
GR D1	869.773 868.958 mT	230.64 230.51 A				
GR D2	869.814 869.222 mT	434.13 433.63 A				
GR DSR	120.440 mT	13.5 13.54 A				
LAS Q	mT	217.70 A				
LAS D	-747.985 mT	280.30 A				
GR DQ1	mT	50 50.00 A				
GR DQ2	mT	65.1 65.10 A				

Update

update Cycle 10 sec.

Hcopy

Queue acc3626

exit

Run# 2071 Comment ^{40}Ca 3.51 mg/cm² disp 0 deg

Date 11/1/26

Start 1:19

Stop :

GR angle 0 deg

Beam current 1.8 nA

C.I. range 6 nA

Target

☐ ^{20}Ne inela or elast☐ ^{36}Ar inela or elast☐ CO_2 inela or elast☐ Empty inela or elast☐ ^{28}Si 2.22 (1.86) mg/cm²☒ ^{40}Ca 3.51 mg/cm²

#9

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. VGas cell Temp deg Press atm thickness mg/cm²Print out? ☐ histograms ☐ rate table ☐ magnet table

22-27, 28-
online 23/11/11 7117-

rate1	rate3
0 Beam Intensity 1.925 nA	0 BLP CLK req : 9.621 kcps
1 GR event request 4.844 kcps	1 BLP CLK live : 9.621 kcps
2 GR event live 4.015 kcps	2 BLP Trig req : 0.000 kcps
3 LAS eventRequest 0.043 kcps	3 BLP Trig live : 0.000 kcps
4 LAS event live 0.035 kcps	4 Akimune UP : 0.000 kcps
5 GR clock request 9.621 kcps	5 Akimune Down : 0.000 kcps
6 GR clock live 8.417 kcps	6 Akimune Left : 0.000 kcps
7 GR Single 4.015 kcps	7 Akimune Right : 0.000 kcps
8 GR Single Sample 4.015 kcps	8 Beam Monitor1 : 4.844 kcps
9 LAS Single 0.035 kcps	9 Beam Monitor2 : 4.015 kcps
10 LAS SingleSample 0.017 kcps	10 Beam Monitor3 : 0.000 kcps
11 GR & LAS COIN 1.125 kcps	11 GR scinti.1 : 0.000 kcps
12 ALL accept Event 4.051 kcps	12 GR scinti.2 : 11.215 kcps
13 Reject event 0.000 kcps	13 GR X-hodo : 0.000 kcps
14 GR3377stop(TEND) 4.051 kcps	14 : 0.000 kcps
15 LAS-reject 0.000 kcps	15 : 0.000 kcps

Trig.(GR) live : 82.898 percent	scaler down
Trig.(LAS) live : 82.222 percent	RUN NUM 2021 B.I. Range 6 nA
Clock live : 87.490 percent	RUN START 2007-Nov-26 01:19:11
	NOW 2007-Nov-26 03:12:25
	scaler 0 ch Sca1

stop 直前の scaler.

3=10 #2021 stop.

カソード-A-に ADF 下流のスリット調整をしても良かったが stop
11R-711-の調整をしよう

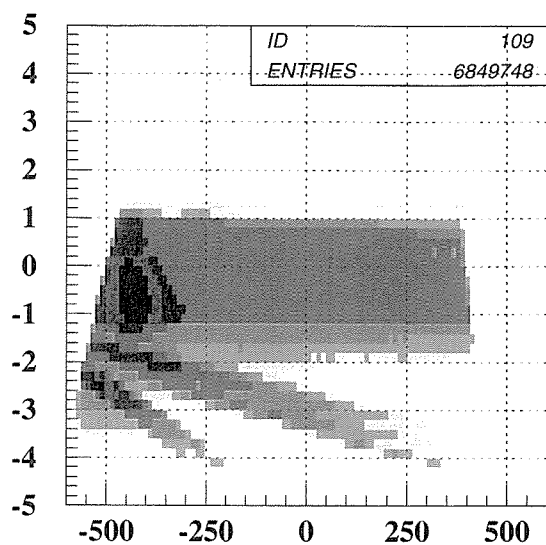
↓

3=30. { 4kcps @ 3nA ~ 95~90%
5.5kcps @ 4nA ~ 85% rate

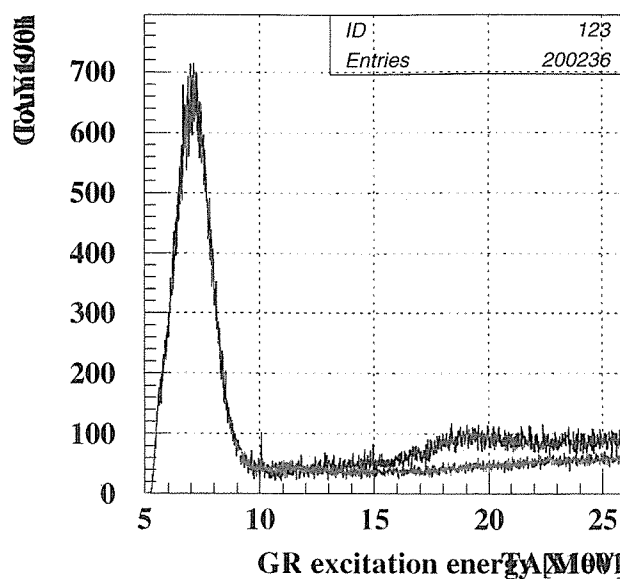
くらいいったの？ #1023,

2021

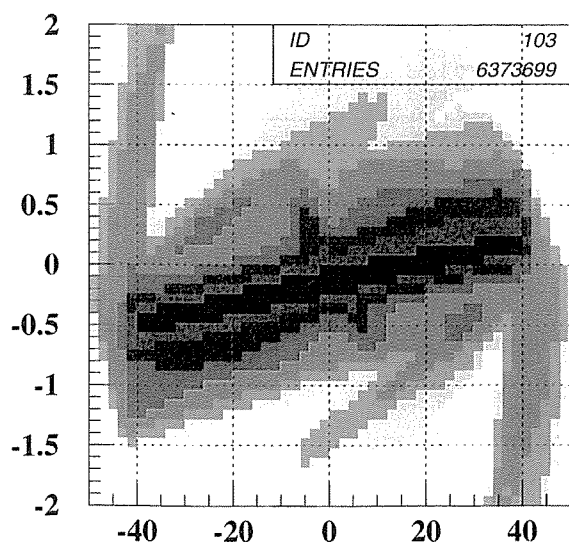
2007/11/26 03.12



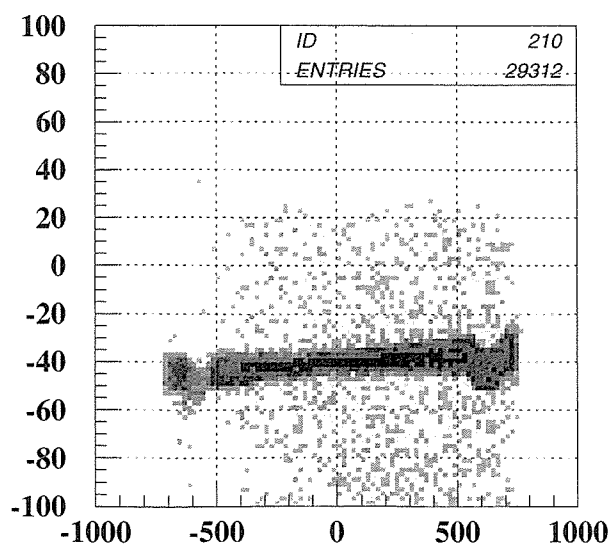
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

Run# 2022 Comment ^{40}Ca 3.51 mg/cm² #10

Date 11/26

Start 3:25

Stop :

GR angle 0 deg

Beam current 3.5 nA

C.I. range 6 nA

Target

☐ ^{20}Ne inela or elast

☐ ^{36}Ar inela or elast

☐ CO_2 inela or elast

☐ Empty inela or elast

☐ ^{28}Si 2.22 (1.86) mg/cm²

☐ ^{40}Ca 3.51 mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1	rate3
0 Beam Intensity 3.664 nA	0 BLP CLK req : 9.648 kcps
1 GR event request 5.558 kcps	1 BLP CLK live : 9.648 kcps
2 GR event live 4.704 kcps	2 BLP Trig req : 0.000 kcps
3 LAS eventRequest 0.061 kcps	3 BLP Trig live : 0.000 kcps
4 LAS event live 0.052 kcps	4 Akimune UP : 0.000 kcps
5 GR clock request 9.640 kcps	5 Akimune Down : 0.000 kcps
6 GR clock live 8.225 kcps	6 Akimune Left : 0.000 kcps
7 GR Single 4.704 kcps	7 Akimune Right : 0.000 kcps
8 GR Single Sample 4.704 kcps	8 Beam Monitor1 : 5.803 kcps
9 LAS Single 0.052 kcps	9 Beam Monitor2 : 4.810 kcps
10 LAS SingleSample 0.016 kcps	10 Beam Monitor3 : 0.000 kcps
11 GR & LAS COIN 1.043 kcps	11 GR scinti.1 : 0.000 kcps
12 ALL accept Event 4.756 kcps	12 GR scinti.2 : 18.074 kcps
13 Reject event 0.000 kcps	13 GR X-hodo : 0.000 kcps
14 GR3377stop(TEND) 4.755 kcps	14 : 0.000 kcps
15 LAS-reject 0.000 kcps	15 : 0.000 kcps

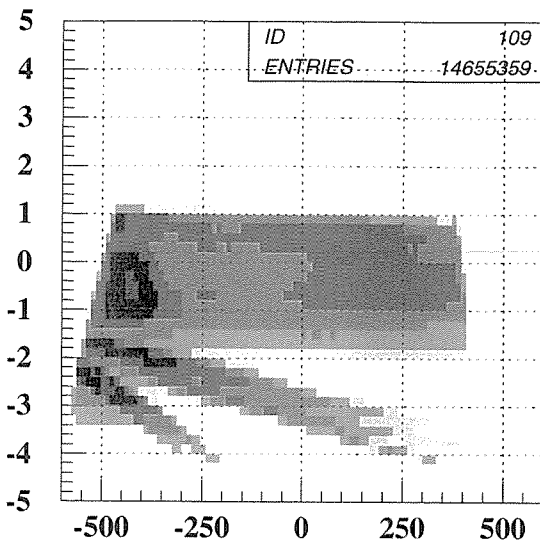
Trig.(GR) live : 84.635 percent
Trig.(LAS) live : 84.375 percent
Clock live : 85.321 percent

scaler up
RUN NUM 2022 B.I. Range 6 nA
RUN START 2007-Nov-26 03:25:36
NOW 2007-Nov-26 03:31:59
scaler 1 ch Sca1

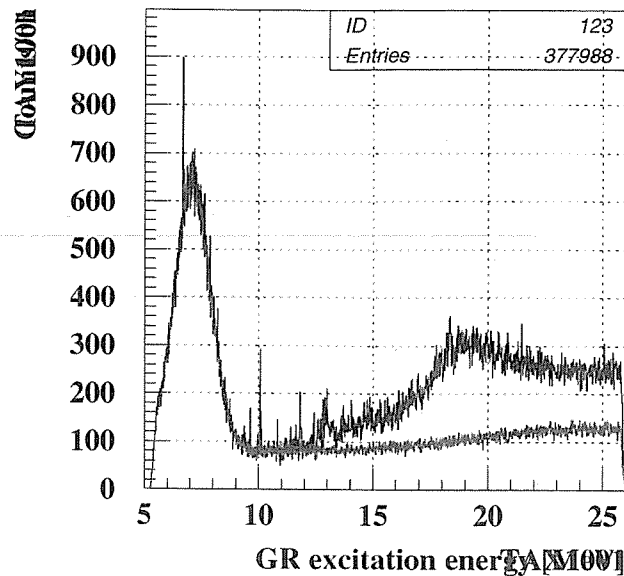
↓
 3.0 nA, 4.5 kcps に戻した。

2022.

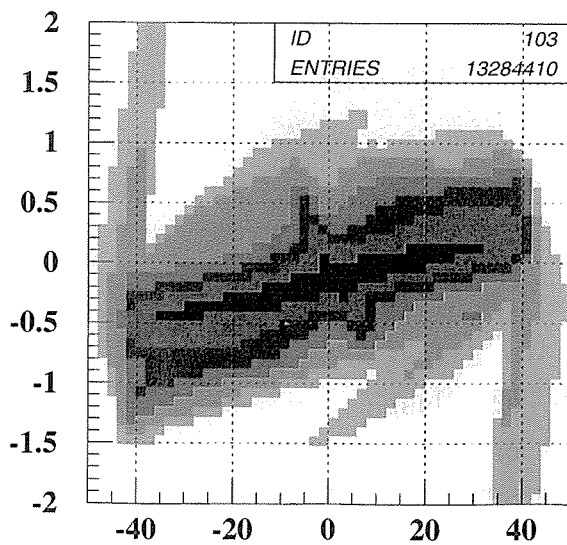
2007/11/26 05.27



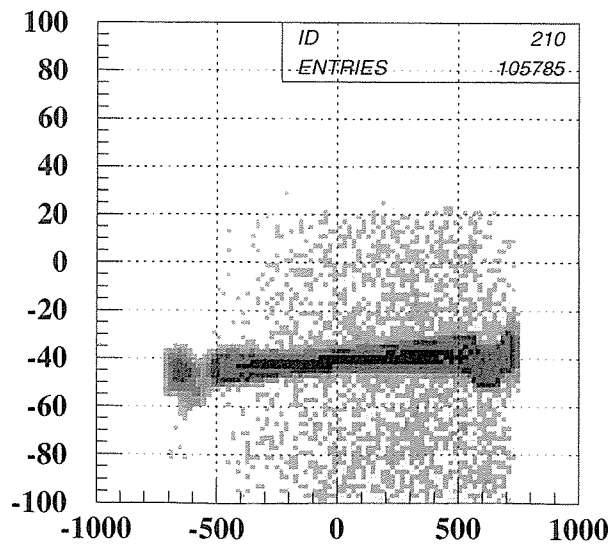
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)

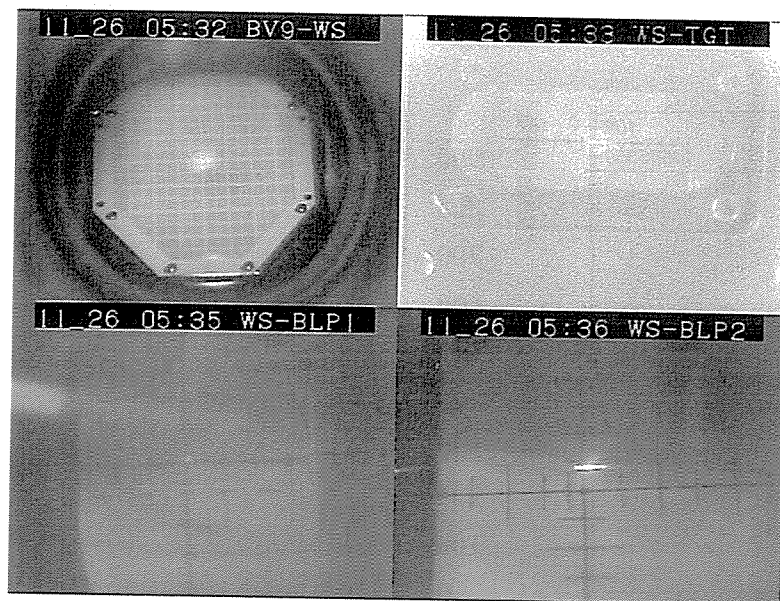


GYPH GR Phi vs Y



LXY LAS Y vs X

調整 2.5



Run# 2023 Comment ²⁴Mg 2.5 mg/cm² disp 0deg. #1

Date 11 / 26

Start 5 : 39

Stop :

GR angle 0 deg

Beam current 3.2 nA

C.I. range 6 nA

Target

☐ ²⁰Ne inela or elast

☐ ³⁶Ar inela or elast

☐ CO₂ inela or elast

☐ Empty inela or elast

☐ ²⁸Si 2.22 (1.86) mg/cm²

☐ ²⁴Mg 2.5 mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1			rate3		
0	Beam Intensity	3.159 nA	0	BLP CLK req	9.619 kcps
1	GR event request	3.120 kcps	1	BLP CLK live	9.619 kcps
2	GR event live	2.699 kcps	2	BLP Trig req	0.000 kcps
3	LAS eventRequest	0.049 kcps	3	BLP Trig live	0.000 kcps
4	LAS event live	0.041 kcps	4	Akimune UP	0.000 kcps
5	GR clock request	9.619 kcps	5	Akimune Down	0.000 kcps
6	GR clock live	8.804 kcps	6	Akimune Left	0.000 kcps
7	GR Single	2.699 kcps	7	Akimune Right	0.000 kcps
8	GR Single Sample	2.699 kcps	8	Beam Monitor1	3.120 kcps
9	LAS Single	0.041 kcps	9	Beam Monitor2	2.699 kcps
10	LAS SingleSample	0.017 kcps	10	Beam Monitor3	0.000 kcps
11	GR & LAS COIN	0.635 kcps	11	GR scinti.1	0.000 kcps
12	ALL accept Event	2.740 kcps	12	GR scinti.2	12.601 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	0.000 kcps
14	GR3377stop(TEND)	2.740 kcps	14		0.000 kcps
15	LAS-reject	0.000 kcps	15		0.000 kcps

Trig.(GR) live	: 86.512 percent
Trig.(LAS) live	: 84.314 percent
Clock live	: 91.527 percent

scaler up	
RUN NUM	2023 B.I. Range 6 nA
RUN START	2007-Nov-26 05:39:54
NOW	2007-Nov-26 05:42:59
scaler 1 ch	Scal

7:45 2時間 止、止 a 2nd Run. STOP. 2nd Run = 2nd Run

40 中 止 a 2nd Run. STOP.

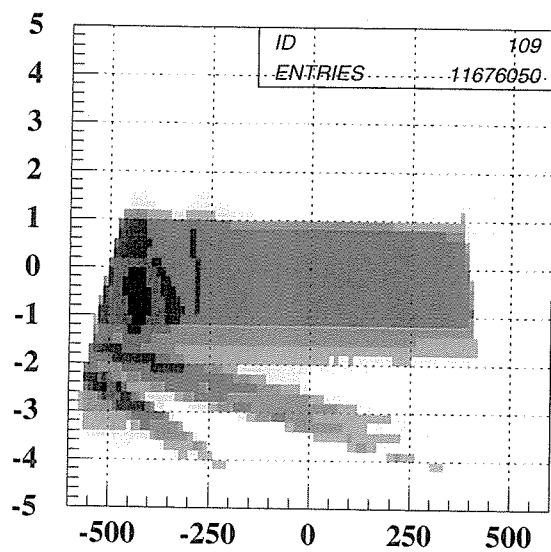
、 B.G. a. 量 止. Target Blank 2nd 確認.

1st Run a 止 a 2nd Run. STOP. 2時間 data 止 a 2nd

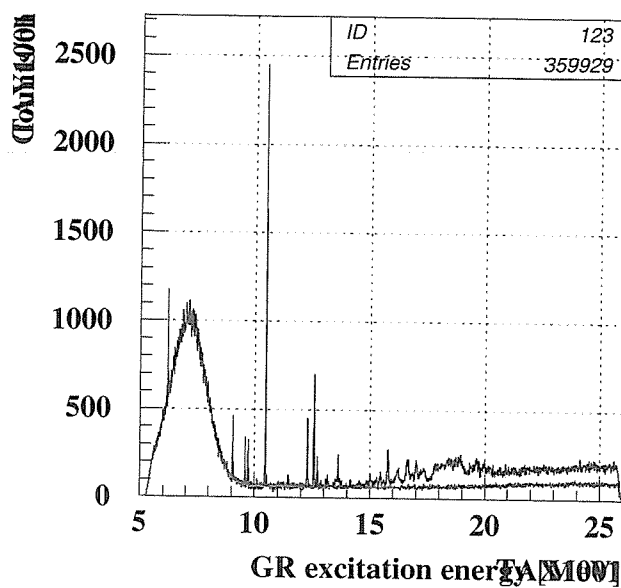
止 a 2nd Run. STOP. 1st.

20 23

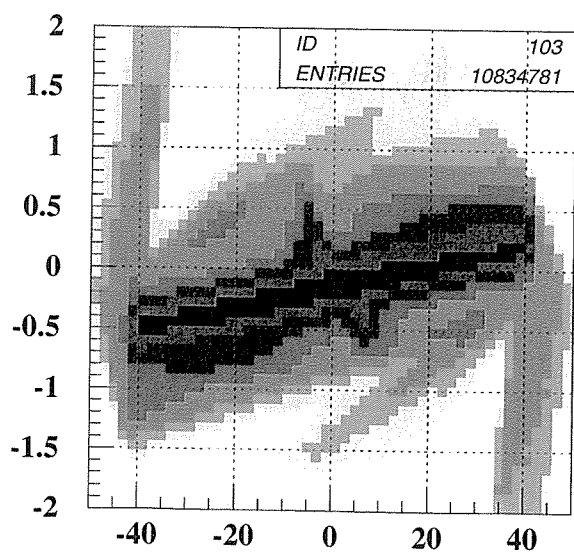
2007/11/26 07.45



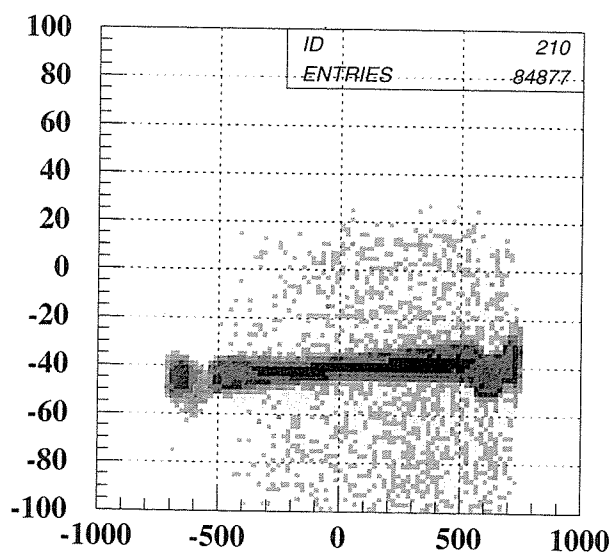
GXTHC GR THC vs X



GEXG GR excitation energy (Y, TH-gated)



GYPH GR Phi vs Y

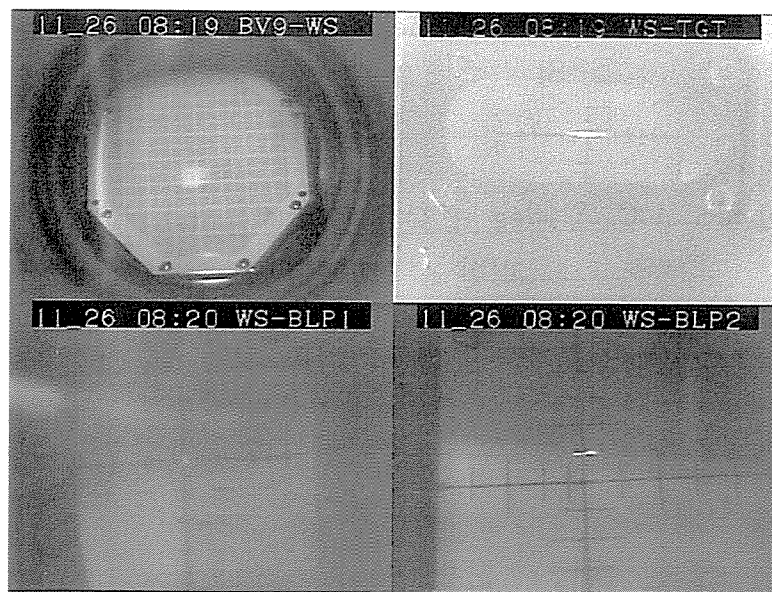


LXY LAS Y vs X

target. blank 1212. 検中IL. τ^0 - μ 調整.

最終的に $3\sqrt{4}$ に対し $2. \sim 1$ cps 程度に下げた。
 3分後... 一旦ストップ確認をした。

これに、ストップ τ^0 μ τ^0 は下げた。



free run τ^0 Target = 24Mg のとき S/N は低い。

Run 2023 τ^0 悪化して μ τ^0 再度 検中IL 12.

調整を依頼した。Run 2023 と同等の S/N . Beam-Int / event reg.

12分、 τ^0 の 2^{nd} 測定再開

Run# 2024 Comment ^{24}Mg Dispersive 0°

Date 11 / 26

Start 9 : 07

Stop 11 : 03

GR angle 0 deg

Beam current ~1.9 nA

C.I. range 6 nA

Target

☐ ^{20}Ne inela or elast

☐ ^{36}Ar inela or elast

☐ CO_2 inela or elast

☐ Empty inela or elast

☐ ^{28}Si 2.22 (1.86) mg/cm²

☐ ^{24}Mg 2.5 mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

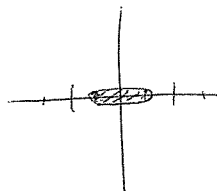
Gas cell Temp deg Press atm thickness mg/cm2

Print out? ☐ histograms ☒ rate table ☐ magnet table

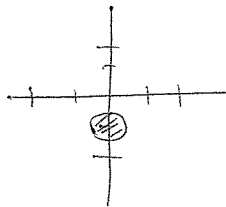
rate			rates		
0	Beam Intensity	2.427 nA	0	BLP CLK req :	9.546 kcps
1	GR event request	2.241 kcps	1	BLP CLK live :	9.547 kcps
2	GR event live	2.056 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.036 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.035 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.546 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.925 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	2.056 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	2.056 kcps	8	Beam Monitor1 :	2.241 kcps
9	LAS Single	0.035 kcps	9	Beam Monitor2 :	2.056 kcps
10	LAS SingleSample	0.004 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.394 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	2.091 kcps	12	GR scinti.2 :	9.747 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	2.091 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 91.737 percent
 Trig.(LAS) live : 97.368 percent
 Clock live : 93.496 percent

Spot check

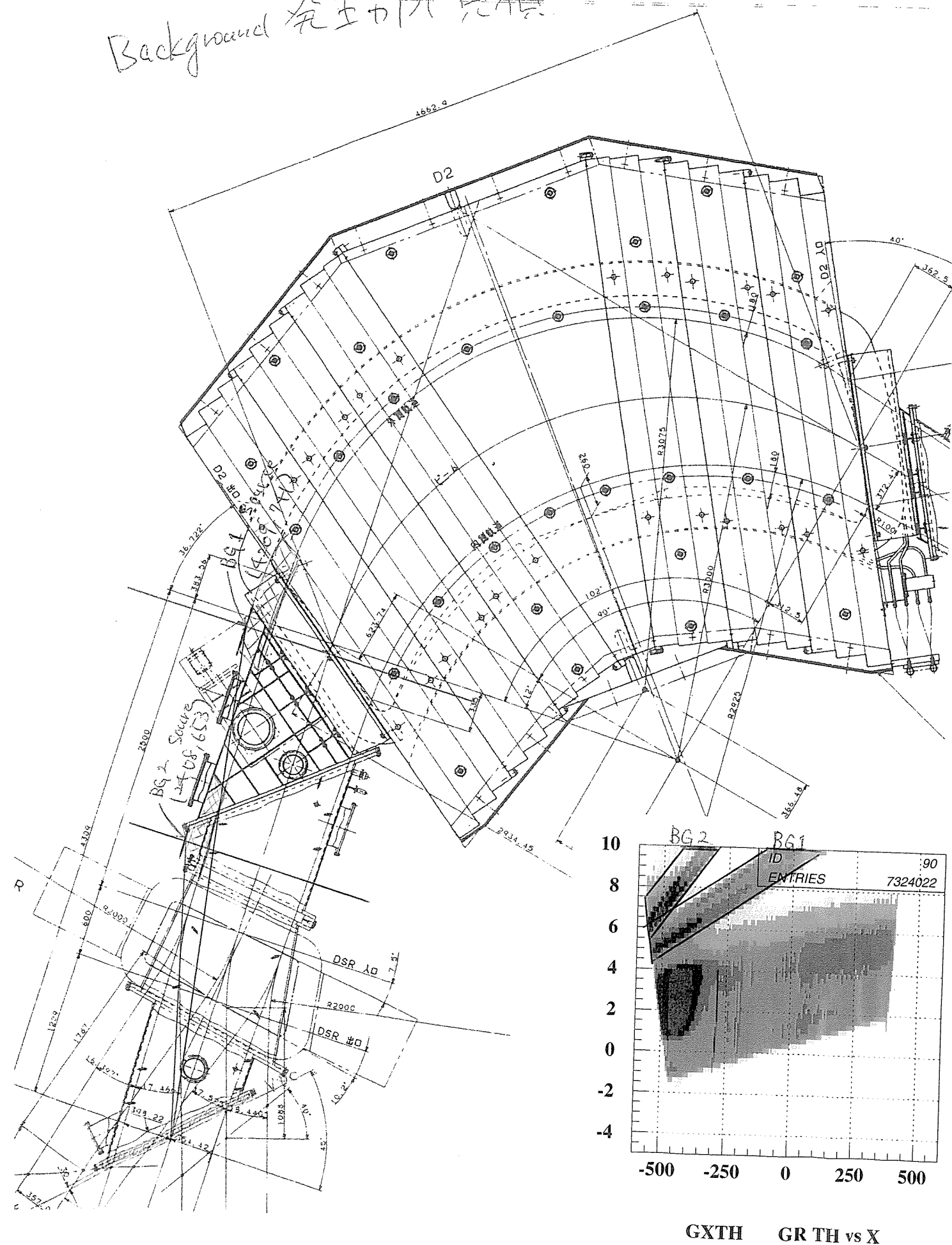


on target
 $\pm 6\text{mm}$



BV 9

5mm F (17.222)



Run# 2025 Comment ^{24}Pu 2.5 ng/cm² disp 0deg #3.

Date 11 / 26

Start 11 : 18

Stop 13 : 17

GR angle 0 deg

Beam current 2.2 nA

C.I. range 6 nA

Target

☐ ^{20}Ne inela or elast

☐ ^{36}Ar inela or elast

☐ CO_2 inela or elast

☐ Empty inela or elast

☐ ^{28}Si 2.22 (1.86) mg/cm²

☒ ^{24}Pu 2.5 mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm²

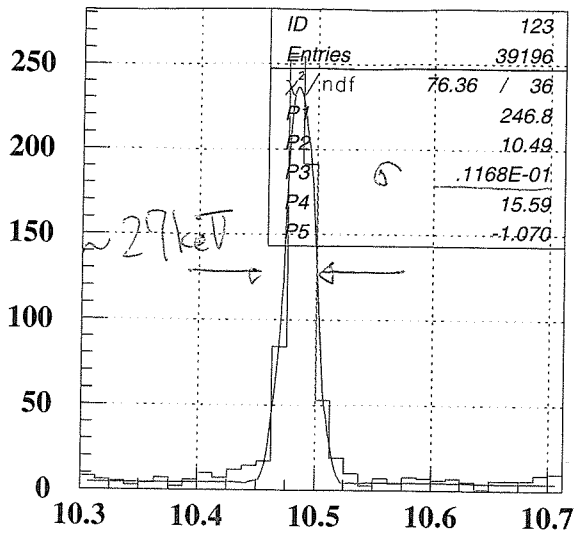
Print out? ☐ histograms ☐ rate table ☐ magnet table

rate			rates		
0	Beam Intensity	1.892 nA	0	BLP CLK req	9.387 kcps
1	GR event request	1.645 kcps	1	BLP CLK live	9.387 kcps
2	GR event live	1.561 kcps	2	BLP Trig req	0.000 kcps
3	LAS eventRequest	0.021 kcps	3	BLP Trig live	0.000 kcps
4	LAS event live	0.019 kcps	4	Akimune UP	0.000 kcps
5	GR clock request	9.387 kcps	5	Akimune Down	0.000 kcps
6	GR clock live	8.918 kcps	6	Akimune Left	0.000 kcps
7	GR Single	1.561 kcps	7	Akimune Right	0.000 kcps
8	GR Single Sample	1.561 kcps	8	Beam Monitor1	1.645 kcps
9	LAS Single	0.019 kcps	9	Beam Monitor2	1.561 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3	0.000 kcps
11	GR & LAS COIN	0.160 kcps	11	GR scinti.1	0.000 kcps
12	ALL accept Event	1.580 kcps	12	GR scinti.2	7.374 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	0.000 kcps
14	GR3377stop(TEND)	1.580 kcps	14		0.000 kcps
15	LAS-reject	0.000 kcps	15		0.000 kcps

rig.(GR) live	: 94.870 percent
rig.(LAS) live	: 91.304 percent
lock live	: 95.000 percent

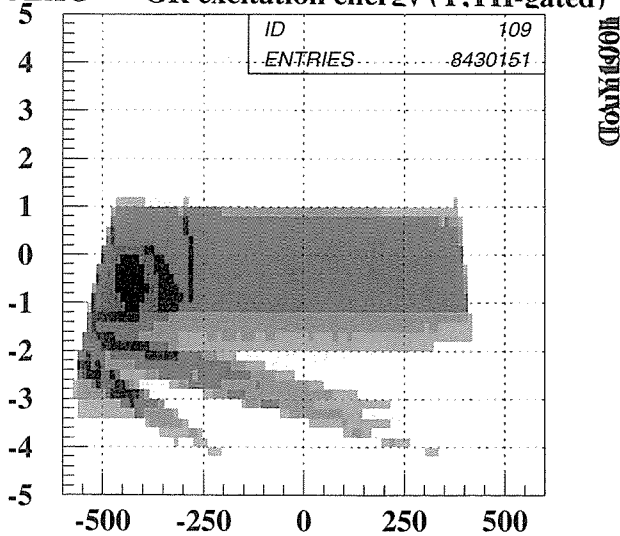
scaler up	2025 B.I. Range	6 nA
RUN NUM	2007-Nov-26	11:18:26
RUN START	2007-Nov-26	11:18:26

2007/11/26 11:34

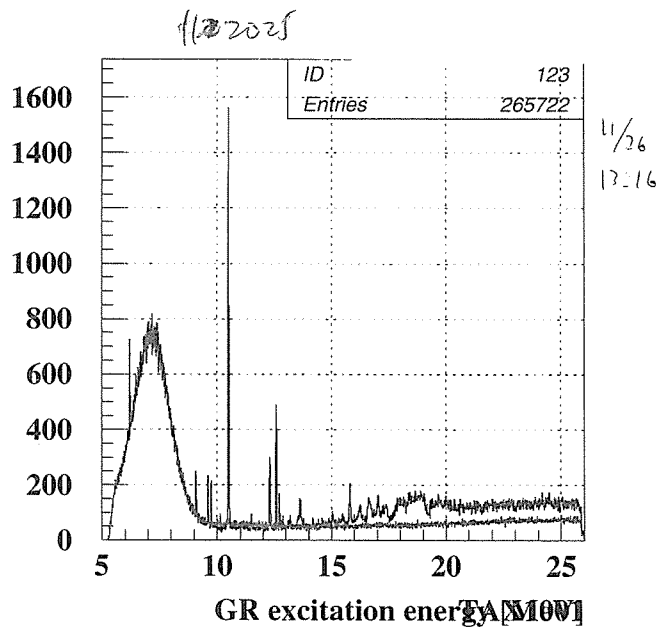


Estimation of E_x resolution
 using the online spectrum
 ($\sim 2\mu\text{A} \times 30\text{min}$ statistics)

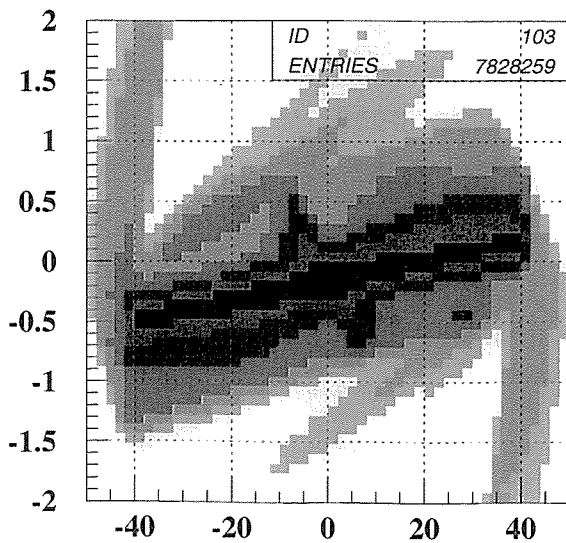
) GEXG GR excitation energy (Y,TH-gated)



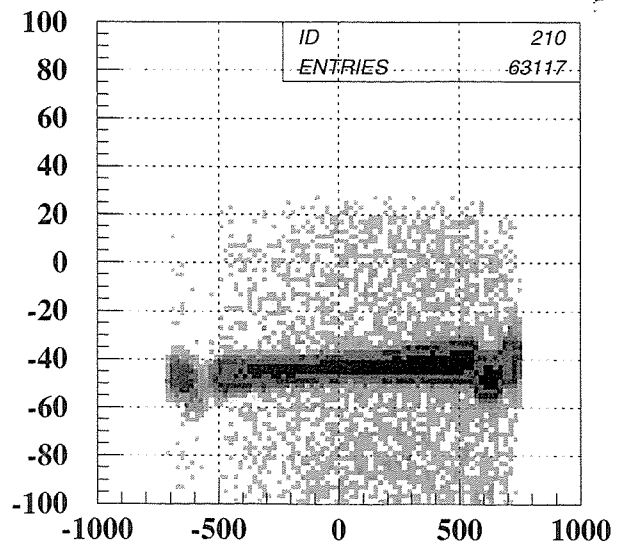
Counts/100h



GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y

LXY LAS Y vs X

Run# 2026 Comment 24 Mg 2.5 mg/cm² Disp. Odeg #4.

Date 11 / 26
 Start 13 : 18
 Stop 15 : 19
 χ R angle 0 deg
 Beam current nA
 λ .I. range 6 nA

Target

☐ ^{20}Ne	inela	or	elast
☐ ^{36}Ar	inela	or	elast
☐ CO_2	inela	or	elast
☐ Empty	inela	or	elast
☐ ^{28}Si	2.22 (1.86) mg/cm^2		
☒ ^{24}Mg	2.5	mg/cm^2	

7DC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V
 Gas cell Temp _____ deg Press _____ atm thickness _____ mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

Rate1		Rate3
0	Beam Intensity	1.809 nA
1	GR event request	2.141 kcps
2	GR event live	1.954 kcps
3	LAS eventRequest	0.023 kcps
4	LAS event live	0.023 kcps
5	GR clock request	9.549 kcps
6	GR clock live	8.961 kcps
7	GR Single	1.954 kcps
8	GR Single Sample	1.954 kcps
9	LAS Single	0.023 kcps
10	LAS SingleSample	0.007 kcps
11	GR & LAS COIN	0.118 kcps
12	ALL accept Event	1.976 kcps
13	Reject event	0.000 kcps
14	GR3377stop(TEND)	1.976 kcps
15	LAS-reject	0.000 kcps
0	BLP CLK req :	9.549 kcps
1	BLP CLK live :	9.549 kcps
2	BLP Trig req :	0.000 kcps
3	BLP Trig live :	0.000 kcps
4	Akimune UP :	0.000 kcps
5	Akimune Down :	0.000 kcps
6	Akimune Left :	0.000 kcps
7	Akimune Right :	0.000 kcps
8	Beam Monitor1 :	2.141 kcps
9	Beam Monitor2 :	1.954 kcps
10	Beam Monitor3 :	0.000 kcps
11	GR scinti.1 :	0.000 kcps
12	GR scinti.2 :	7.703 kcps
13	GR X-hodo :	0.000 kcps
14	:	0.000 kcps
15	:	0.000 kcps

```

Trig.(GR) live : 91.258 percent
Trig.(LAS) live : 100.000 percent
Clock live : 93.844 percent

```

1

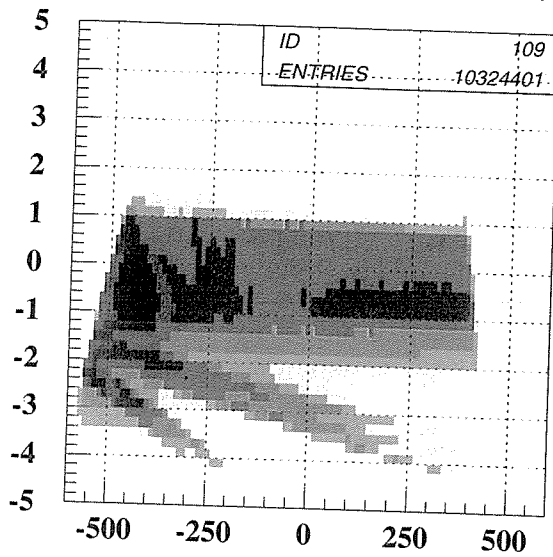
```

5Ca
scaler up
RUN NUM      2026 B.I. Range      6 nA
RUN START    2007-Nov-26    13:18:28
MOM          2007-Nov-26    17:10:10

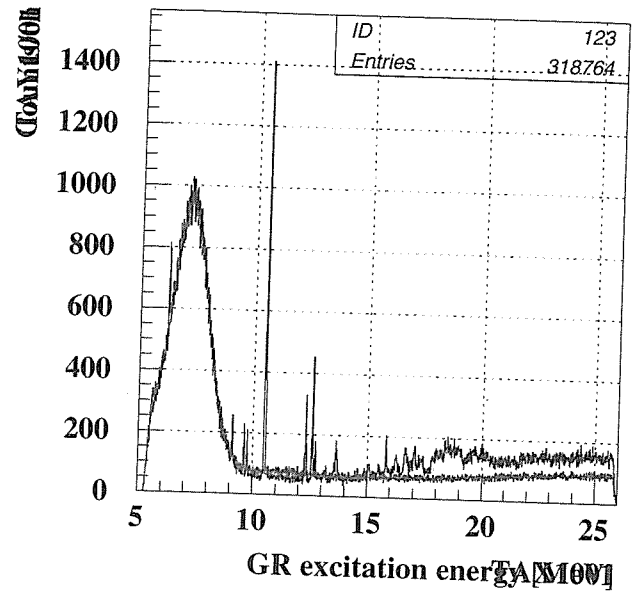
```

#2026

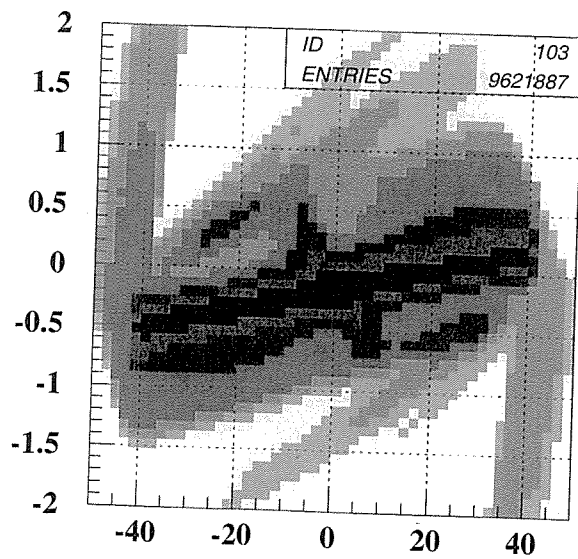
2007/11/26 15.19



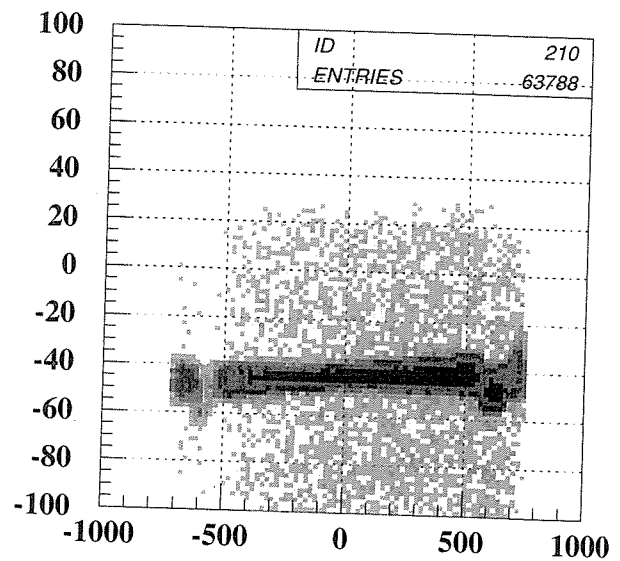
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

16. 15:44

~~1) = 7 の引をたしして K600 の magnet
を微調整して軸出しを行った。
(BV9-WS のところで、ビームの像が、
少し下にずれていた。)~~

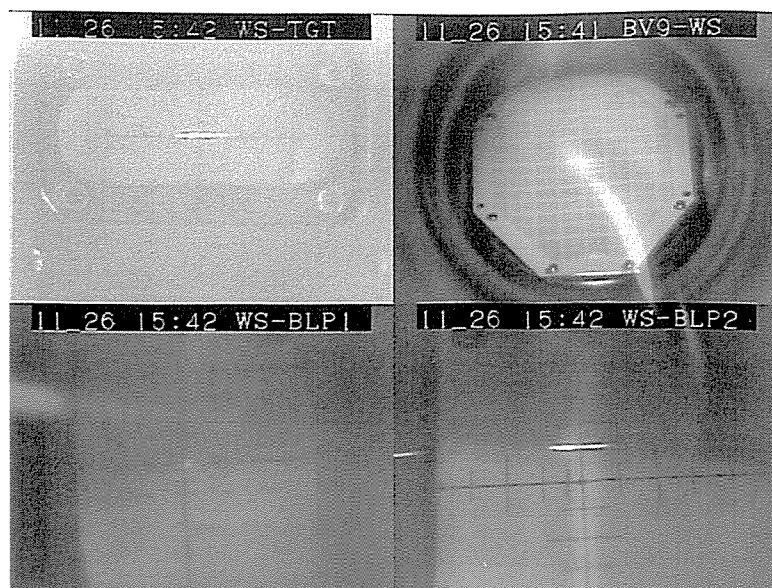
Beam spot

Beam の像を target と BV9-WS のところ
check したところ、BV9-WS のところで
ビームの像が下にずれていた。

Ring の引をたしのスライディングと K600 の
magnet の値を少し調整して軸出しを行った。

表のため、Target を blank にして。

TAMIQ と GR-DUMP の Viewer で
Beam spot を確認した。



↑
軸出し調整後の写真。



↑
Dump のところの写真は、TAMIQ の Viewer を
換えたものである。

(TAMIQ viewer を入れたと Dump viewer だと
ビームが見えない。昔入力は正常に焼けた？)

Run# 2027 Comment 20 Mg 2.5 ⁴⁰g/cm² #5

Date 11 / 26 Target

Start 15 : 55 ☐ ²⁰Ne inela or elast

Stop 17 : 59 ☐ ³⁶Ar inela or elast

GR angle 0 deg ☐ CO2 inela or elast

Beam current nA ☐ Empty inela or elast

C.I. range 5 nA ☐ ²⁸Si 2.22 (1.86) mg/cm²

☒ 20 Mg 2.5 mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm2

Print out? ☐ histograms ☐ rate table ☐ magnet table

rate			X rates		
0	Beam Intensity	2.051 nA	0	BLP CLK req :	9.620 kcps
1	GR event request	1.833 kcps	1	BLP CLK live :	9.621 kcps
2	GR event live	1.713 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.039 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.037 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.621 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.100 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.713 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.713 kcps	8	Beam Monitor1 :	1.833 kcps
9	LAS Single	0.037 kcps	9	Beam Monitor2 :	1.713 kcps
10	LAS SingleSample	0.002 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.155 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	1.750 kcps	12	GR scinti.2 :	8.034 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	1.750 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

rig.(GR) live :	93.455 percent
rig.(LAS) live :	95.122 percent
clock live :	94.586 percent

1	scaler up
RUN NUM	2027 B.I. Range 6 nA
RUN START	2007-Nov-26 15:57:00

rate			X rates		
0	Beam Intensity	2.221 nA	0	BLP CLK req :	9.710 kcps
1	GR event request	2.988 kcps	1	BLP CLK live :	9.709 kcps
2	GR event live	2.737 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.024 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.021 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.710 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.889 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	2.737 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	2.737 kcps	8	Beam Monitor1 :	2.988 kcps
9	LAS Single	0.021 kcps	9	Beam Monitor2 :	2.737 kcps
10	LAS SingleSample	0.010 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.277 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	2.758 kcps	12	GR scinti.2 :	9.710 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	2.758 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

rig.(GR) live :	91.602 percent
rig.(LAS) live :	88.000 percent
clock live :	91.545 percent

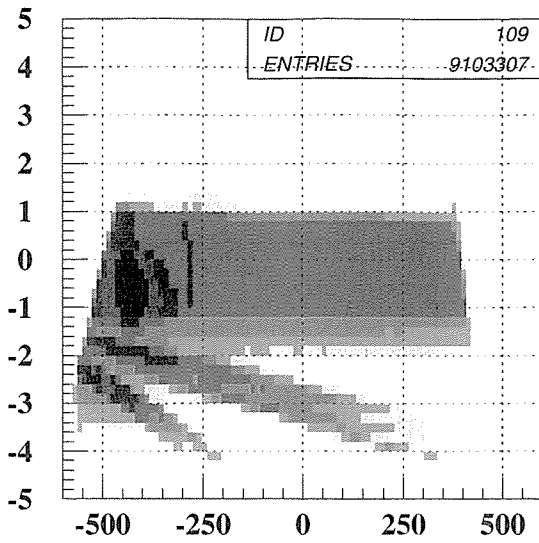
1	scaler up
RUN NUM	2027 B.I. Range 6 nA
RUN START	2007-Nov-26 15:57:29

← stop 直前

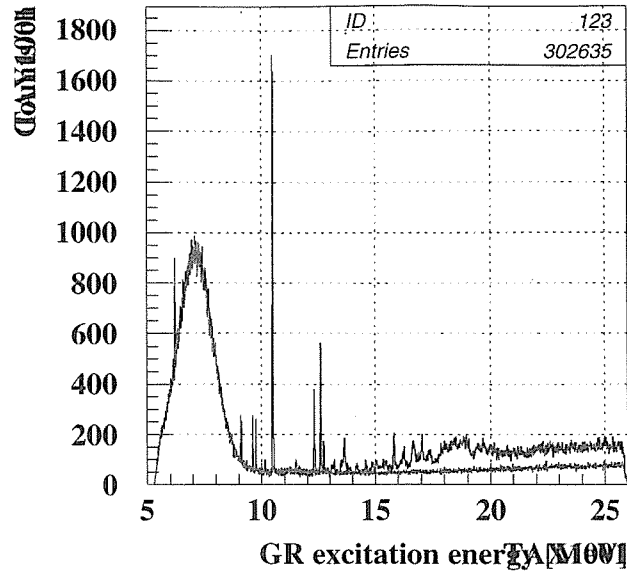
18:00 2h ^{235}U "run stop"

#12027

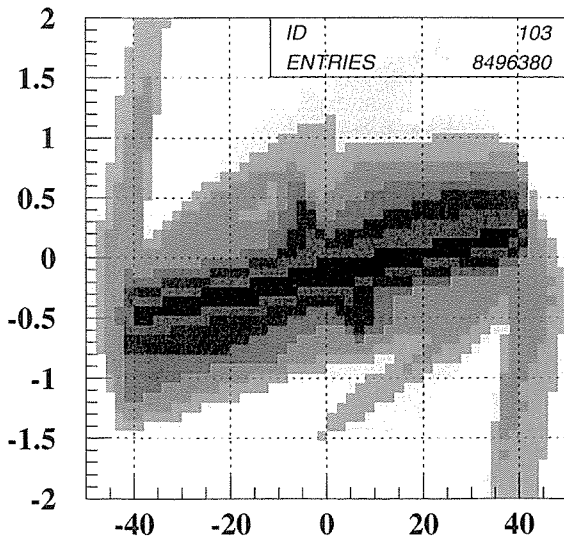
2007/11/26 17.58



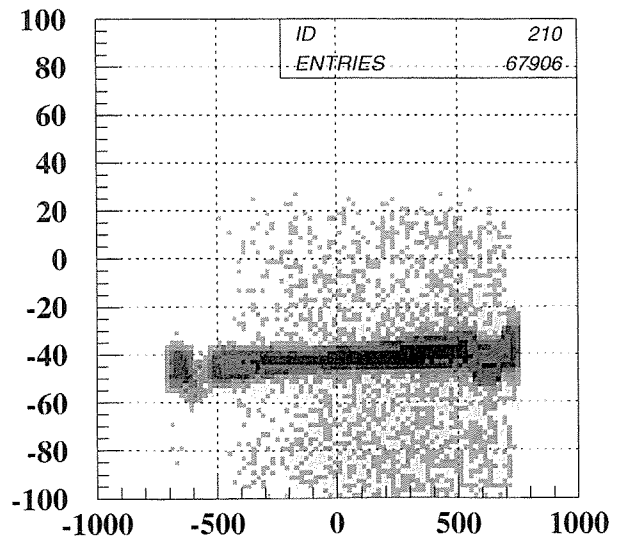
GXTHC GR THC vs X



GEXG GR excitation energy (Y, TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

File Window Temp 07/11/26 17:59

Main Change Set check state change pol

Spin UP/DOWN(1<T<999) 10 10 x0.1 sec Refresh

Veto Time(>10) 30 msec Refresh

AUTO HATA IN/OUT/NUE 10 99 20 Refresh

← 変更前

veto を 30 に 2 2 2 2
 (最初 1000 に 12 2 2 2)

↑
 10 秒以上 11 直した 時刻 372 2 2
 10 4 3

File Window Temp 07/11/26 18:02

Main Change Set check state change pol

Spin UP/DOWN(1<T<999) 10 10 x0.1 sec Refresh

Veto Time(>10) 1000 msec Refresh

AUTO HATA IN/OUT/NUE 8 8 20 Refresh

← 変更後

IN/OUT 1:1 に 変更

Run# 2028 Comment BLP ↔ SCFC calib (BLANK target)

Date 11 / 26
 Start 18 : 06
 Stop 18 : 12
 GR angle 0 deg
 Beam current 2 nA
 C.I. range 6 nA

Target
☐ ²⁰Ne inela or elast
☐ ³⁶Ar inela or elast
☐ CO₂ inela or elast
☒ Empty inela or elast
☐ ²⁸Si 2.22 (1.86) mg/cm²
☐ _____ mg/cm²

CIには SCFC のみ
 接続

VDC ☐ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. _____ V
 Gas cell Temp _____ deg Press _____ atm thickness _____ mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

CIには SCFC のみ
 接続

Run# 2029 Comment BLP ↔ SCFC calib (⁴⁰Ca 3.5 mg/cm²)

Date 11 / 26
 Start 18 : 14
 Stop 18 : 21
 GR angle 0 deg
 Beam current 2 nA
 C.I. range 6 nA

Target
☐ ²⁰Ne inela or elast
☐ ³⁶Ar inela or elast
☐ CO₂ inela or elast
☐ Empty inela or elast
☐ ²⁸Si 2.22 (1.86) mg/cm²
☒ ⁴⁰Ca 3.5 mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. _____ V
 Gas cell Temp _____ deg Press _____ atm thickness _____ mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

Run# 2030 Comment BLP ↔ ^{0deg}FC ~~SCFC~~ calib (⁴⁰Ca 3.5 mg/cm²)

Date 11 / 26
 Start 18 : 26
 Stop 18 : 32
 GR angle 0 deg
 Beam current ≈ 3 nA
 C.I. range 6 nA

Target
☐ ²⁰Ne inela or elast
☐ ³⁶Ar inela or elast
☐ CO₂ inela or elast
☐ Empty inela or elast
☐ ²⁸Si 2.22 (1.86) mg/cm²
☒ ⁴⁰Ca 3.5 mg/cm²

0deg FC のみ

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. _____ V
 Gas cell Temp _____ deg Press _____ atm thickness _____ mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

Run# 2031 Comment BLP ↔ 0 deg FC calib (Blank target)

0 deg FC calib

C.I. = 1.26

Date 11 / 26

Target

☐ ²⁰Ne inela or elastStart 18 : 34☐ ³⁶Ar inela or elastStop 18 : 39☐ CO₂ inela or elastGR angle 0 deg☒ Empty inela or elastBeam current 2 nA☐ ²⁸Si 2.22 (1.86) mg/cm²C.I. range 6 nA☐ mg/cm²VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. VGas cell Temp deg Press atm thickness mg/cm²Print out? ☐ histograms ☐ rate table ☐ magnet table

11/26-18:32~18:39 0deg FC calib (Blank target) 実行.
念のため、やり直し (2031)

同上

Run# 2032 Comment BLP ↔ 0 deg FC calib (Blank target)

Target

Date 11 / 26☐ ²⁰Ne inela or elastStart 18 : 39☐ ³⁶Ar inela or elastStop 18 : 46☐ CO₂ inela or elastGR angle 0 deg☒ Empty inela or elastBeam current 1.5 nA☐ ²⁸Si 2.22 (1.86) mg/cm²C.I. range 6 nA☐ mg/cm²VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. VGas cell Temp deg Press atm thickness mg/cm²Print out? ☐ histograms ☐ rate table ☐ magnet table

Run# 2033 Comment BLP $\leftrightarrow$ 0degFC + SCFC calib (^{40}Ca 3.5 mg/cm²)

degFCと
CFCの両方
Iに接続
SCFCは0°に
"の2つは
>degFCにX(4)

Date 11 / 26
Start 8:50
Stop 18:56
GR angle 0 deg
Beam current nA
C.I. range nA

Target

☐ ^{20}Ne inela or elast
☐ ^{36}Ar inela or elast
☐ CO_2 inela or elast
☐ Empty inela or elast
☐ ^{28}Si 2.22 (1.86) mg/cm²
☒ ^{40}Ca 3.5 mg/cm²

↑
1定と同様

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☒ SC rot. V
Gas cell Temp deg Press atm thickness mg/cm²
Print out? ☐ histograms ☐ rate table ☐ magnet table

ハンチング - が落ちたので stop
ATFのRFが落ちた (2-3秒後)

A: Beam Intensity

B: BLP2 Left + right + up + down

C: BLP2 Left + right + up + down (chance)

eamと $\frac{A}{B-C}$ の値
LPの比

# 2028	= 3.281
# 2029	= 3.269
# 2030	= 3.159
# 2032	= 3.250
# 2033	= 3.235

→ 3.9% の差

GR $0^\circ \rightarrow 2.5^\circ$

Beam spot check

on target $\sim 5\text{mm}$ 左にずれてる
 上流からずれてる $\sim 2.1\text{mm}$ の $\sim$ 上流から再調整 12 AJS
 軸の

→ Ring の中 $\sim$ Beam が半分は減ってる

Ring 入射の 25AJS $\sim$ 上下に振ると Transmission が低くなる

NS の Beam 軸より 上流からズレてる (spot が少し横にズレてる?)

Q1FC 2.6482 V $\Leftarrow$ 前回の値

Q1-ZnS $\nearrow$ 軸にずれてる $\sim 0.1\text{mm}$
 beam は

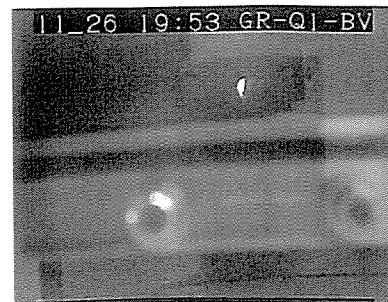
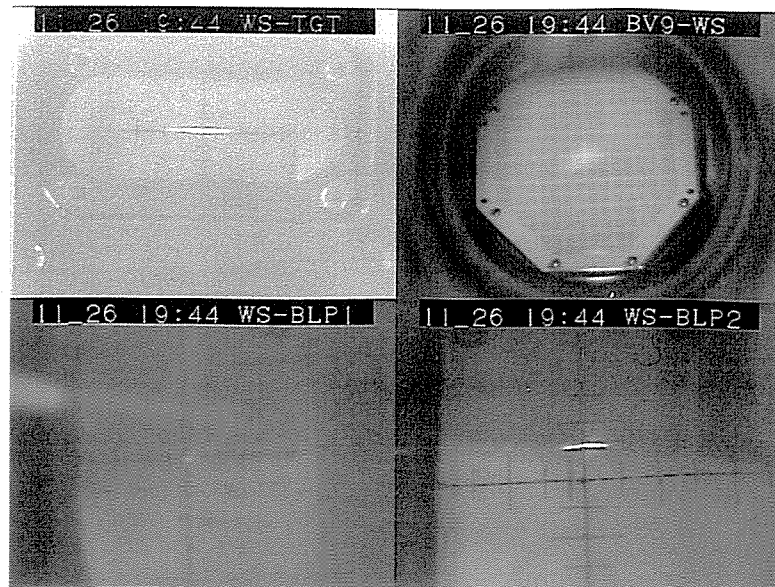
blank target at 2

Blank target $\sim$ trigger rate を見る

$\rightarrow 80\text{ cps} / 2\text{ nA}$

0	Beam Intensity	2,005 ni
1	GR event request	0,087 k
2	GR event live	0,087 k
3	LAS eventRequest	0,125 k
4	LAS event live	0,124 k
5	GR clock request	9,902 k
6	GR clock live	9,837 k
7	GR Single	0,087 k
8	GR Single Sample	0,087 k
9	LAS Single	0,124 k
10	LAS SingleSample	0,000 k
11	GR & LAS COIN	0,000 k
12	ALL accept Event	0,212 k
13	Reject event	0,000 k
14	GR3377stop(TEND)	0,212 k
15	LAS-reject	0,000 k

Trig.(GR) live : 100,000 percent
 Trig.(LAS) live : 99,219 percent
 Clock live : 99,347 percent



VS Magnet Controller

'07/11/26 19:20

VS\PIS\

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1			mT	90.2	90.20 A			
GR SX			mT	18.2	18.10 A			
GR Q2			mT	8.5	8.50 A			
GR MQ			mT		0.00 A			
GR MS			mT		0.00 A			
GR D1	869.773	868.958	mT	230.64	230.51 A			
GR D2	869.814	869.215	mT	434.13	433.63 A			
GR DSR		120.440	mT	13.5	13.54 A			
LAS Q			mT		217.70 A			
LAS D		-747.984	mT		280.30 A			
GR DQ1			mT	50	-0.00 A			
GR DQ2			mT	65.1	-0.00 A			

Update

update Cycle 10 sec.

Hcopy

Queue acc3626

exit

Run# 2034 Comment ^{24}Mg 2.5 mg/cm^2 Disp. 2.5 #1

Date 11 / 26

Start 20 : 01

Stop 20 : 12

GR angle 2.5 deg

Beam current nA

C.I. range 6 nA

Target

☐ ^{20}Ne inela or elast

☐ ^{36}Ar inela or elast

☐ CO_2 inela or elast

☐ Empty inela or elast

☐ ^{28}Si 2.22 (1.86) mg/cm^2

☒ ^{24}Mg 2.5 mg/cm^2

VDC ☐ OK ☐ Tripped F.C. ☐ 0deg ☒ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm^2

Print out? ☐ histograms ☐ rate table ☐ magnet table

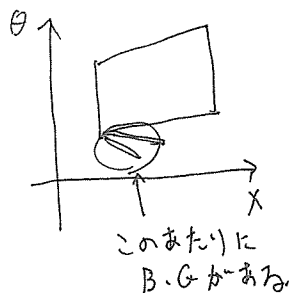
File Window Temp 07/11/26 19:59

/Main/Change Set/check state/change pol

Spin UP/DOWN(1<T<999) 10 10 x0.1 sec Refresh

Veto Time(>10) 1000 msec Refresh

AUTO HATA IN/OUT/NUE 10 99 20 Refresh



・ 前回のレポート E282 #2 の p. 103, 104 をみる
Q1 を 2.5 V $\rightarrow$ 2.379 V にする (Q1 F.C. もさらに入れる).
Background が 入っている

実際に

Q1 2.642 V $\rightarrow$ 2.361 V にして X- θ を正確に定める
確かに Background が 入っていた。

Run# 2035 Comment ^{24}Mg 2.5 mg/cm² Disp @ 2.5° #2

Date 11/26 Target

Start 20:21 ☐ ^{20}Ne inela or elast

Stop : ☐ ^{36}Ar inela or elast

GR angle 2.5 deg ☐ CO₂ inela or elast

Beam current ~5 nA ☐ Empty inela or elast

C.I. range 6 nA ☐ ^{28}Si 2.22 (1.86) mg/cm²

☒ ^{24}Mg 2.5 mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☒ Q1 ☐ SC rot. 2.361 V

Gas cell Temp deg Press atm thickness mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

Rate			Rates		
0	Beam Intensity	4.681 nA	0	BLP CLK req :	9.902 kcps
1	GR event request	0.584 kcps	1	BLP CLK live :	9.902 kcps
2	GR event live	0.565 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.513 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.499 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.902 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.574 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	0.565 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	0.565 kcps	8	Beam Monitor1 :	0.584 kcps
9	LAS Single	0.499 kcps	9	Beam Monitor2 :	0.565 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.001 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	1.063 kcps	12	GR scinti.2 :	38.132 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	1.063 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

rig.(GR) live : 96.644 percent
 rig.(LAS) live : 97.323 percent
 Clock live : 96.684 percent

SCA
 scaler down
 RUN NUM 2035 B.I. Range 6 nA
 RUN START 2007-Nov-26 20:21:58
 RUN END 2007-Nov-26 20:25:10

WS Magnet Controller

07/11/26 21:49

WS/PIS

Magnet	Field(Preset/Actual)	Current(Preset/Actual)	Status	PS	NMR	FB
GR Q1	mT	90.2 90.30 A				
GR SX	mT	18.2 18.10 A				
GR Q2	mT	8.5 8.50 A				
GR MQ	mT	0.00 A				
GR MS	mT	0.00 A				
GR D1	869.773 868.958 mT	230.64 230.51 A				
GR D2	869.814 869.215 mT	434.13 433.63 A				
GR DSR	120.439 mT	13.5 13.54 A				
LAS Q	mT	217.70 A				
LAS D	-747.985 mT	280.30 A				
GR DQ1	mT	50 -0.00 A				
GR DQ2	mT	65.1 -0.00 A				

Update

update Cycle 10 sec.

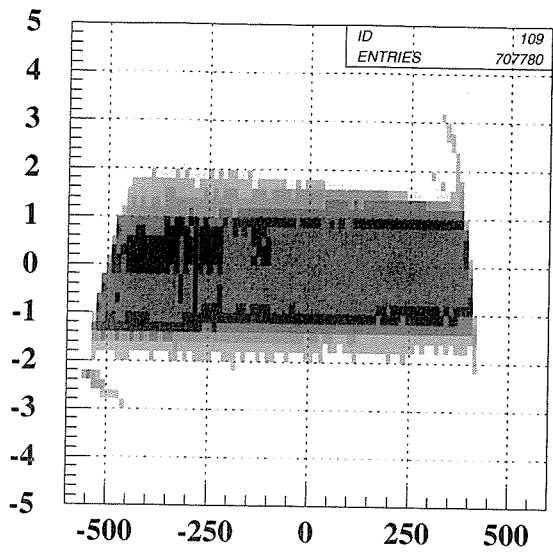
Hcopy

Queue acc3626

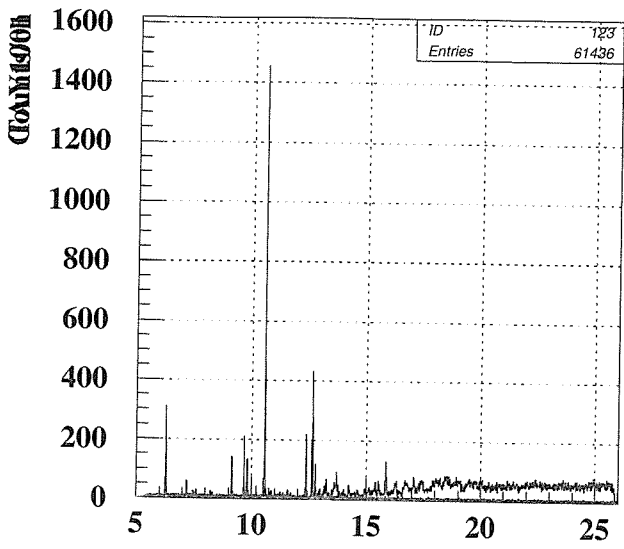
exit

run 2035

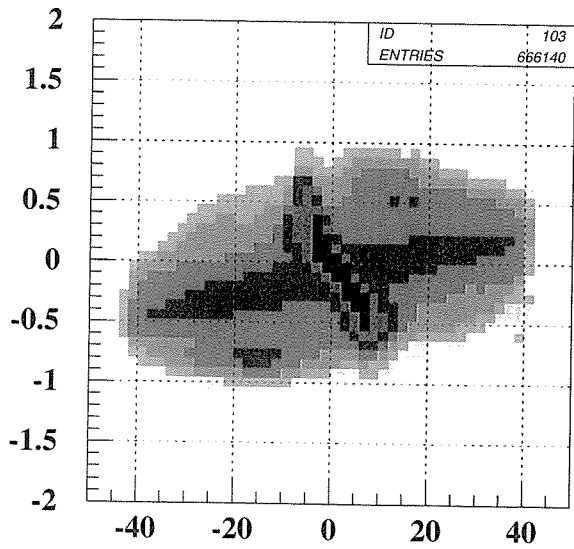
2007/11/26 21.52



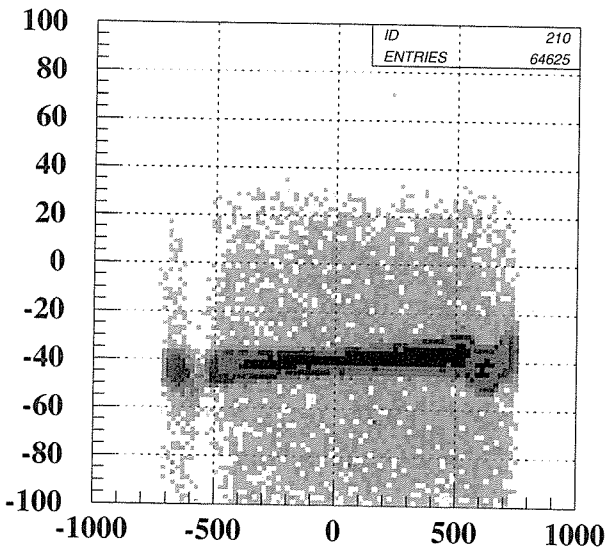
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

3.I. を $\sim 7 \mu A$ に増やし ^{40}Ca を測定 (2.5°)
Current Int. のレンジを変えたい。

Run# 2036 Comment ^{40}Ca 3.5 mg/cm² Disp @ 2.5° #1

Date 11 / 26 Target
Start 22:03 ☐ ^{20}Ne inela or elast
Stop : ☐ ^{36}Ar inela or elast
GR angle 2.5 deg ☐ CO2 inela or elast
Beam current 7 nA ☐ Empty inela or elast
C.I. range 20 nA ☐ ^{28}Si 2.22 (1.86) mg/cm²
☒ ^{40}Ca 3.5 mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☐ 0deg ☒ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

0	Beam Intensity	6.724 nA	0	BLP CLK req :	9.902 kcps
1	GR event request	1.277 kcps	1	BLP CLK live :	9.903 kcps
2	GR event live	1.196 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.965 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.887 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.902 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.260 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.196 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.196 kcps	8	Beam Monitor1 :	1.277 kcps
9	LAS Single	0.887 kcps	9	Beam Monitor2 :	1.196 kcps
10	LAS SingleSample	0.008 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.014 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	2.083 kcps	12	GR scinti.2 :	56.139 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	2.083 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live :	93.630 percent
Trig.(LAS) live :	91.878 percent
Clock live :	93.517 percent

scaler down	
RUN NUM	2036 B.I. Range 20 nA
RUN START	2007-Nov-26 22:03:49
NOW	2007-Nov-26 22:05:44
scaler	0 ch Sca1

23:14 restart (2007 年末の X が落ちた。 (Xdaqmap にて 5%)
念のため、一回 ランをセーブ。
ホスト名は rose.

→ 各種 ラインに E を付与す。

WS Magnet Controller

'07/11/26 23:13

WS PIS

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1		mT	90.2	90.30 A				
GR SX		mT	18.2	18.10 A				
GR Q2		mT	8.5	8.50 A				
GR MQ		mT		0.00 A				
GR MS		mT		0.00 A				
GR D1	869.773	868.958 mT	230.64	230.51 A				
GR D2	869.814	869.214 mT	434.13	433.63 A				
GR DSR		120.439 mT	13.5	13.54 A				
LAS Q		mT		217.70 A				
LAS D		-747.984 mT		280.30 A				
GR DQ1		mT	50	-0.00 A				
GR DQ2		mT	65.1	-0.00 A				

Update

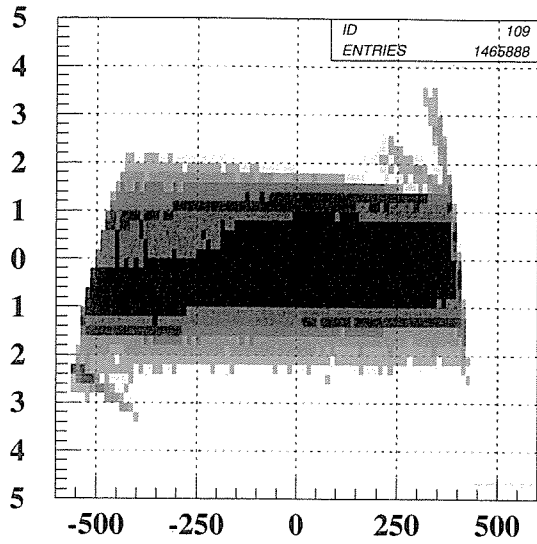
update Cycle 10 sec.

Hcopy

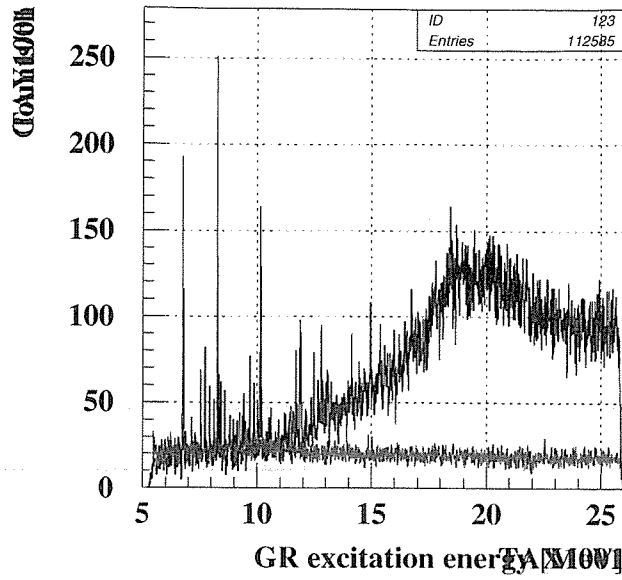
Queue acc3626

exit

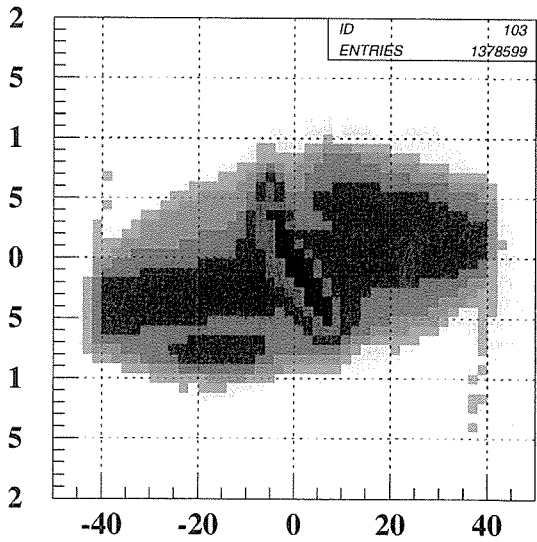
2007/11/26 23.16



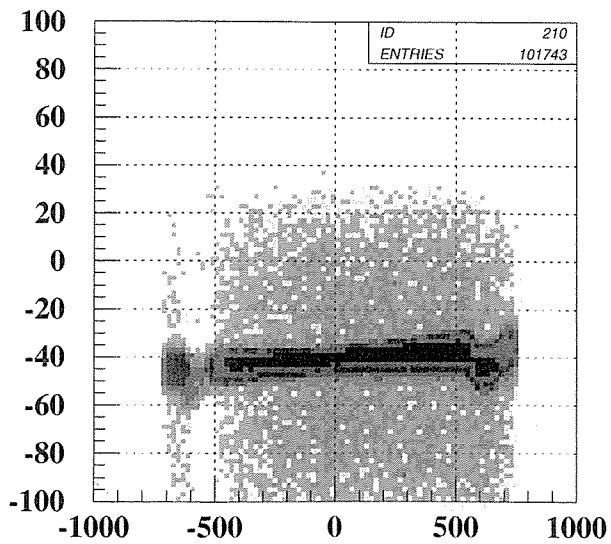
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

測定再開

BLPのAが7ない



Run# 2037 Comment ^{40}Ca 3.5 mg/cm² Disp @ 2.5° #2

Date 11 / 26

Start 23 : 16

Stop :

GR angle 2.5 deg

Beam current 7.5 nA

C.I. range 20 nA

Target

☐ ^{20}Ne inela or elast

☐ ^{36}Ar inela or elast

☐ CO_2 inela or elast

☐ Empty inela or elast

☐ ^{28}Si 2.22 (1.86) mg/cm²

☒ ^{40}Ca 3.5 mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☐ 0deg ☒ Q1 ☐ SC rot. V

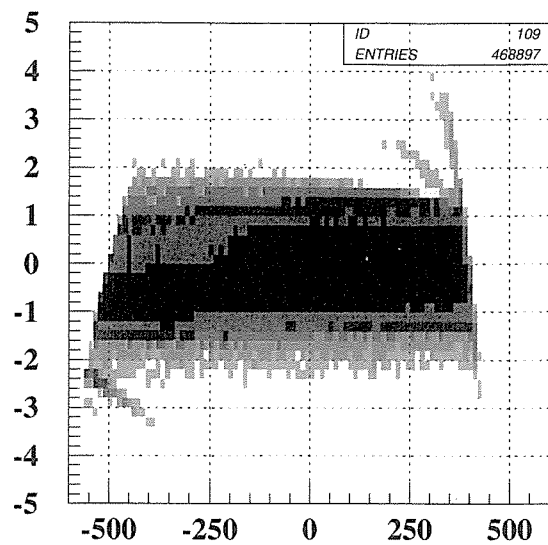
Gas cell Temp deg Press atm thickness mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

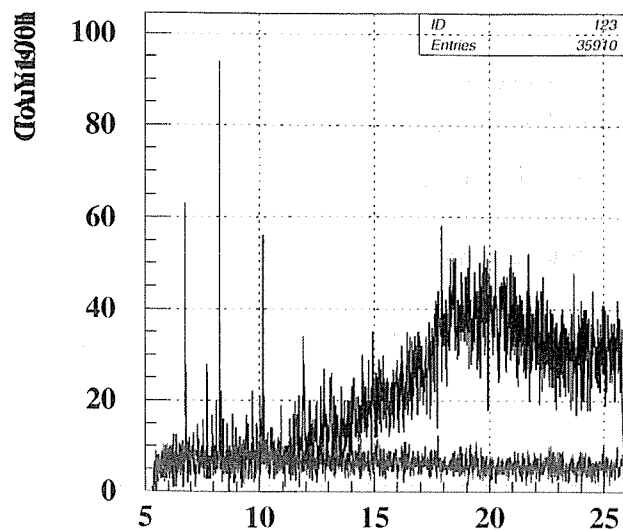
rate			rates		
0	Beam Intensity	7.586 nA	0	BLP CLK req :	9.903 kcps
1	GR event request	1.568 kcps	1	BLP CLK live :	0.000 kcps
2	GR event live	1.461 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	1.199 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	1.101 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.903 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.111 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.459 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.459 kcps	8	Beam Monitor1 :	1.568 kcps
9	LAS Single	1.099 kcps	9	Beam Monitor2 :	1.461 kcps
10	LAS SingleSample	0.006 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.017 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	2.560 kcps	12	GR scinti.2 :	63.687 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	2.560 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 93.187 percent			scaler down		
Trig.(LAS) live : 91.823 percent			RUN NUM 2037 B.I. Range 20 nA		
Clock live : 92.002 percent			RUN START 2007-Nov-26 23:16:03		
			NOW 2007-Nov-26 23:21:36		
			scaler 0 ch Scal		

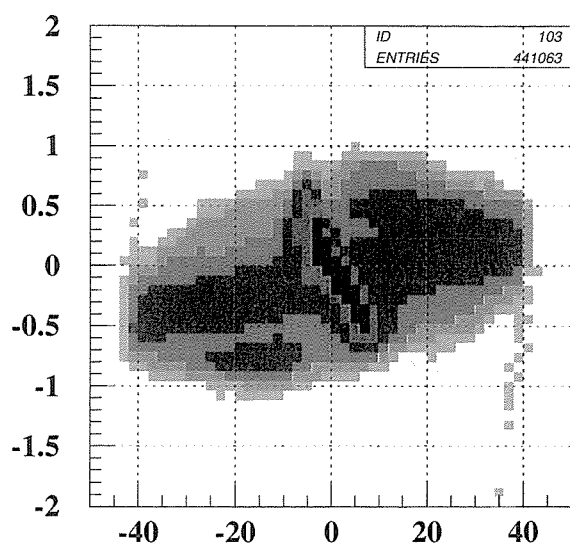
1.5h 2.3g 2.5% Run Stop



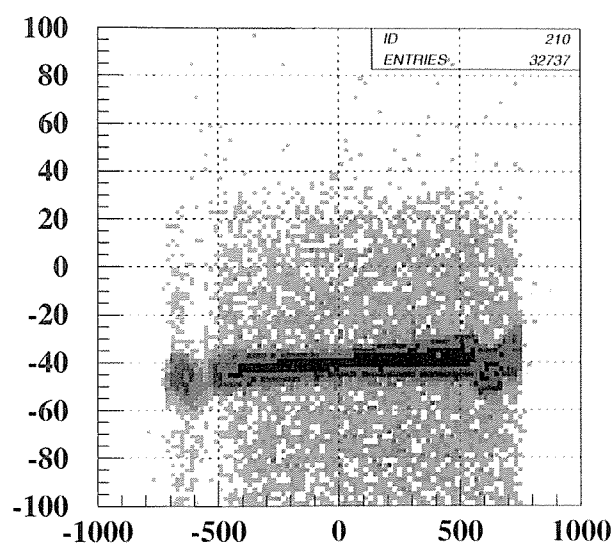
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

File Window Temp 07/11/26 23:39

/Main/Change Set/check state/change pol

Spin UP/DOWN(1<T<999) 10 10 x0.1 sec Refresh

Veto Time(>10) 1000 msec Refresh

AUTO HATA IN/OUT/NUE 10 99 20 Refresh

7/11

File Window Temp 07/11/26 23:39

/Main/Change Set/check state/change pol

Spin UP/DOWN(1<T<999) 10 10 x0.1 sec Refresh

Veto Time(>10) 1000 msec Refresh

AUTO HATA IN/OUT/NUE 8 8 20 Refresh

7/11

(P. 184 見込)

↑ GE エンジネ 20A → 60A に変更

FL calib. (BLP 27th),

BLP 27-Aは落ちている。



#2038 BLP in - BLANK SCFC ← BLP 14.14°あり

BLP 2. $L + R + U + D = 40196$.
 ^{→ true}
 chance = 203.
 BI sum = 129011
 φ

$$\frac{BI \text{ sum}}{(coin - chance)} = \boxed{3.226}$$

#2039. BLP in - BLANK SCFC. ← 1/2 auto

β true = 27996.
 chance =

もし BLPの 27-Aが落ちている？

西入屋. flc 02 点検可能 power on off → on

VME - BLP のインストール.

flc02 → blp init

diag map 7' DAD initialize.



OK //

E299

E299 実験ノート #3

2007 11/27.

FC calib 977 μ m

5#17の1は無視する

1(BLP 2 2007/11/27)

#2040. BLP in $\leftrightarrow$ PLAMC SLFC. auto.

$$\begin{array}{lcl}
 \text{BLP 2} \rightarrow & \text{true (l+r+u+d)} & = 15347. \\
 & \text{chance} & = 62 \\
 & \text{BI sum} & = 49341.
 \end{array}$$

$$\text{BI} \frac{\text{BI sum}}{\text{true} - \text{chance}} = \boxed{3.228} \quad (\#203818 \ 3.226)$$

#1 2041 BLP in $\leftrightarrow$ QIFC BLANK.

true = 14140.

chance = 90

BI sum = 45866

$$\left. \begin{array}{l} \text{true} = 14140. \\ \text{chance} = 90 \\ \text{BI sum} = 45866 \end{array} \right\} \rightarrow \boxed{3.260}$$

#1 2042 BLP $\leftrightarrow$ QIFC. ^{40}Ca 3.5mg/L².

true = 13664

chance = 84

BI sum = 43674

$$\left. \begin{array}{l} \text{true} = 13664 \\ \text{chance} = 84 \\ \text{BI sum} = 43674 \end{array} \right\} \rightarrow \boxed{3.213}$$

#12043 BLP $\leftrightarrow$ SCFC. ^{40}Ca $3.5\text{ms}/\text{cm}^2$.

$$\left. \begin{array}{l} \text{true} = 13844 \\ \text{chance} = 77 \\ \text{BI sum.} = 44045 \end{array} \right) \rightarrow \boxed{3.199}$$

#12044 BLP $\leftrightarrow$ SCFC + Q1FC ^{40}Ca $3.5\text{ms}/\text{cm}^2$
(測定の同じ状態)

$$\left. \begin{array}{l} \text{true} = 14445 \\ \text{chance} = 90 \\ \text{BI sum} = 45847 \end{array} \right) \rightarrow \boxed{3.194}$$

↓
#12044のackは. 10%

O.K.

1:30 西入場

GR $2.8^\circ \rightarrow 0^\circ$. 7"だけ下がる.

標的 ^{40}Ca $\rightarrow$ gas + 2段のA- (^{28}Si)

gasは. 6mm 3" x 3" 両面.

5:10. 西出る.

TDC HT を check してる (山田さん).

C.I は. Odeg FC. + FRC FC.

File Window Temp 07/11/27 05:11

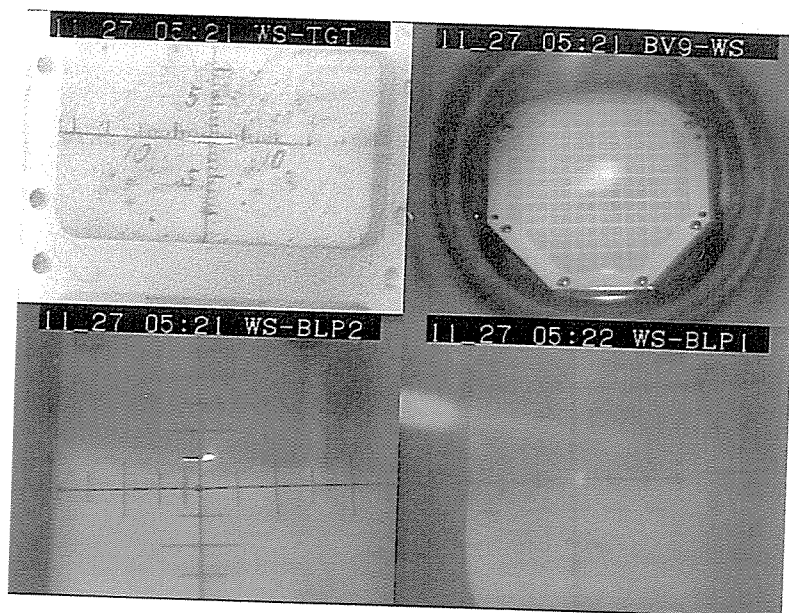
/Main/Change Set/Check state/change pol

Spin UP/DOWN(1<T<999) 10 10 x0.1 sec Refresh

Veto Time(>10) 1000 msec Refresh

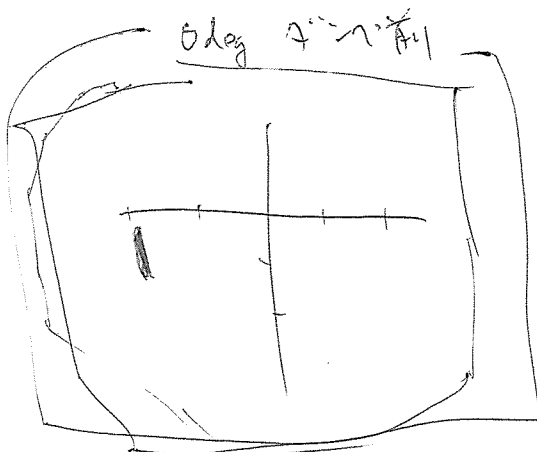
AUTO HATA IN/OUT/NUE 10 99 20 Refresh

← BLP の HATA 比 変更後.



軸出ししてらう.

target 57" ϵ - 4 7m 11 10 6 ~ 7mm



WS Magnet Controller

'07/11/27 05:34

WS/PIS

Magnet	Field(Preset Actual)	Current(Preset Actual)	Status	PS	NMR	FB
GR Q1	mT	90.30 A	☐	☐	☐	☐
GR SX	mT	18.10 A	☐	☐	☐	☐
GR Q2	mT	8.50 A	☐	☐	☐	☐
GR MQ	mT	0.00 A	☐	☐	☐	☐
GR MS	mT	0.00 A	☐	☐	☐	☐
GR D1	868.956 mT	230.51 A	☐	☐	☐	☐
GR D2	869.217 mT	433.38 A	☐	☐	☐	☐
GR DSR	120.439 mT	13.54 A	☐	☐	☐	☐
LAS Q	mT	217.70 A	☐	☐	☐	☐
LAS D	-747.984 mT	280.30 A	☐	☐	☐	☐
GR DQ1	mT	50 50.00 A	☐	☐	☐	☐
GR DQ2	mT	65.1 65.10 A	☐	☐	☐	☐

Update

update Cycle 10 sec.

Hcopy

Queue acc3626

exit

Run# 2045 Comment CO₂ gas target b_{mn} cell 0deg

Date 11 / 27
 Start 5 : 29
 Stop 6 : 30
 GR angle 0 deg
 Beam current 3.68 nA
 C.I. range 6 nA

Target
☐ ²⁰Ne inela or elast
☐ ³⁶Ar inela or elast
☒ CO₂ inela or elast
☐ Empty inela or elast
☐ ²⁸Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☒ SC rot. V
 Gas cell Temp 27 deg Press 1.05 atm thickness 187 mg/cm²
 Print out? ☐ histograms ☒ rate table ☒ magnet table

0	Beam Intensity	3.687 nA	0	BLP CLK req :	9.902 kcps
1	GR event request	4.473 kcps	1	BLP CLK live :	9.902 kcps
2	GR event live	3.901 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.076 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.062 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.902 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.724 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	3.901 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	3.901 kcps	8	Beam Monitor1 :	4.473 kcps
9	LAS Single	0.062 kcps	9	Beam Monitor2 :	3.901 kcps
10	LAS SingleSample	0.026 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.909 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.963 kcps	12	GR scinti.2 :	15.940 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.963 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

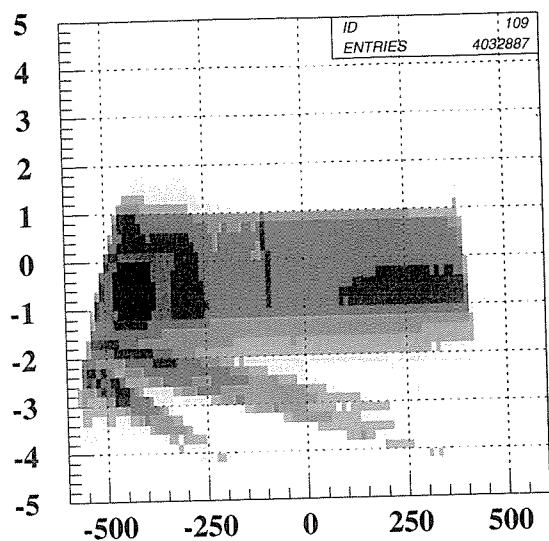
Trig.(GR) live : 87.204 percent
 Trig.(LAS) live : 80.769 percent
 Clock live : 88.103 percent

□

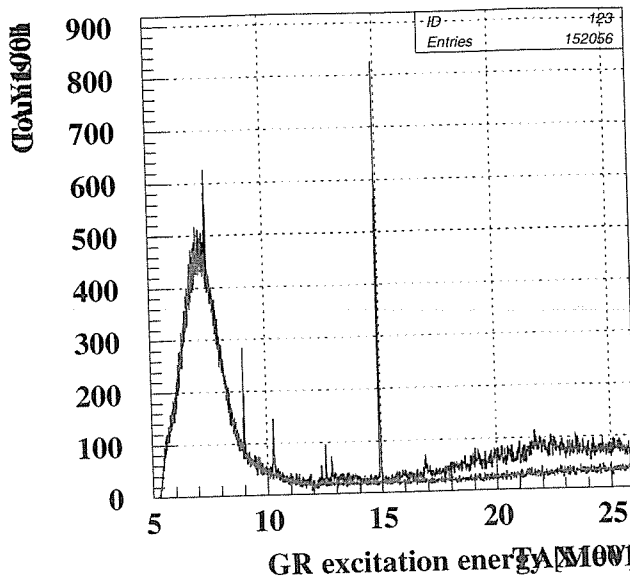
SCA
 scaler up
 RUN NUM 2045 B.I. Range 6 nA
 RUN START 2007-Nov-27 05:35:42
 NOW 2007-Nov-27 05:49:10
 scaler 1 ch Sca1
 ^ 007100 1020

2007/11/27 06.30

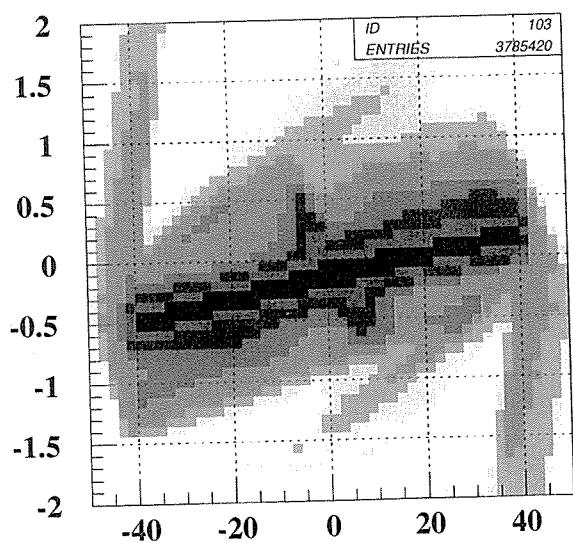
#2045 102.



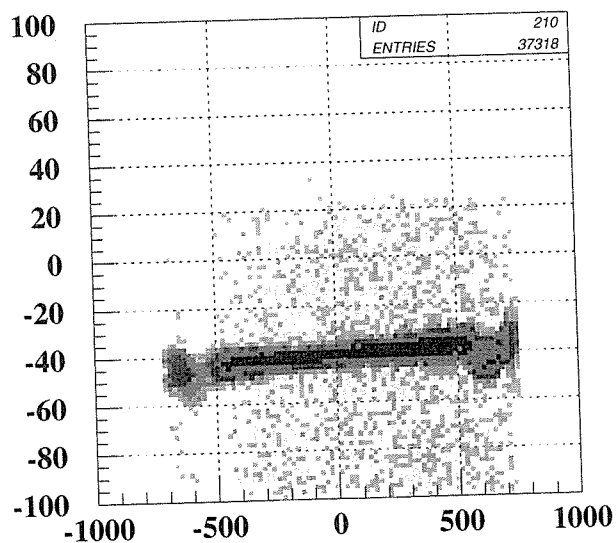
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

6=70 西入室. 102 → ^{70}Ar ↑.

Run# 2046 Comment ^{36}Ar 0deg disp #1 beam cell

Date 11 / 27 Target

Start 6 : 58 ☐ ^{20}Ne inela or elast

Stop 8 : 58 ☒ ^{36}Ar inela or elast

GR angle 0 deg ☐ CO_2 inela or elast

Beam current 4 nA ☐ Empty inela or elast

C.I. range 6 nA ☐ ^{28}Si 2.22 (1.86) mg/cm²

☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☒ SC rot. 2.000 V

Gas cell Temp 27 deg Press 1.079 atm thickness 1.532 mg/cm²

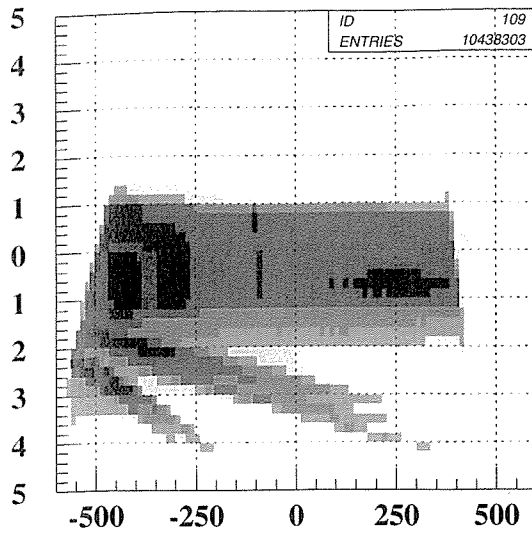
Print out? ☐ histograms ☐ rate table ☐ magnet table

0	Beam Intensity	3.729 nA	0	BLP CLK req :	9.903 kcps
1	GR event request	4.717 kcps	1	BLP CLK live :	9.903 kcps
2	GR event live	4.120 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.064 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.055 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.903 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.662 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	4.120 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	4.120 kcps	8	Beam Monitor1 :	4.717 kcps
9	LAS Single	0.055 kcps	9	Beam Monitor2 :	4.120 kcps
10	LAS SingleSample	0.036 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.975 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	4.175 kcps	12	GR scinti.2 :	16.337 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	4.175 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

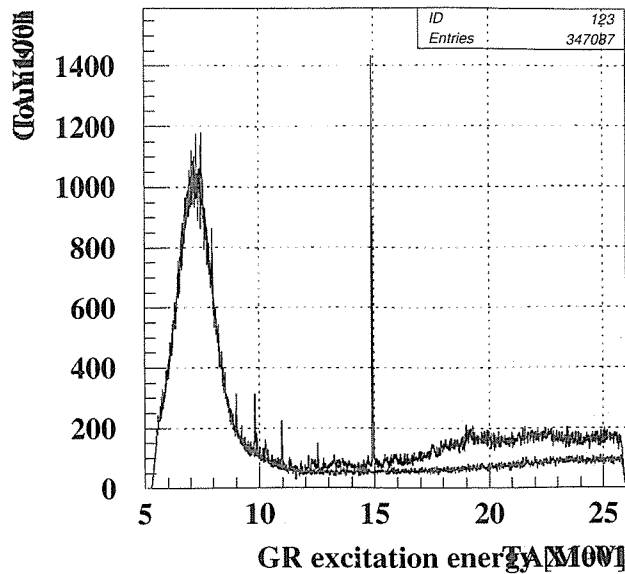
Trig.(GR) live :	87.344 percent
Trig.(LAS) live :	86.154 percent
Clock live :	87.469 percent

scaler up	
RUN NUM	2046 B.I. Range 6 nA
RUN START	2007-Nov-27 06:57:20
NOW	2007-Nov-27 06:58:27
scaler 1 ch	Sca1

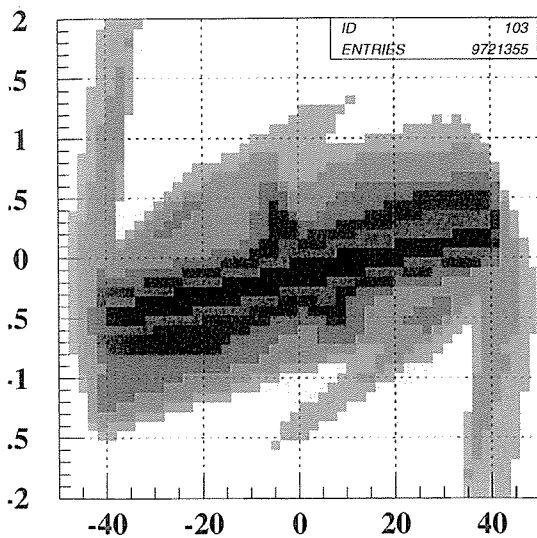
#2046



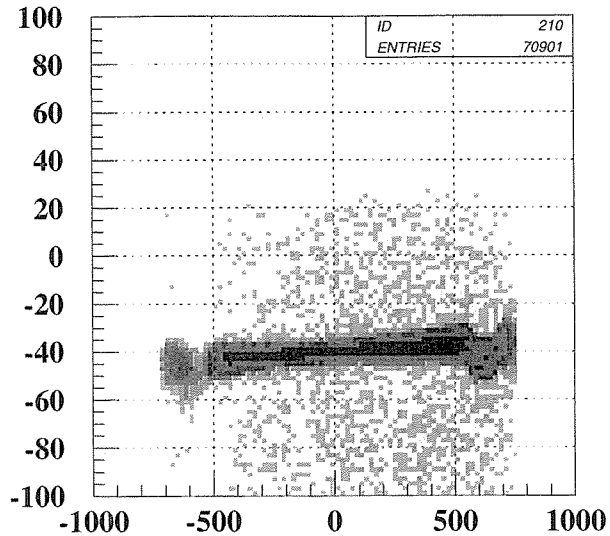
GXTHC GR TH vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



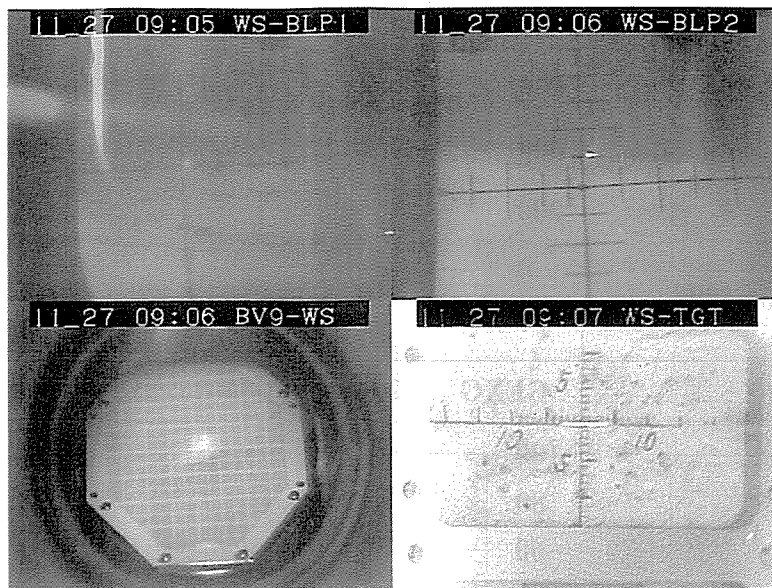
LXY LAS Y vs X

rate			rates		
0	Beam Intensity	3.893 nA	0	BLP CLK req	9.902 kcps
1	GR event request	4.654 kcps	1	BLP CLK live	9.902 kcps
2	GR event live	4.098 kcps	2	BLP Trig req	0.000 kcps
3	LAS eventRequest	0.060 kcps	3	BLP Trig live	0.000 kcps
4	LAS event live	0.052 kcps	4	Akimune UP	0.000 kcps
5	GR clock request	9.902 kcps	5	Akimune Down	0.000 kcps
6	GR clock live	8.653 kcps	6	Akimune Left	0.000 kcps
7	GR Single	4.098 kcps	7	Akimune Right	0.000 kcps
8	GR Single Sample	4.098 kcps	8	Beam Monitor1	4.654 kcps
9	LAS Single	0.052 kcps	9	Beam Monitor2	4.098 kcps
10	LAS SingleSample	0.018 kcps	10	Beam Monitor3	0.000 kcps
11	GR & LAS COIN	0.921 kcps	11	GR scinti.1	0.000 kcps
12	ALL accept Event	4.149 kcps	12	GR scinti.2	16.710 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	0.000 kcps
14	GR3377stop(TEND)	4.149 kcps	14		0.000 kcps
15	LAS-reject	0.000 kcps	15		0.000 kcps

Trig.(GR) live	: 88.040 percent
Trig.(LAS) live	: 86.885 percent
Clock live	: 87.381 percent

RUN NUM	2046	B.I. Range	6 nA
START	2007-Nov-27	06:57:20	
STOP	2007-Nov-27	08:59:02	
NOW	2007-Nov-27	08:59:16	
scaler	0 ch	Sca1	

〜 不調 確認 ... 問題なし



Run# 2047 Comment ^{36}Ar 0deg disp #2 beam cell

Date 11 / 27

Start 9 : 13

Stop 11 : 15

GR angle 0 deg

Beam current 3.6 nA

C.I. range 6 nA

Target

☐ ^{20}Ne inela or elast

☒ ^{36}Ar inela or elast

☐ CO_2 inela or elast

☐ Empty inela or elast

☐ ^{28}Si 2.22 (1.86) mg/cm²

☐ _____ mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☒ SC rot. _____ V

Gas cell Temp 27 deg Press 1.046 atm thickness 527 mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

(#2047)

10

Rate		Rate			
0	Beam Intensity	3.687 nA	0	BLP CLK req :	9.791 kcps
1	GR event request	4.903 kcps	1	BLP CLK live :	9.791 kcps
2	GR event live	4.221 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.060 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.050 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.790 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.521 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	4.221 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	4.221 kcps	8	Beam Monitor1 :	4.903 kcps
9	LAS Single	0.050 kcps	9	Beam Monitor2 :	4.221 kcps
10	LAS SingleSample	0.033 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	1.073 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	4.272 kcps	12	GR scinti.2 :	16.469 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	4.271 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

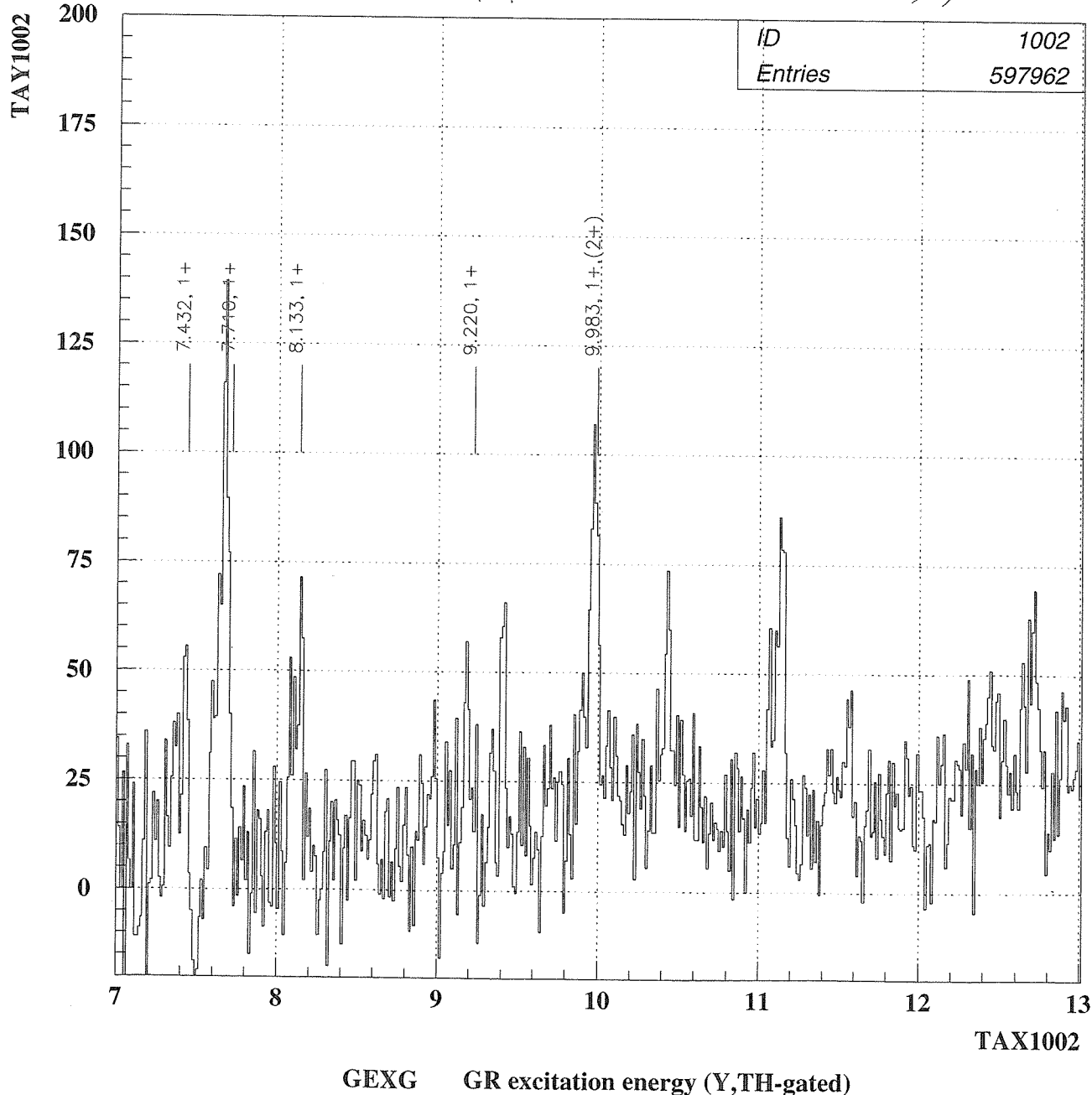
Trig.(GR) live : 86.101 percent
Trig.(LAS) live : 83.871 percent
Clock live : 87.040 percent

scaler down
RUN NUM 2047 B.I. Range 6 nA
RUN START 2007-Nov-27 09:13:45
NOW 2007-Nov-27 09:16:51
scaler 0 ch Scal

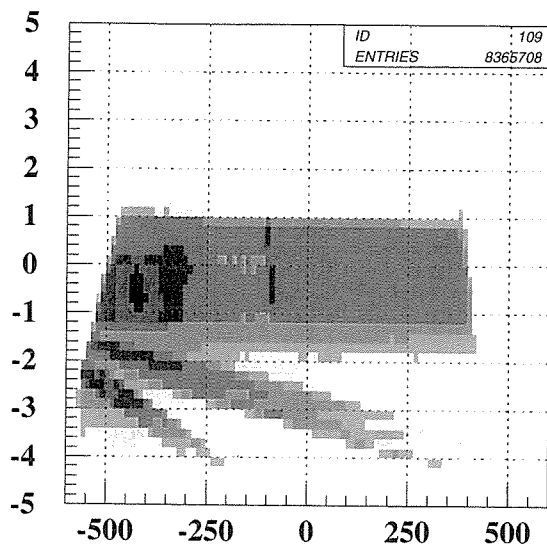
#2046 offline

2007/11/27 09.29

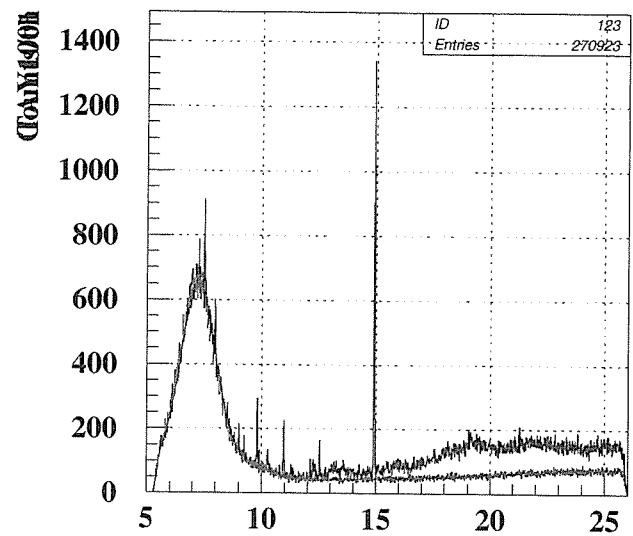
$^{36}\text{Ar}(\text{p,p}')$ at 0° (膜の高さあり)



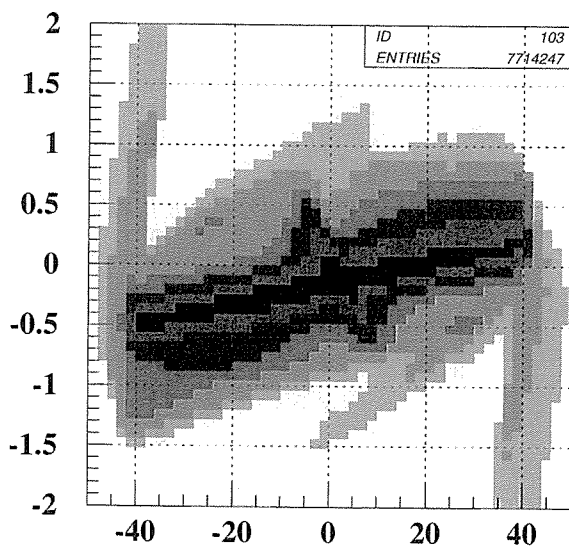
2007/11/27 11.15



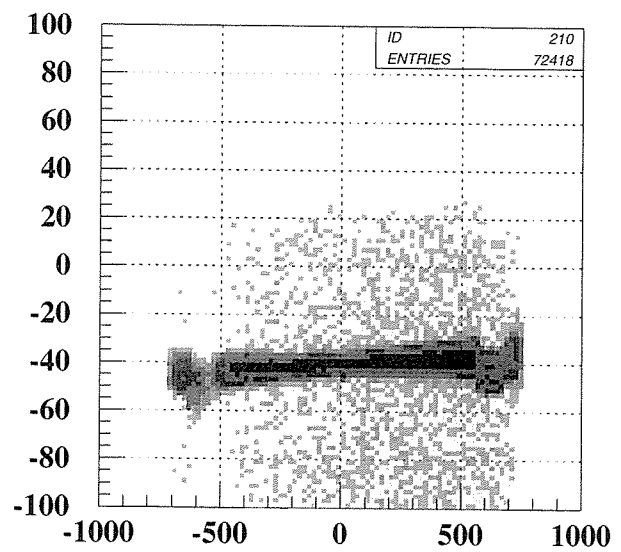
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

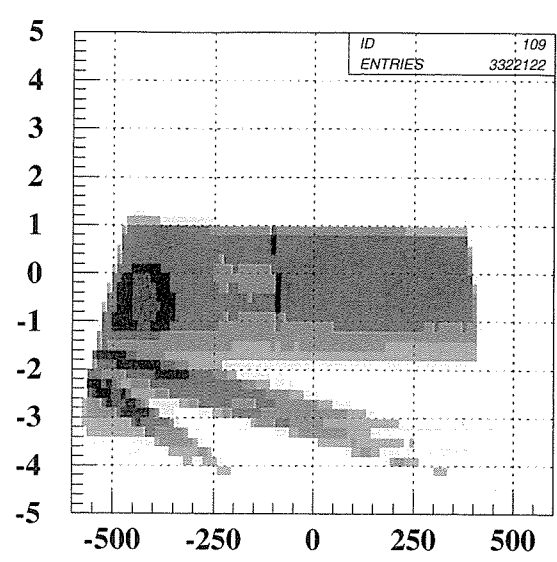
Run# 2048 Comment ^{36}Ar 0 deg disp #3 6 μm cell

Date <u>11 / 27</u>	Target
Start <u>11 : 17</u>	☐ ^{20}Ne inela or elast
Stop <u>12 : 20</u>	☒ ^{36}Ar inela or elast
GR angle <u>0</u> deg	☐ CO_2 inela or elast
Beam current <u>3.8</u> nA	☐ Empty inela or elast
C.I. range <u>6</u> nA	☐ ^{28}Si 2.22 (1.86) mg/cm^2
	☐ mg/cm^2

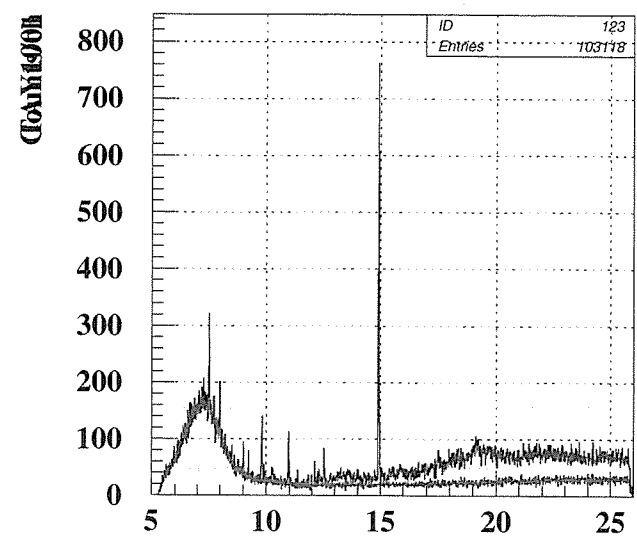
VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V
 Gas cell Temp 27 deg Press 1.045 atm thickness 1.5²⁷ mg/cm^2
 Print out? ☐ histograms ☐ rate table ☐ magnet table

12:20 頃 AVF の RF が ~~落ち~~ 止まり 停止

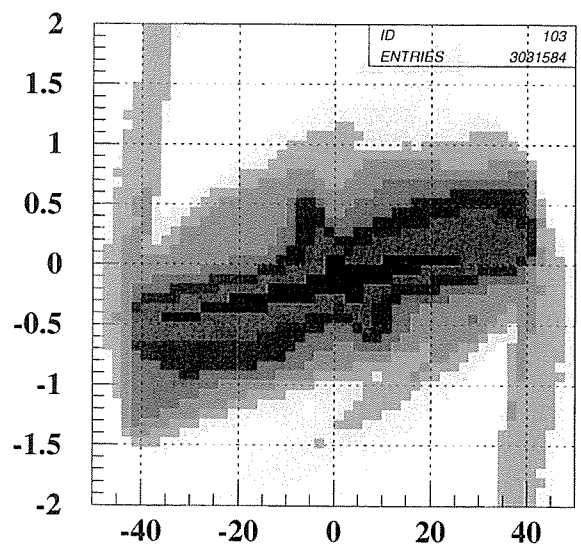
#2048



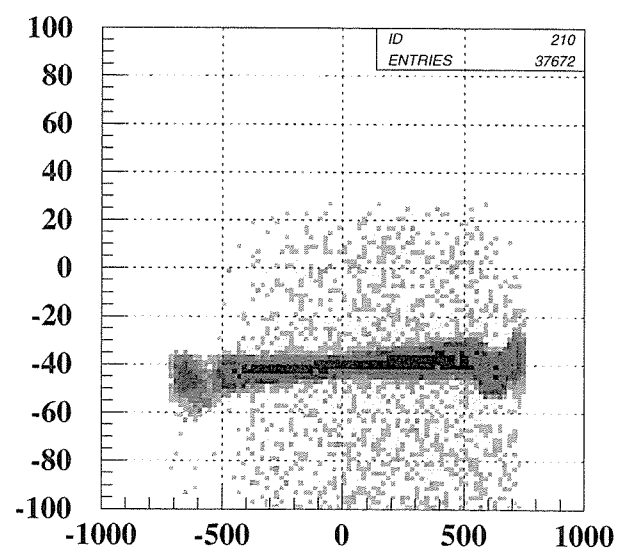
GXTHC GR THC vs X



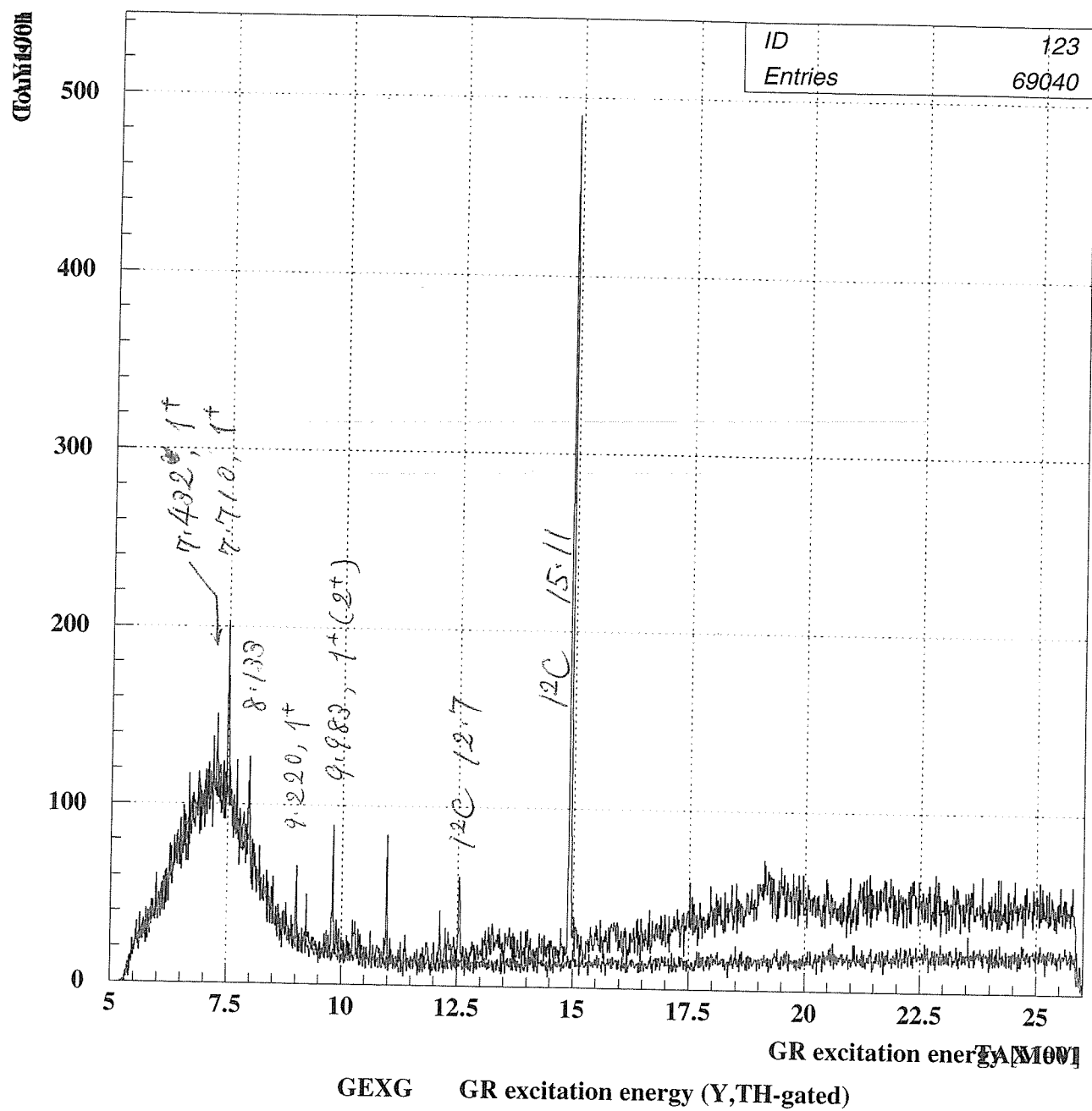
GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X



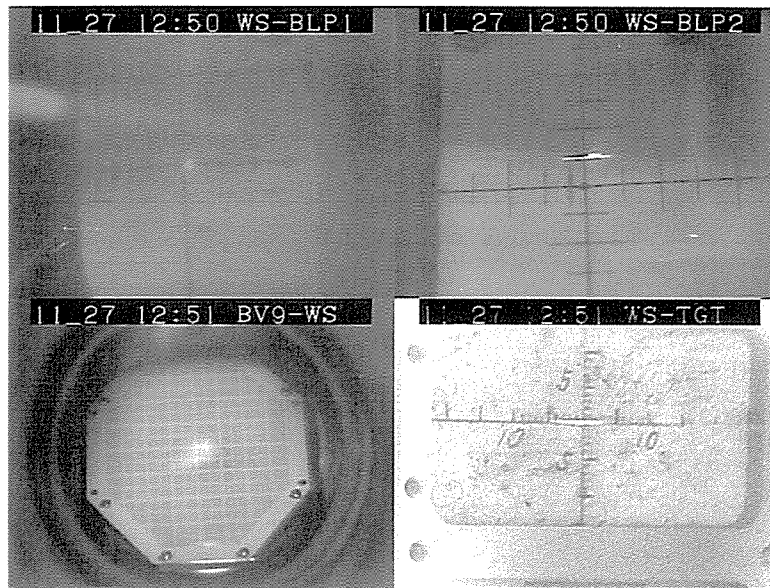
時間を大々 (数10分) 自然に回復する?

↑ 2ヶ月前の 4000 調整記録

12=45.

ATFのRFのH tuning して beam 復旧.

5ヶ月前後の Beam Profile → P9の時とほぼ同じ.



#2049

~~00XX 00XX~~
~~XX XX 28 1/2~~
~~XXXXXXXX XXXXXX~~
~~XX XX 8~~
~~XXXX XXXX~~
~~XX XX~~
 36 Ar 18
 18

0.337%

rate1	rate2
0 Beam Intensity 3.688 nA	0 BLP CLK req : 9.949 k
1 GR event request 3.079 kcps	1 BLP CLK live : 9.949 k
2 GR event live 2.815 kcps	2 BLP Trig req : 0.000 k
3 LAS eventRequest 0.073 kcps	3 BLP Trig live : 0.000 k
4 LAS event live 0.063 kcps	4 Akimune UP : 0.000 k
5 GR clock request 9.949 kcps	5 Akimune Down : 0.000 k
6 GR clock live 9.093 kcps	6 Akimune Left : 0.000 k
7 GR Single 2.815 kcps	7 Akimune Right : 0.000 k
8 GR Single Sample 2.815 kcps	8 Beam Monitor1 : 3.079 k
9 LAS Single 0.063 kcps	9 Beam Monitor2 : 2.815 k
10 LAS SingleSample 0.012 kcps	10 Beam Monitor3 : 0.000 k
11 GR & LAS COIN 0.635 kcps	11 GR scinti.1 : 0.000 k
12 ALL accept Event 2.878 kcps	12 GR scinti.2 : 14.665 k
13 Reject event 0.000 kcps	13 GR X-hodo : 0.000 k
14 GR3377stop(TEND) 2.878 kcps	14 : 0.000 k
15 LAS-reject 0.000 kcps	15 : 0.000 k

Trig.(GR) live : 91.427 percent	Trig.(LAS) live : 86.486 percent	Clock live : 91.396 percent
---------------------------------	----------------------------------	-----------------------------

Run Num	2049	B.I. Range	6 nA
Run Start	2007-Nov-27	12:56:33	
Now	2007-Nov-27	13:01:38	
Scaler	1	ch	Sca1

Run#	Comment
2049	³⁶ Ar O dig disp #4 6µm cell

Date	11 / 27	Target	☐ ²⁰ Ne	inela	or	elast
Start	12 : 56		☒ ³⁶ Ar	inela	or	elast
Stop	14 : 53		☐ CO2	inela	or	elast
GR angle	0 deg		☐ Empty	inela	or	elast
Beam current	3.3 nA		☐ ²⁸ Si	2.22 (1.86) mg/cm ²		
C.I. range	6 nA		☐	mg/cm ²		

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V
 Gas cell Temp 27.3 °C Press 1.046 atm thickness 1.53 mg/cm2
 Print out? ☐ histograms ☐ rate table ☐ magnet table

13:40 ビールバンチャーが落ちた。ビールが一瞬止まった
スペクトル異常無し

不校

Run# 2050 Comment ^{36}Ar 0° disp #5 6 μm cell

11 A 27A

Date 14/1/53

Start 14 : 53

Stop _____ :

GR angle 0 deg

Beam current 3 nA

C.I. range 6 nA

Target

☐ ²⁰Ne inela or elast

☒ ³⁶Ar inela or elast

☐ CO₂ inela or elast

☐ Empty inela or elast

☐ ²⁸Si 2.22 (1.86) mg/cm²

☐ _____ mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V
 Gas cell Temp 27.4 deg Press 1.044 atm thickness 5.3 mg/cm2
 Print out? ☐ histograms ☐ rate table ☐ magnet table

0	Beam Intensity	3,129 nA
1	GR event request	90.312 kcps
2	GR event live	6.789 kcps
3	LAS eventRequest	0.079 kcps
4	LAS event live	0.006 kcps
5	GR clock request	9.304 kcps
6	GR clock live	0.800 kcps
7	GR Single	6.789 kcps
8	GR Single Sample	6.789 kcps
9	LAS Single	0.006 kcps
10	LAS SingleSample	0.025 kcps
11	GR & LAS COIN	9.344 kcps
12	ALL accept Event	6.795 kcps
13	Reject event	0.000 kcps
14	GR3377stop(TEND)	6.794 kcps
15	LAS-reject	0.000 kcps

0	BLP CLK req :	9.904	kcps
1	BLP CLK live :	9.895	kcps
2	BLP Trig req :	0.027	kcps
3	BLP Trig live :	0.027	kcps
4	Akimune UP :	0.000	kcps
5	Akimune Down :	0.000	kcps
6	Akimune Left :	0.000	kcps
7	Akimune Right :	0.000	kcps
8	Beam Monitor1 :	90.312	kcps
9	Beam Monitor2 :	6.789	kcps
10	Beam Monitor3 :	0.000	kcps
11	GR scinti.1 :	0.000	kcps
12	GR scinti.2 :	105.143	kcps
13	GR X-hodo :	0.000	kcps
14	:	0.000	kcps
15	:	0.000	kcps

Trig.(GR) live	:	7.517 percent
Trig.(LAS) live	:	7.407 percent
Clock live	:	8.076 percent

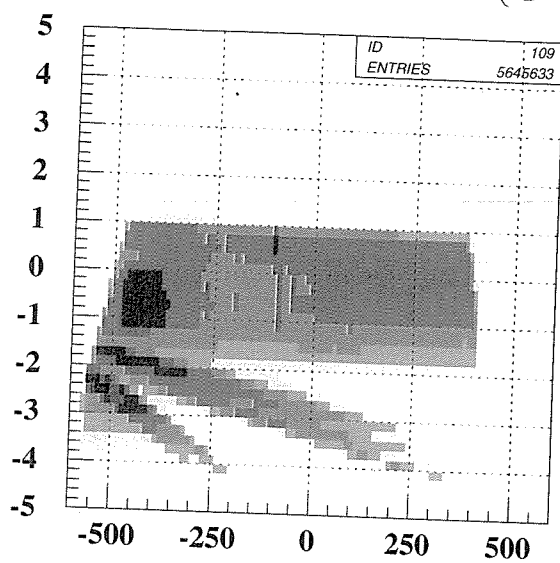
```

RUN NUM      2050  B.I. Range      6 nA
RUN START    2007-Nov-27  14:53:30
NOW          2007-Nov-27  14:53:52
scaler       0  ch          Scal

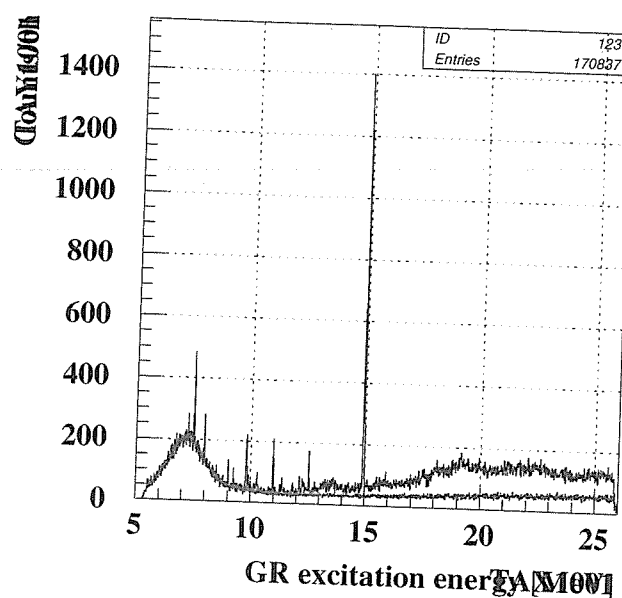
```

#2049

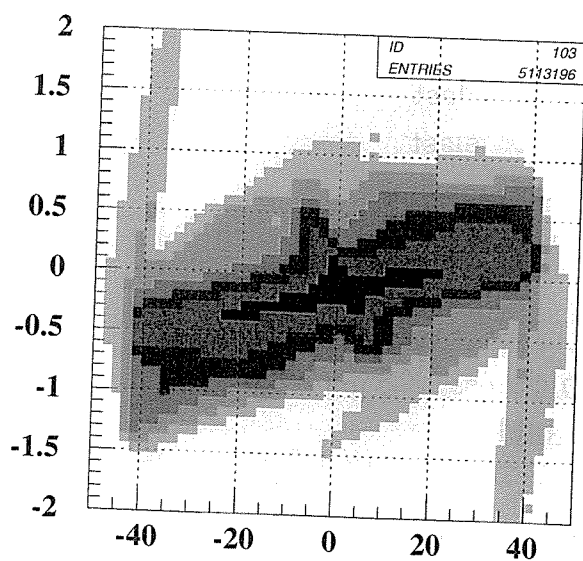
2007/11/27 16.50



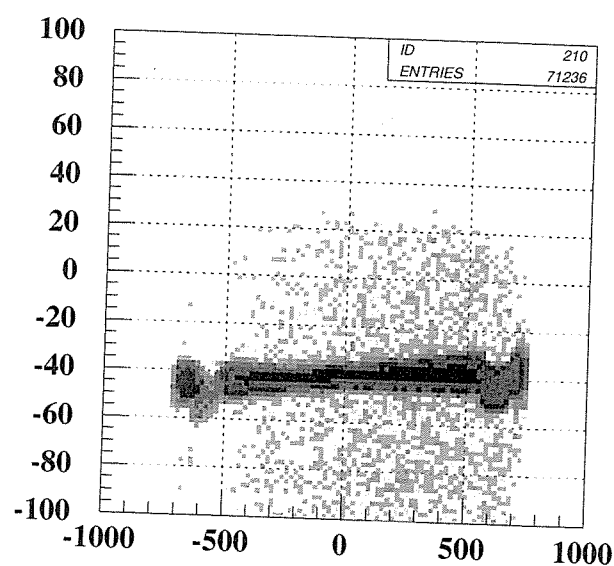
GXTHC GR THC vs X



GEXG GR excitation energy (Y, TH-gated)



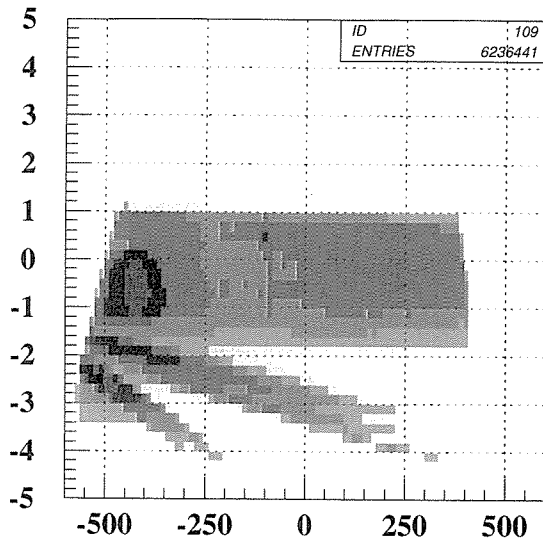
GYPH GR Phi vs Y



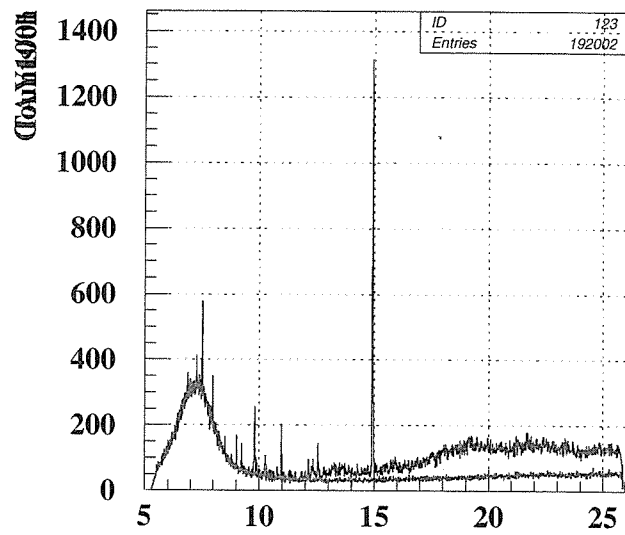
LXY LAS Y vs X

#2050

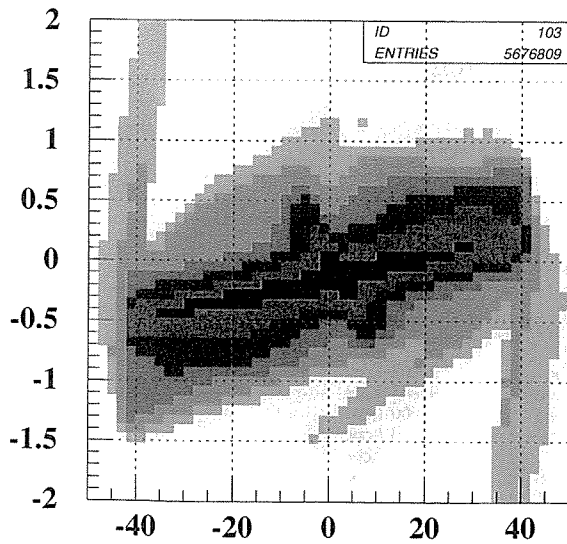
2007/11/27 16.54



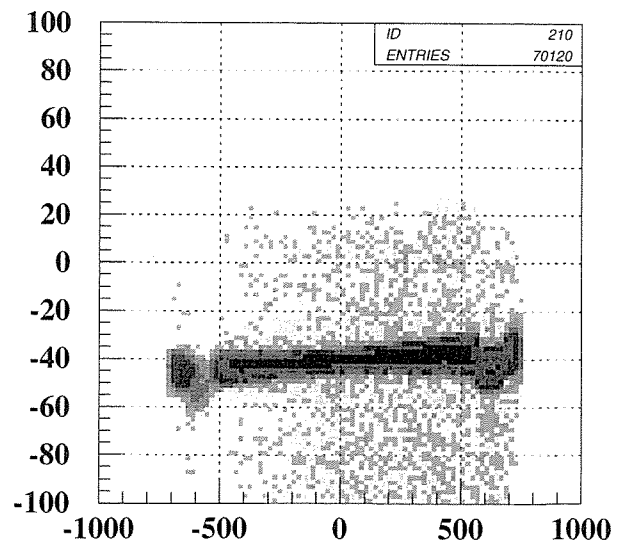
GXTHC GR THC vs X



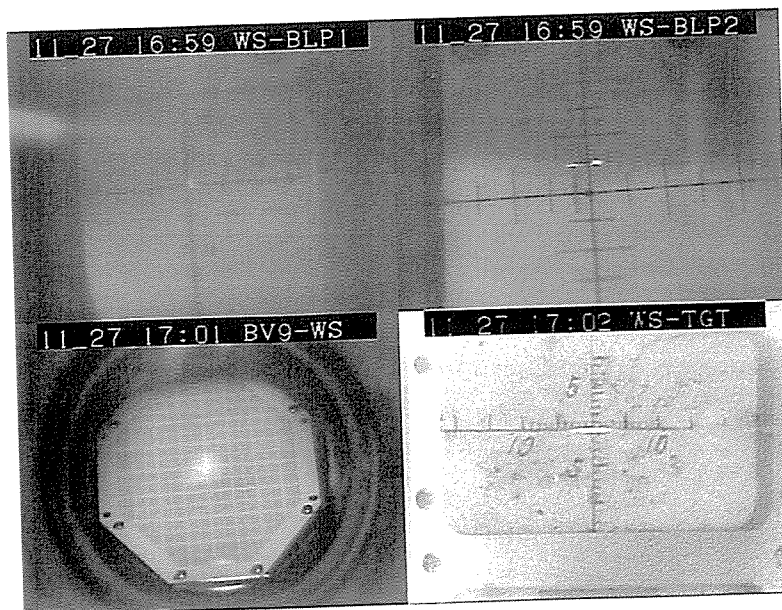
GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X



ポイント確認、BVG7の位置に合わせた
(#2050 後) $\rightarrow$ RING cavity 位置調整.

Run# 2051 Comment ^{36}Ar 0 deg disp #6 6 μm cell

Date 11 / 1 27

Start 17 : 06

Stop 19 : 01

GR angle 0 deg

Beam current 3.6 nA

C.I. range 6 nA

Target

☐ ^{20}Ne inela or elast

☒ ^{36}Ar inela or elast

☐ CO_2 inela or elast

☐ Empty inela or elast

☐ ^{28}Si 2.22 (1.86) mg/cm^2

☐ mg/cm^2

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp 27.3 deg Press 1.040 atm thickness 1.52 mg/cm^2

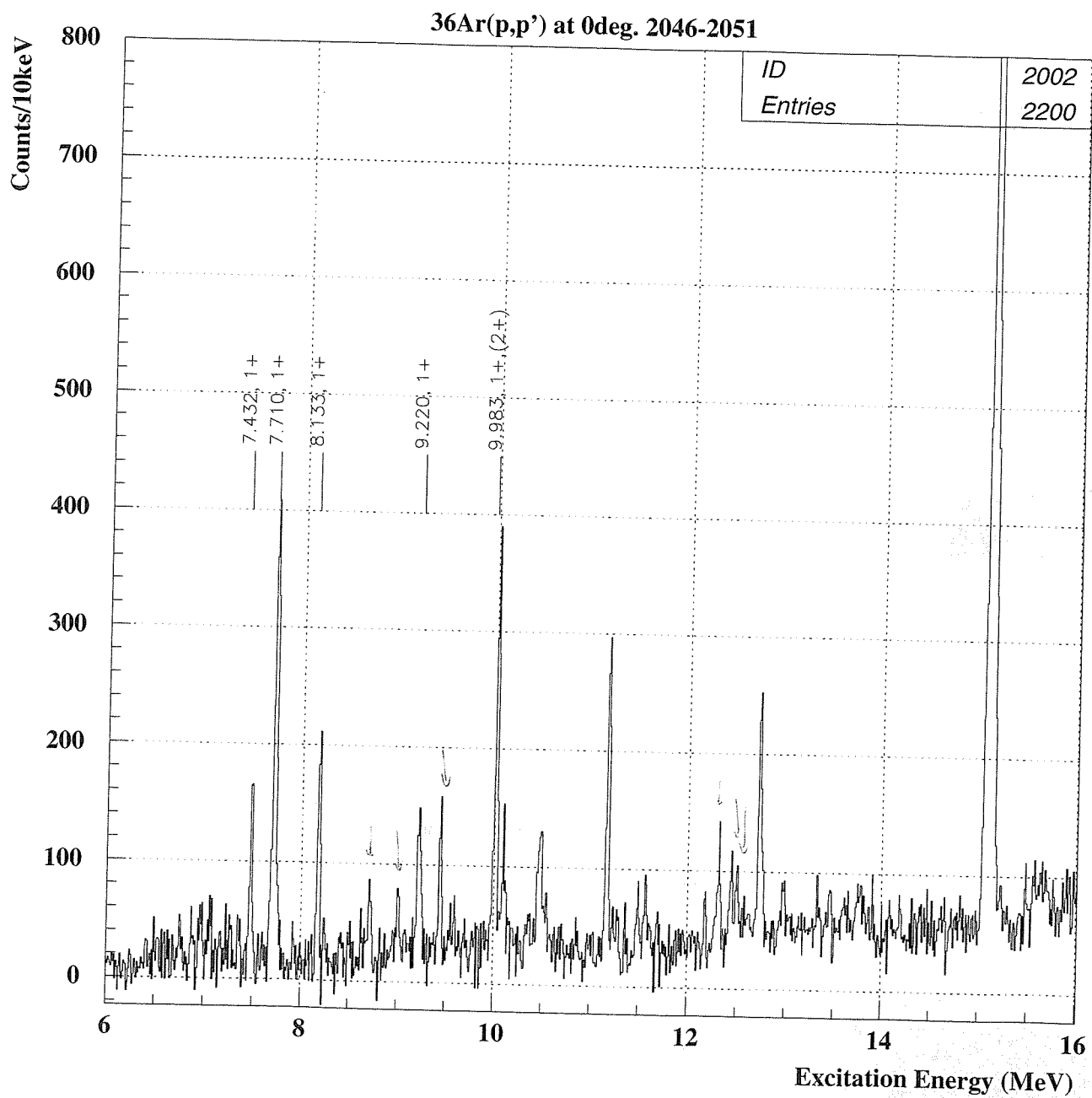
Print out? ☐ histograms ☐ rate table ☐ magnet table

rate			rates		
0	Beam Intensity	3.958 nA	0	BLP CLK req	9.903 kcps
1	GR event request	3.538 kcps	1	BLP CLK live	9.903 kcps
2	GR event live	3.133 kcps	2	BLP Trig req	0.000 kcps
3	LAS eventRequest	0.077 kcps	3	BLP Trig live	0.000 kcps
4	LAS event live	0.065 kcps	4	Akimune UP	0.000 kcps
5	GR clock request	9.903 kcps	5	Akimune Down	0.000 kcps
6	GR clock live	8.824 kcps	6	Akimune Left	0.000 kcps
7	GR Single	3.133 kcps	7	Akimune Right	0.000 kcps
8	GR Single Sample	3.133 kcps	8	Beam Monitor1	3.538 kcps
9	LAS Single	0.065 kcps	9	Beam Monitor2	3.133 kcps
10	LAS SingleSample	0.002 kcps	10	Beam Monitor3	0.000 kcps
11	GR & LAS COIN	0.663 kcps	11	GR scinti.1	0.000 kcps
12	ALL accept Event	3.197 kcps	12	GR scinti.2	15.842 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	0.000 kcps
14	GR3377stop(TEND)	3.197 kcps	14		0.000 kcps
15	LAS-reject	0.000 kcps	15		0.000 kcps

Trig.(GR) live	: 88.532 percent
Trig.(LAS) live	: 83.544 percent
Clock live	: 89.112 percent

RUN NUM	2051	B.I. Range	6 nA
RUN START	2007-Nov-27	17:06:56	
NOW	2007-Nov-27	17:09:24	
scaler	1 ch	Scal	

2007/11/27 18.31



KEP 14 M117 2.5° (2.5° spectrum)

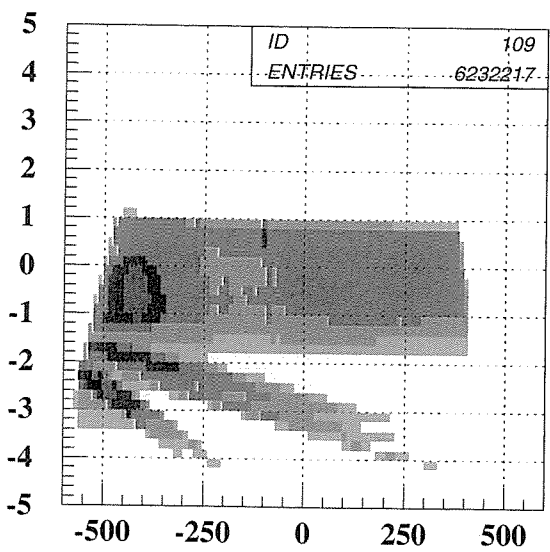
0	Beam Intensity	3.734 nA	0	BLP CLK req	: 9.902 kcps
1	GR event request	3.389 kcps	1	BLP CLK live	: 9.902 kcps
2	GR event live	3.043 kcps	2	BLP Trig req	: 0.000 kcps
3	LAS eventRequest	0.072 kcps	3	BLP Trig live	: 0.000 kcps
4	LAS event live	0.064 kcps	4	Akimune UP	: 0.000 kcps
5	GR clock request	9.903 kcps	5	Akimune Down	: 0.000 kcps
6	GR clock live	8.976 kcps	6	Akimune Left	: 0.000 kcps
7	GR Single	3.043 kcps	7	Akimune Right	: 0.000 kcps
8	GR Single Sample	3.043 kcps	8	Beam Monitor1	: 3.389 kcps
9	LAS Single	0.064 kcps	9	Beam Monitor2	: 3.043 kcps
10	LAS SingleSample	0.012 kcps	10	Beam Monitor3	: 0.000 kcps
11	GR & LAS COIN	0.803 kcps	11	GR scinti.1	: 0.000 kcps
12	ALL accept Event	3.107 kcps	12	GR scinti.2	: 15.099 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	: 0.000 kcps
14	GR3377stop(TEND)	3.107 kcps	14		: 0.000 kcps
15	LAS-reject	0.000 kcps	15		: 0.000 kcps

Trig.(GR) live : 89.792 percent
Trig.(LAS) live : 89.041 percent
Clock live : 90.646 percent

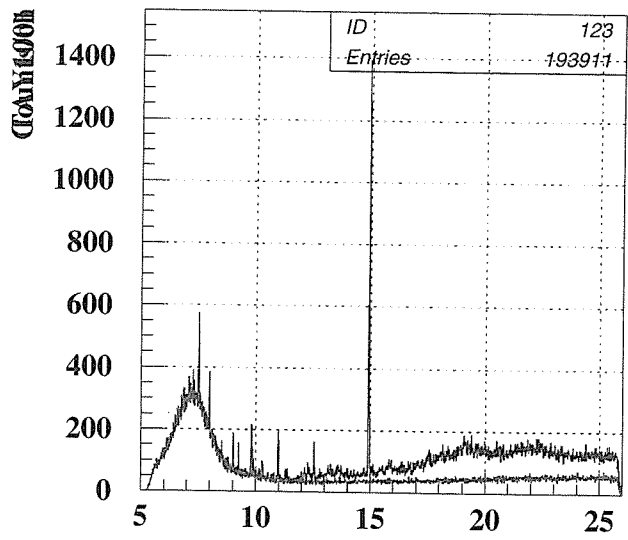
Scatter up
RUN NUM 2051 B.I. Range 6 nA
RUN START 2007-Nov-27 17:06:56
NOW 2007-Nov-27 19:07:18
Scaler 1 ch Scal 15077

#2051

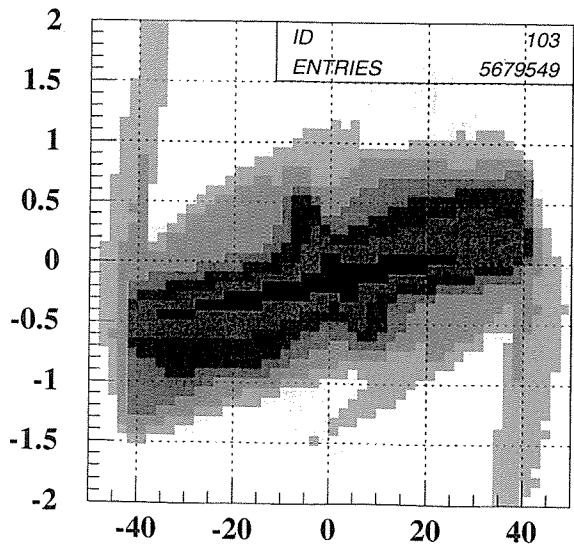
2007/11/27 19.07



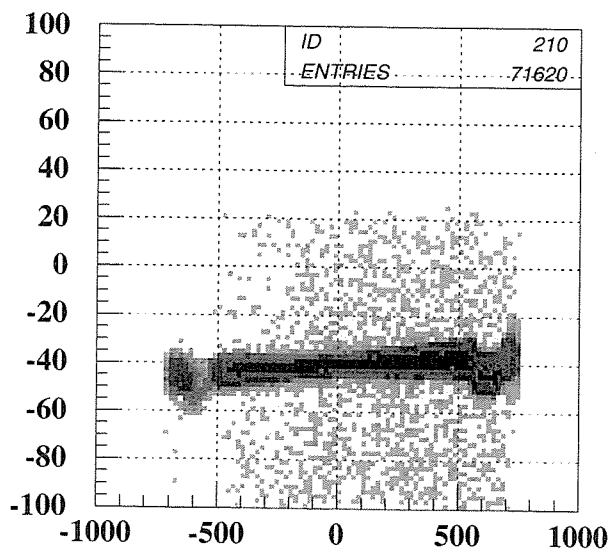
GXTHC GR TH vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



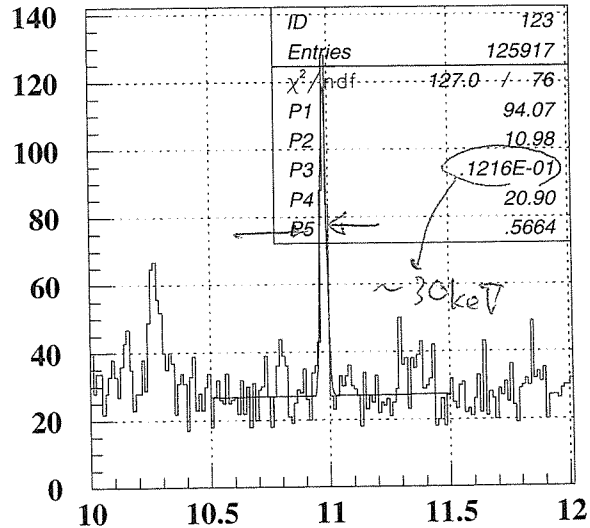
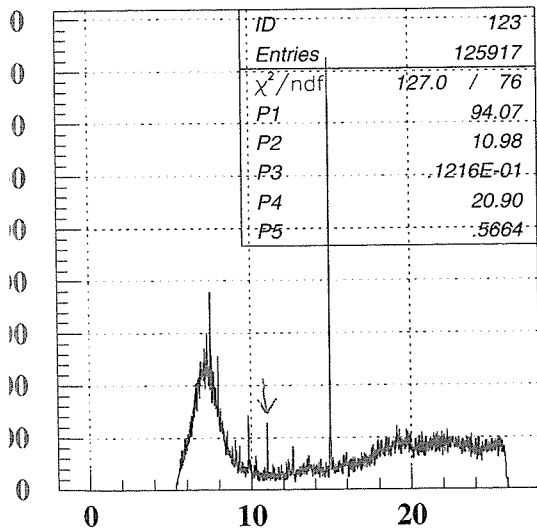
LXY LAS Y vs X

Run# 2052 Comment ^{36}Ar 0 deg disp #17 6 um cell

Date 11 / 27 Target
 Start 19 : 09 ☐ ^{20}Ne inela or elast
 Stop 21 : 09 ☒ ^{36}Ar inela or elast
 GR angle 0 deg ☐ CO_2 inela or elast
 Beam current ~ 3.5 nA ☐ Empty inela or elast
 C.I. range 6 nA ☐ ^{28}Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☒ SC rot. V
 Gas cell Temp 27.3 deg Press 1.038 atm thickness ~~7.56~~ 1.52 mg/cm²
 Print out? ☐ histograms ☒ rate table ☐ magnet table

2007/11/27 20.21



GEXG GR excitation energy (Y, TH-gated)

GEXG GR excitation energy (Y, TH-gated)

WS/PIS

Magnet	Field(Preset Actual)	Current(Preset Actual)	Status	PS	NMR	FB
GR Q1	mT	90.30 A				
GR SX	mT	18.10 A				
GR Q2	mT	8.50 A				
GR MQ	mT	0.00 A				
GR MS	mT	0.00 A				
GR D1	868.955 mT	230.51 A				
GR D2	869.217 mT	433.63 A				
GR DSR	120.440 mT	13.54 A				
LAS Q	mT	217.70 A				
LAS D	-747.984 mT	280.30 A				
GR DQ1	mT	50 50.00 A				
GR DQ2	mT	65.1 65.10 A				

Update

update Cycle 10 sec.

Hcopy

Queue acc3626

exit

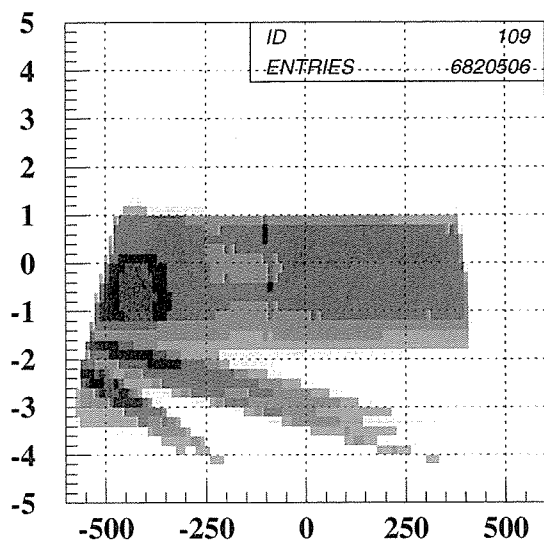
Rate			Rate		
0	Beam Intensity	3,240 nA	0	BLP CLK req :	9.902 kcps
1	GR event request	3,420 kcps	1	BLP CLK live :	9.902 kcps
2	GR event live	3,081 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.057 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.053 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.903 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.971 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	3,080 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	3,080 kcps	8	Beam Monitor1 :	3,420 kcps
9	LAS Single	0.052 kcps	9	Beam Monitor2 :	3,081 kcps
10	LAS SingleSample	0.012 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.726 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3,133 kcps	12	GR scinti.2 :	13.417 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3,133 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 90,086 percent
 Trig.(LAS) live : 93,103 percent
 Clock live : 90,580 percent

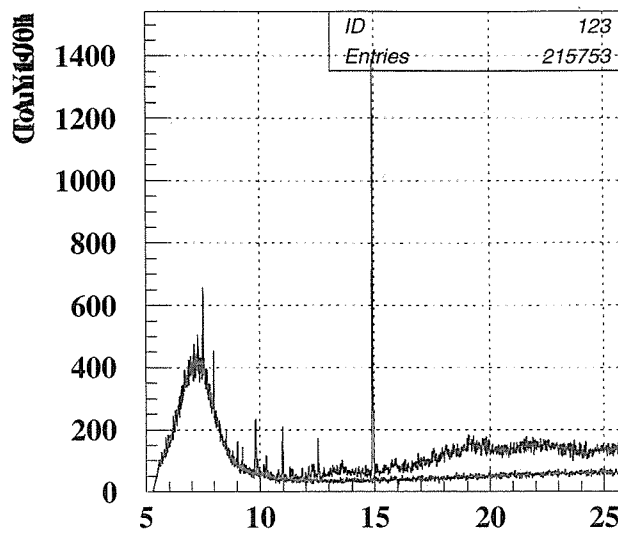
RUN NUM 2052 B.I. Range 6 nA
 RUN START 2007-Nov-27 19:09:07
 NOW 2007-Nov-27 20:31:51
 scaler 1 ch Scal

run 2052 ↓

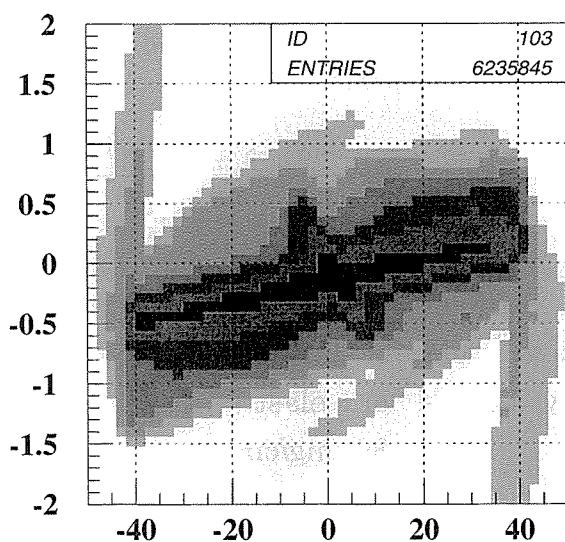
2007/11/27 21.09



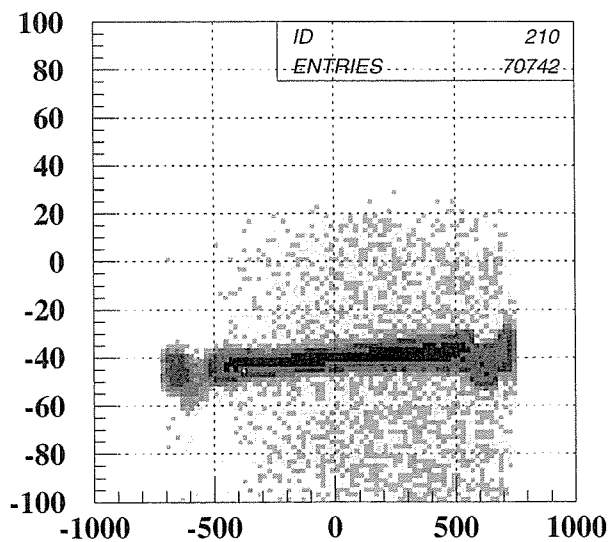
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

Run# 2053 Comment ³⁶Ar odeg Disp #8 6um Cell
 Date 11 / 27
 Start 21 : 28
 Stop _____ :
 GR angle 0 deg
 Beam current ~ 3.8 nA
 C.I. range 6 nA
 Target
☐ ²⁰Ne inela or elast
☒ ³⁶Ar inela or elast
☐ CO2 inela or elast
☐ Empty inela or elast
☐ ²⁸Si 2.22 (1.86) mg/cm²
☐ _____ mg/cm²
 VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V
 Gas cell Temp _____ deg Press _____ atm thickness _____ mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

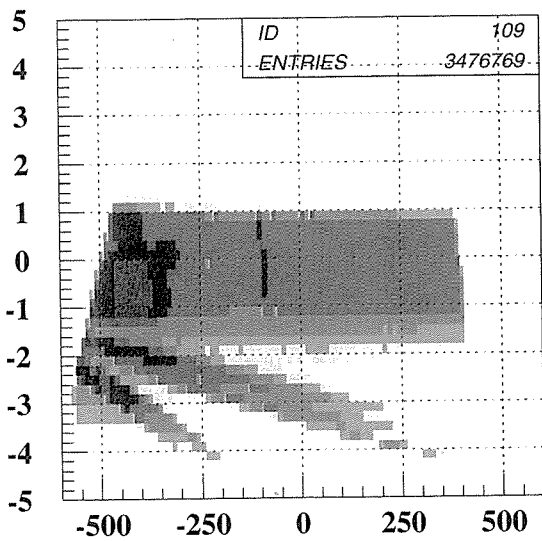
0	Beam Intensity	3.719 nA	0	BLP CLK req :	9.722 kcps
1	GR event request	3.391 kcps	1	BLP CLK live :	9.721 kcps
2	GR event live	3.027 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.064 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.058 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.722 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.804 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	3.027 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	3.027 kcps	8	Beam Monitor1 :	3.391 kcps
9	LAS Single	0.058 kcps	9	Beam Monitor2 :	3.027 kcps
10	LAS SingleSample	0.006 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.575 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.085 kcps	12	GR scinti.2 :	14.744 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.085 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 89.271 percent
 Trig.(LAS) live : 89.552 percent
 Clock live : 90.556 percent

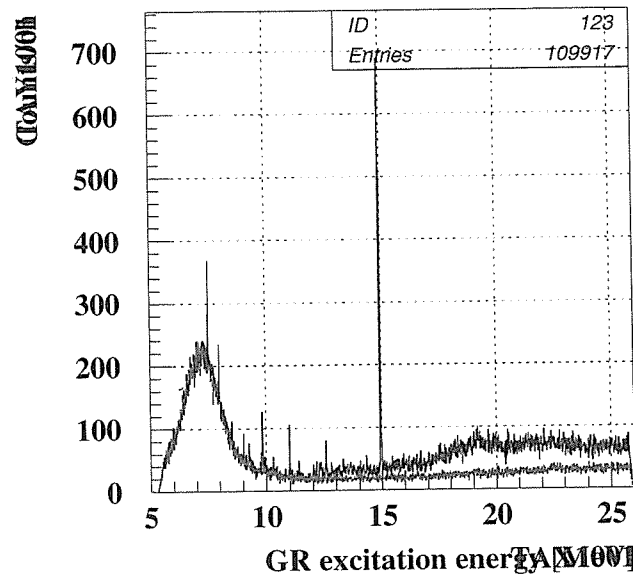
RUN NUM 2053 B.I. Range 6 nA
 RUN START 2007-Nov-27 21:28:51
 NOW 2007-Nov-27 21:46:56
 scaler 1 ch Scal

run # 2053 ↓

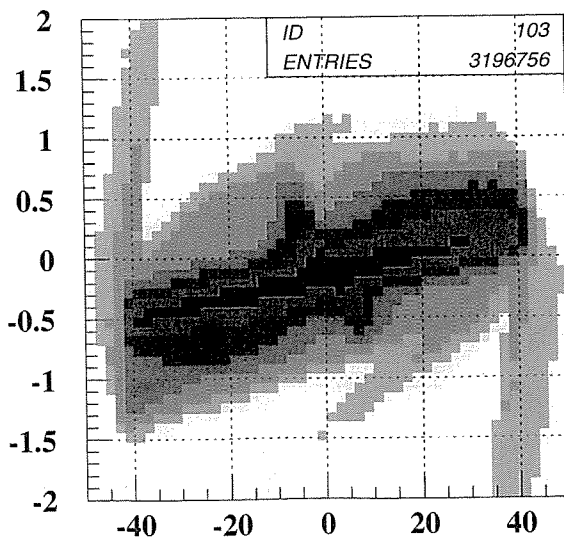
2007/11/27 22.26



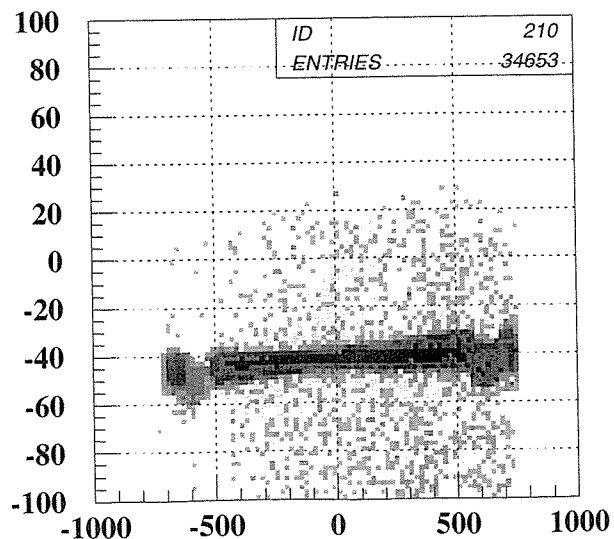
GXTHC GR THC vs X



GEXG GR excitation energy (Y, TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

FC calib. with BLP2

File	Window	Temp	07/11/27 22:30	
Main / Change Set / check state / change pol				
Spin UP/DOWN(1<T<999)	10	10	x0.1 sec	Refresh
Veto Time(>10)	1000		msec	Refresh
AUTO HATA IN/OUT/NUE	8	8	20	Refresh

← 変更

SLFC 20°17 1.657

2054 BLP ↔ SLFC blank target.

$$\begin{aligned}
 \text{true (l+r+u+d)} &= 12734 \\
 \text{chance} &= 53 \\
 \text{BI sum} &= 40657
 \end{aligned}$$

$$\frac{40657}{12734 - 53} = \boxed{3.206}$$

2055 BLP ↔ 0deg FC. blank target

$$\begin{aligned}
 \text{true} &= 13464 \\
 \text{chance} &= 52 \\
 \text{BI sum} &= 41941
 \end{aligned}$$

$$\rightarrow \boxed{3.127}$$

2056

BLP ↔ 0deg FC nothing. → frame E gas cell & BL.

$$\begin{aligned}
 \text{true} &= 14499 \\
 \text{chance} &= 72 \\
 \text{BI sum} &= 45384
 \end{aligned}$$

$$\rightarrow \boxed{3.146}$$

2057 BLP $\leftrightarrow$ 0deg FC ^{36}Ar gas.
 true = 14428
 chane = 75
 BI sum = 44648 $\rightarrow$ 3,111

2058 BLP $\leftrightarrow$ SCFC with ^{36}Ar gas
 true = 13337
 chane = 52
 BI sum = 43005 $\rightarrow$ 3,237

~~2059~~ BLP $\leftrightarrow$ (0deg FC + SCFC) with ^{36}Ar gas ※設定上同じ条件
 true = 13331
 chane = 78
 BI sum = 41848 $\rightarrow$ 3,158

$\frac{\# 2054}{\# 2059} = 1.5\%$ 約一五...

~~# 2059~~

23=20 西入線 GR $0^\circ \rightarrow 2.5^\circ$

hata 設定変更 $\rightarrow$

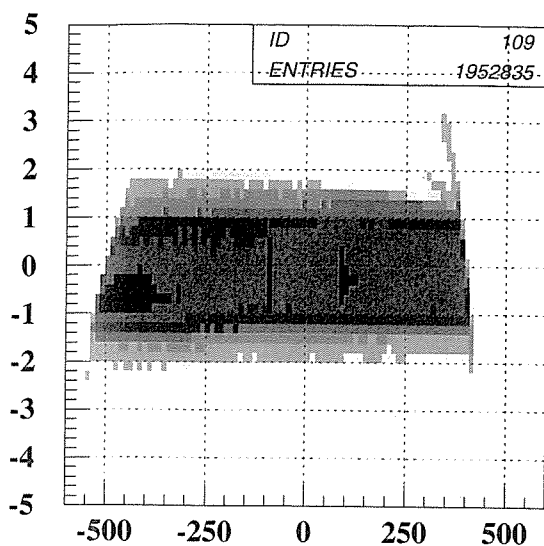
C.I range 6mA $\rightarrow$ 20mA

File Window Temp				07/11/27 23:41
Main Change Set check state change pol				
Spin UP/DOWN(1<T<999)	10	10	x0.1 sec	Refresh
Veto Time(>10)	1000		msec	Refresh
AUTO HATA IN/OUT/NUE	10	99	20	Refresh

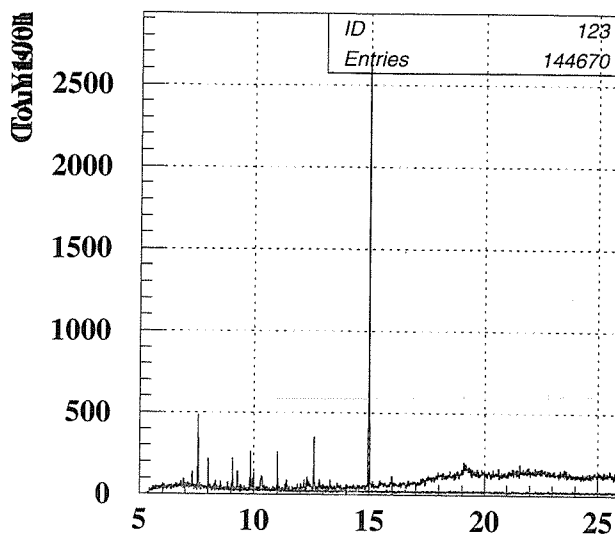
Run# 2060 Comment ^{36}Ar 2.5 deg disp #1
 Date 11/27 Target
 Start 23:53 ☐ ^{20}Ne inela or elast
 Stop : ☒ ^{36}Ar inela or elast
 GR angle 2.5 deg ☐ CO_2 inela or elast
 Beam current 7.8 nA ☐ Empty inela or elast
 C.I. range 20 nA ☐ ^{28}Si 2.22 (1.86) mg/cm²
☐ mg/cm²
 VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☒ Q1 ☐ SC rot. 2.353 V
 Gas cell Temp 27.3 deg Press 1.03 atm thickness 1.5 mg/cm²
 Print out? ☐ histograms ☐ rate table ☒ magnet table

run # 2060

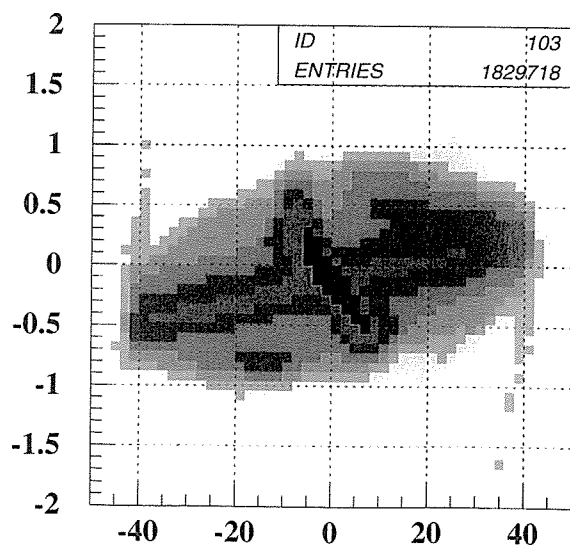
2007/11/28 01.25



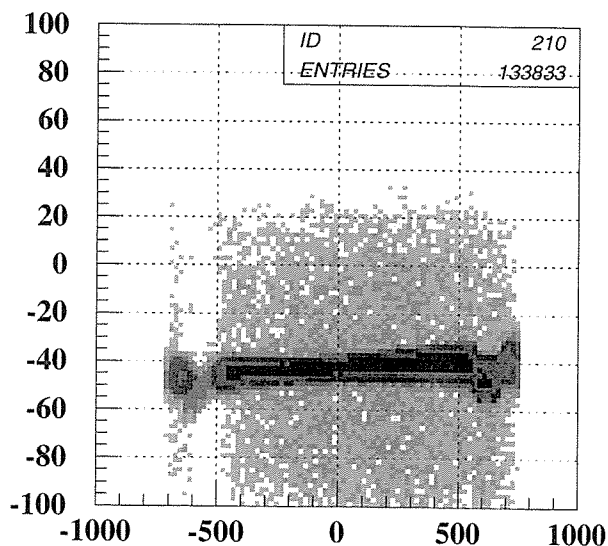
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

File Window Temp 07/11/28 01:29

Main Change Set check state change pol

Spin UP/DOWN(1<T<999) 10 10 x0.1 sec Refresh

Veto Time(>10) 1000 msec Refresh

AUTO HATA IN/OUT/NUE 8 8 20 Refresh

H2060 3/3 →

$$\begin{aligned} \text{SCFC in} &= 1.657 \text{ T.} \\ \text{Q1 FC in} &= 2.353 \text{ T.} \end{aligned}$$

FC calibration

(with BLP 2)

 $\frac{2.361 \text{ to } 2.353 \text{ T.}}{2.353 \text{ T. for actual.}}$
2061 BLP $\leftrightarrow$ SCFC blank target.

true = 29013

channel = 308

BI sum = 29601

 $\rightarrow$

0.9615

BI / (true - channel)

2062 BLP $\leftrightarrow$ Q1 FC blank target.

true = ~~200~~ 20133

channel = 189

BI sum = 18939

 $\rightarrow$

0.9496

2063 BLP $\leftrightarrow$ Q1 FC at 2.353 T. with nothing.

true = 22892

channel = 251

BI sum = 2262

 $\rightarrow$

0.9797

2064 BLP $\leftrightarrow$ Q1 FC at 2.353 T. with ^{36}Ar .

true = 23269

channel = 269

BI sum = 21998

 $\rightarrow$

0.9554

2065 BLP $\leftrightarrow$ SCFC at 1.657 T. with ^{36}Ar gas.

true = 22405

channel = 225

BI sum = 21139

 $\rightarrow$

0.9531

2066 BLP $\leftrightarrow$ Q1 FC at 2.353 T. + SCFC with ^{36}Ar

true = 20184

channel = 186

BI sum = 19316

 $\rightarrow$

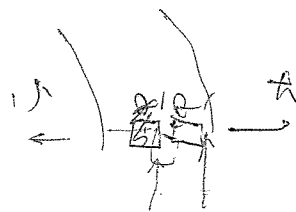
0.9659

完全な平衡時の値
を示す

$$\frac{\# 2061}{\# 2064} = +0.6\%$$

$$\frac{\# 2061}{\# 2066} = -0.5\%$$

誤差!!



File	Window	Temp	07/11/28 02:06	
Main / Change Set / check state / change pol				
Spin UP/DOWN(1<T<999)	10	10	x0.1 sec	Refresh
Veto Time(>10)	1000		msec	Refresh
AUTO HATA IN/OUT/NUE	10	99	20	Refresh

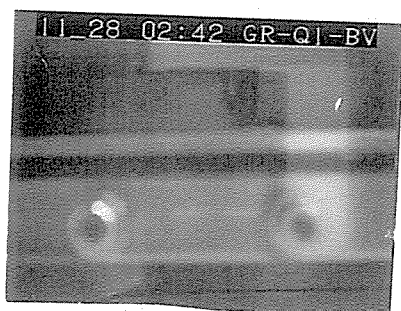
入ポート確認: 4.25 から動かしていまい → 安定している.

Q1 の 位置を 4.000T から下げている.

3.65T で セーカが入らなくなる.

見たところ 4.0T から 3.7T くらいまで セーカは動かすことができる.

よくらから動かすので 3.900T にします.



Q1 at 3.900T

Run# 2067 Comment ^{36}Ar 4.5deg disp Q1FC=3.9V #1

Date 11 / 28 Target
 Start 2 : 46 ☐ ^{20}Ne inela or elast
 Stop 4 : 00 ☒ ^{36}Ar inela or elast
 GR angle 4.5 deg ☐ CO_2 inela or elast
 Beam current 9.7 nA ☐ Empty inela or elast
 C.I. range 20 nA ☐ ^{28}Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☒ Q1 ☐ SC rot. 3.90 V

Gas cell Temp 27 deg Press 1.032 atm thickness 1.509 mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

Rate1		Rate2			
0	Beam Intensity	9.688 nA	0	BLP CLK req :	9.815 kcps
1	GR event request	1.304 kcps	1	BLP CLK live :	9.814 kcps
2	GR event live	1.182 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	1.836 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	1.663 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.815 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.927 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.182 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.182 kcps	8	Beam Monitor1 :	1.304 kcps
9	LAS Single	1.662 kcps	9	Beam Monitor2 :	1.182 kcps
10	LAS SingleSample	0.002 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.000 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	2.844 kcps	12	GR scinti.2 :	74.555 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	2.844 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live :	90.692 percent
Trig.(LAS) live :	90.587 percent
Clock live :	90.959 percent

RUN NUM	2067	B.I. Range	20 nA
RUN START	2007-Nov-28	02:46:32	
NOW	2007-Nov-28	02:49:19	
scaler	0	ch	Scal

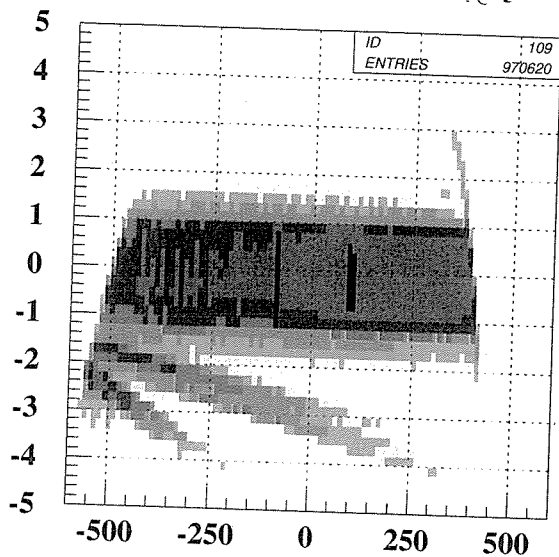
11/28 2:52 gas target 1g 4.5deg.

4:00. DAQ が落ちる

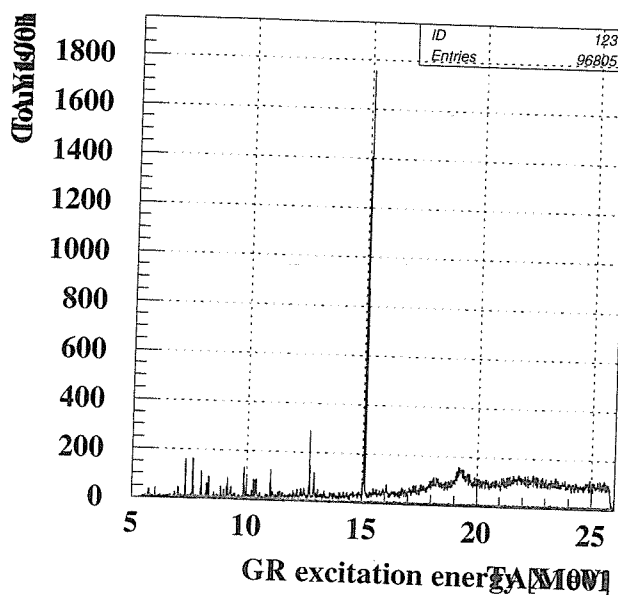
10分近く止ったが 4.5deg は終了。

2007/11/28 04.02

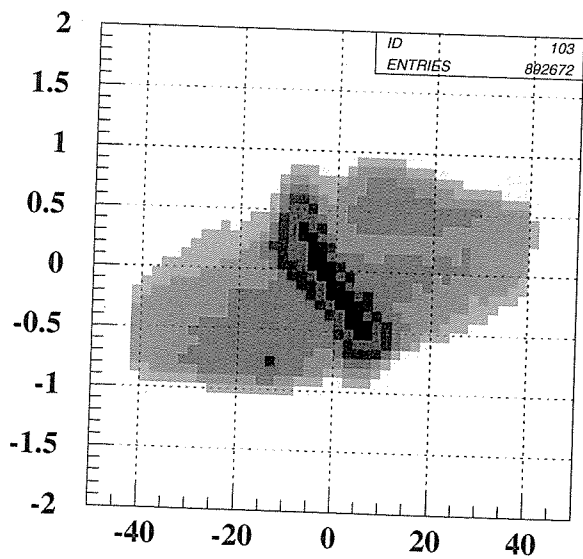
~~# 2068~~ - # 2069



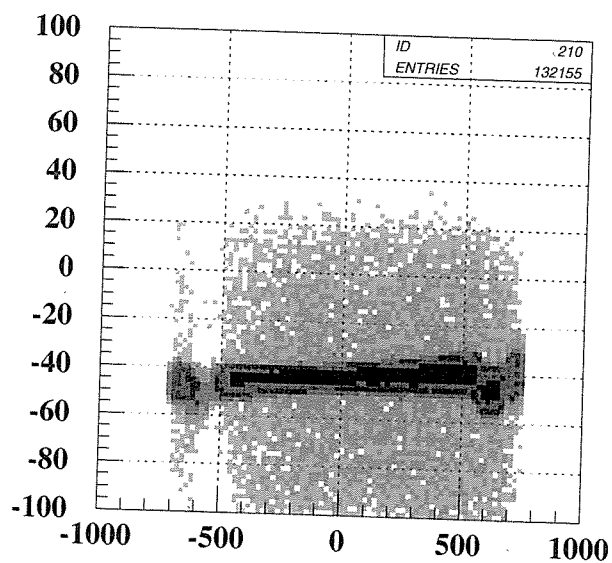
GXTHC GR THC vs X



GEXG GR excitation energy (Y, TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

126

t=00

- rose からの 実行は X からの 落ちに
- dag init を実行 (Xdagmcp からの)
 - for 02 上を b/p init を実行

File Window Temp 07/11/28 04:16

/Main/Change Set/check state/change pol

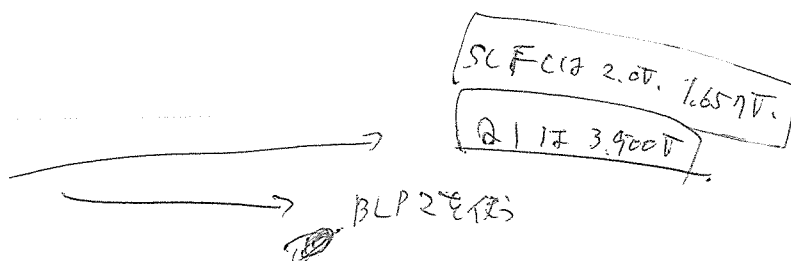
Spin UP/DOWN(1<T<999) 10 10 x0.1 sec Refresh

Veto Time(>10) 1000 msec Refresh

AUTO HATA IN/OUT/MUE 8 8 20 Refresh

← 変更

4.5° Q1FC calib.



2068. BLP ↔ SCFC with BLANK.

true = 20261

chance = 214

BI sum = 20061

→ 0.9916

2069 BLP ↔ Q1FC with BLANK.

true = 21180

chance = 236

BI sum = 20090

→ 0.9596

2070 BLP ↔ Q1FC nothing

true = 21029

chance = 239

BI sum = 19994

→ 0.9569

#2071 BLP $\leftrightarrow$ SCFC with ^{36}Ar

$$\left. \begin{array}{l} \text{true} = 23574 \\ \text{chance} = 279 \\ \text{BI sum} = 22601 \end{array} \right\} \rightarrow \boxed{0.9702}$$

#2092 BLP $\leftrightarrow$ QIFC ~~+ SCFC~~ with ^{36}Ar

$$\left. \begin{array}{l} \text{true} = 20924 \\ \text{chance} = 267 \\ \text{BI sum} = 19740 \end{array} \right\} \rightarrow \boxed{0.9556}$$

~~測定の状況~~

#2093 BLP $\leftrightarrow$ QI + SCFC with ^{36}Ar

$$\left. \begin{array}{l} \text{true} = 22364 \\ \text{chance} = 300 \\ \text{BI sum} = 21031 \end{array} \right\} \rightarrow \boxed{0.9532}$$

測定の状況

$$\frac{\#2068}{\#2092} = \frac{\cancel{+1.6\%}}{+1.7\%} \quad \frac{\#2068}{\#2093} = +1.9\%$$

γ-線

5:00 西入室

GR 2141 投入

$\pm 10\text{mr}$ $\times$ $\pm 20\text{mr}$
 $\uparrow$ $\uparrow$
 GR GR

GR $4.5^\circ \rightarrow 6.0^\circ$

File Window Temp 07/11/28 04:57

/Main/Change Set/check state/change pol

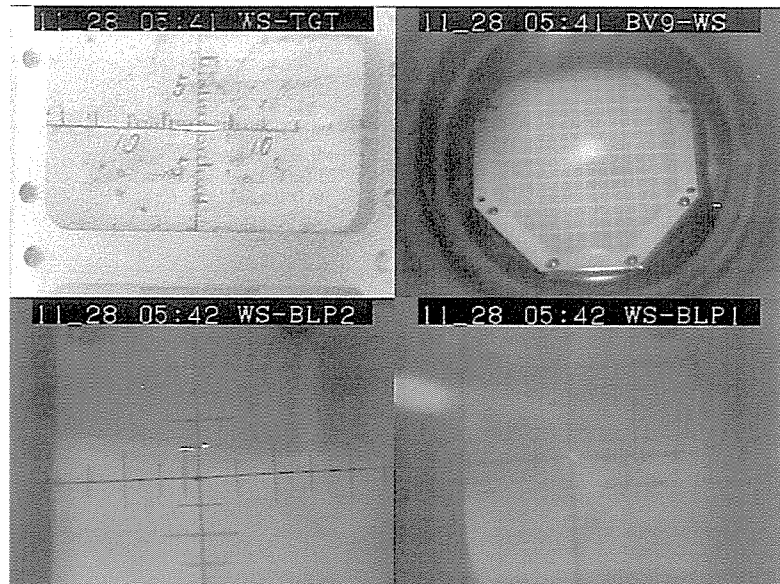
Spin UP/DOWN(1<T<999) 10 10 x0.1 sec Refresh

Veto Time(>10) 1000 msec Refresh

AUTO HATA IN/OUT/NUE 10 99 20 Refresh

← 変更

軸出ししつらん
調整は少し必要あった



$$\text{split} = \pm(0.1 \text{ mV} \times \pm 20 \text{ mV})$$

Run# 2074 Comment } 6Ar .6 deg disp SCFC = 1.732V -----

Date 11 / 28
 Start 6 : 00
 Stop :
 GR angle 6 deg
 Beam current 9 nA
 C.I. range 20 nA

Target
☐ ²⁰Ne inela or elast
☒ ³⁶Ar inela or elast
☐ CO2 inela or elast
☐ Empty inela or elast
☐ ²⁸Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. 1.732 -V
 Gas cell Temp 27.4 deg Press 1.028 atm thickness 1.5 mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

SCFCは、1.65V に設定してから 1.732V.

rate		rate				
0	Beam Intensity	8.822 nA	0	BLP CLK req	:	9.904 kcps
1	GR event request	1.126 kcps	1	BLP CLK live	:	9.903 kcps
2	GR event live	0.979 kcps	2	BLP Trig req	:	0.000 kcps
3	LAS eventRequest	3.983 kcps	3	BLP Trig live	:	0.000 kcps
4	LAS event live	3.431 kcps	4	Akimune UP	:	0.000 kcps
5	GR clock request	9.903 kcps	5	Akimune Down	:	0.000 kcps
6	GR clock live	8.502 kcps	6	Akimune Left	:	0.000 kcps
7	GR Single	0.978 kcps	7	Akimune Right	:	0.000 kcps
8	GR Single Sample	0.978 kcps	8	Beam Monitor1	:	1.126 kcps
9	LAS Single	3.428 kcps	9	Beam Monitor2	:	0.979 kcps
10	LAS SingleSample	0.003 kcps	10	Beam Monitor3	:	0.000 kcps
11	GR & LAS COIN	0.000 kcps	11	GR scinti.1	:	0.000 kcps
12	ALL accept Event	4.407 kcps	12	GR scinti.2	:	109,030 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	:	0.000 kcps
14	GR3377stop(TEND)	4.406 kcps	14	:	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	:	0.000 kcps

Trig.(GR) live	:	86.945 percent
Trig.(LAS) live	:	86.122 percent
Clock live	:	85.856 percent

RUN NUM	2074	B.I. Range	20 nA
RUN START	2007-Nov-28	06:02:36	
NOW	2007-Nov-28	06:03:52	
Scaler	0 ch	Scal	

GRa trig は ok.

しかし LASa trigger req. は、発生しなかった。

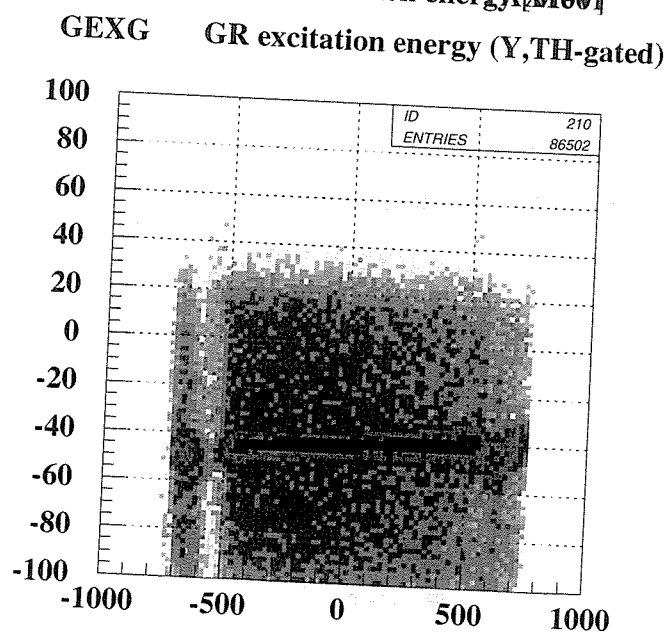
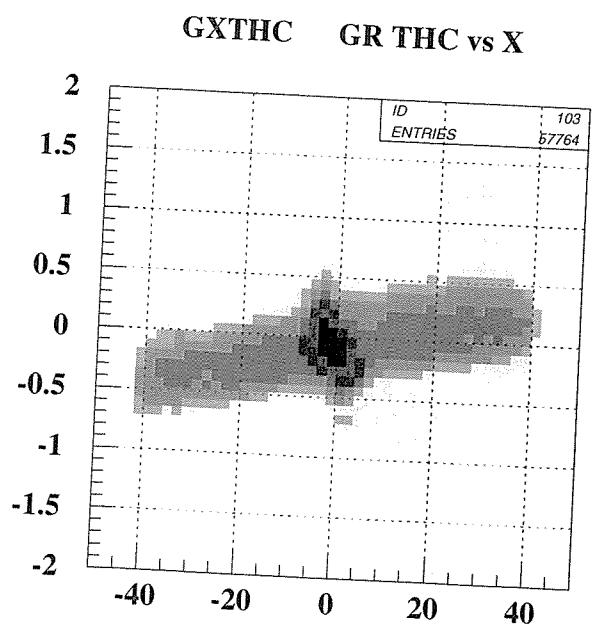
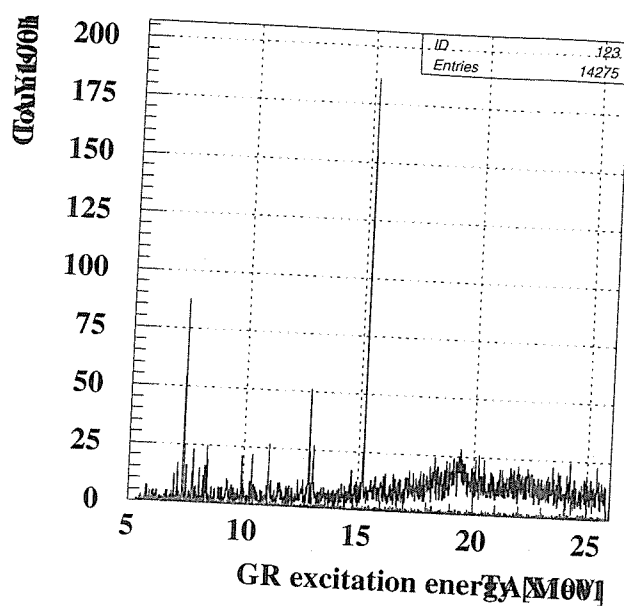
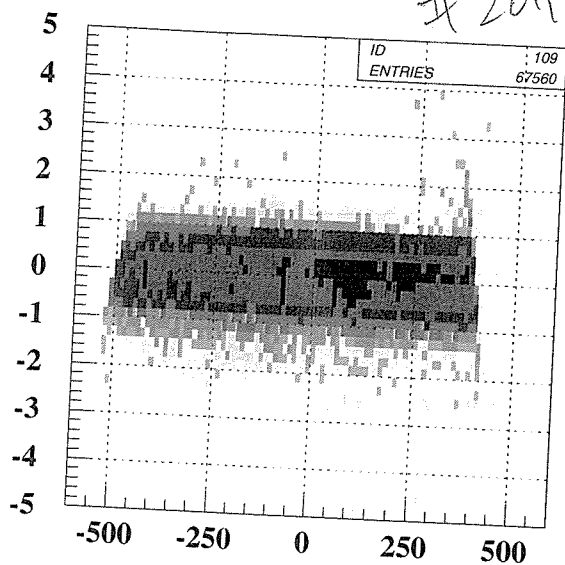
(SCFC の値が 1.732V??)

Q1 live time は LAS の値 ± に GR の値が近づくように。

～ 手直し中。

2007/11/28 06.23

#2094



GYPH GR Phi vs Y

LXY LAS Y vs X

Area 037 → trig setup 7 1/2.

LAS to ~~the~~ sampling 1: 832 LF=4V
1/2. 10/18/07

LAS sampling 10 1/1 at 8.

Run# 2075 Comment 36Ar, 6deg, disp SCFC=1.732
 Date 11 / 28 Target Slit = 10x20 mm ~~Dis = 1/2 #2~~
 Start 6:25 - 6:28 6:32 ☐ ²⁰Ne inela or elast
 Stop : ☒ ³⁶Ar inela or elast
 GR angle 6 deg ☐ CO2 inela or elast
 Beam current 8.8 nA ☐ Empty inela or elast
 C.I. range 20 nA ☐ ²⁸Si 2.22 (1.86) mg/cm²
☐ mg/cm²

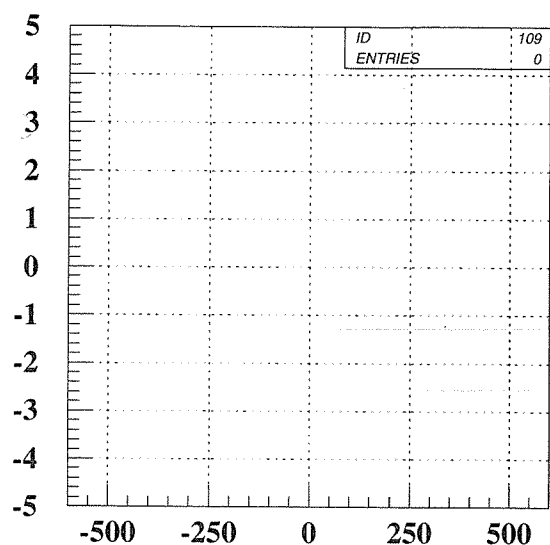
VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. 1.732 V
 Gas cell Temp 27.3 deg Press 1.027 atm thickness 1.5 mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

Rate			Rate		
0	Beam Intensity	8.312 nA	0	BLP CLK req :	9.903 kcps
1	GR event request	1.027 kcps	1	BLP CLK live :	9.903 kcps
2	GR event live	0.901 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	3.291 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	2.876 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.904 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.707 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	0.900 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	0.900 kcps	8	Beam Monitor1 :	1.027 kcps
9	LAS Single	2.872 kcps	9	Beam Monitor2 :	0.901 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.000 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.773 kcps	12	GR scinti.2 :	100.689 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.773 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

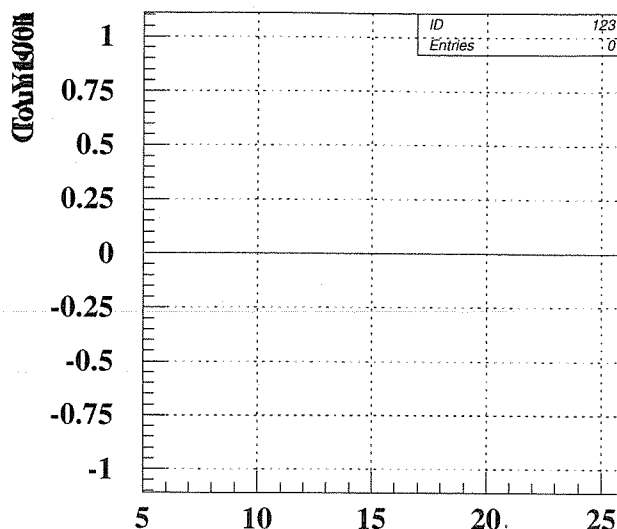
Trig.(GR) live : 87.691 percent
 Trig.(LAS) live : 87.399 percent
 Clock live : 87.916 percent

RUN NUM 2075 B.I. Range 20 nA
 RUN START 2007-Nov-28 06:32:15
 NOW 2007-Nov-28 06:34:49
 scaler 1 ch Scal
 ^ 00000 000

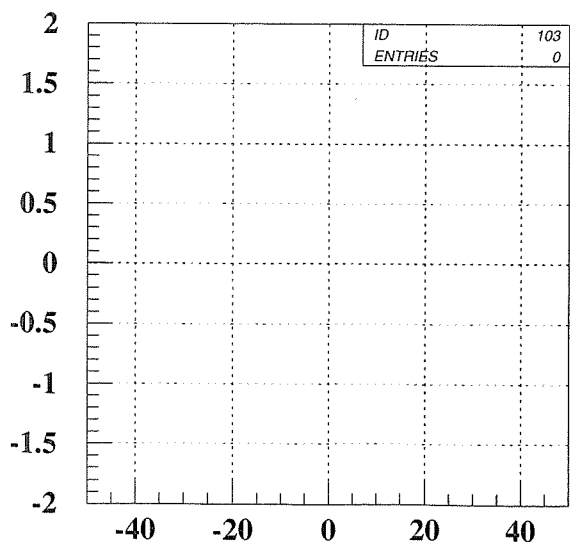
2007/11/28 07.27



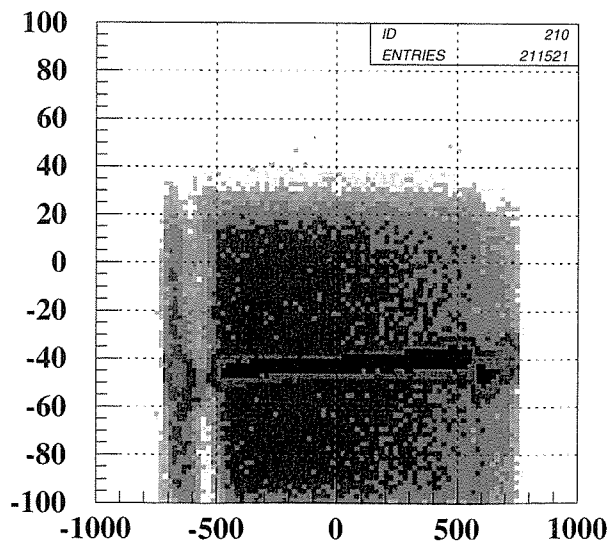
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y

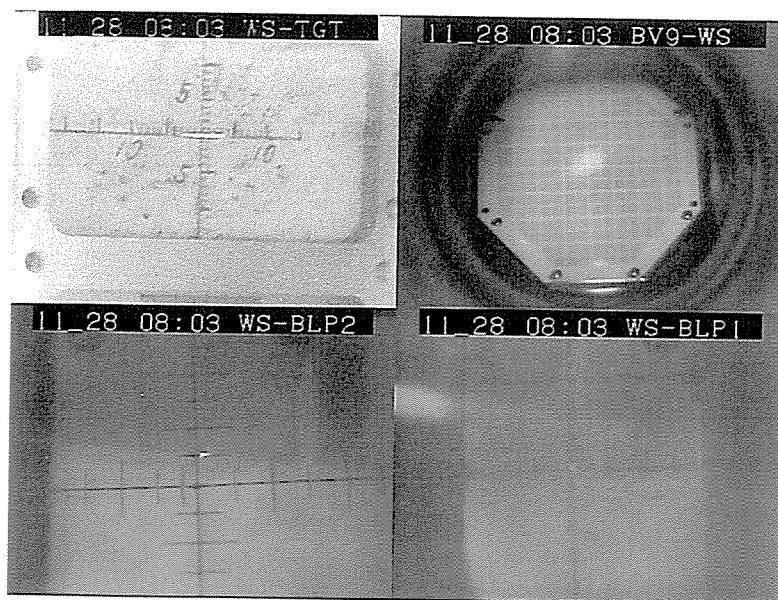


LXY LAS Y vs X

ヒストグラム
ファイルが
壊れた(?)

ヒストグラムファイルが壊れた(?) ためか、GR関連のヒストグラム
空になった。GRVDCのヒストグラムは表示されるのでデータは
生きているはず。→ プライマーを立ち上げて直したら、正常に
直った。
(しかし、印刷するのを忘れた)

軸出し... 完了.



Run# 2076 Comment ^{28}Si 2.22 mg/cm² 0deg disp SCFC

Date 11 / 28 Target slit = 10 × 20 mm # 1

Start 8 : 08 ☐ ^{20}Ne inela or elast

Stop 9 : 35 ☐ ^{36}Ar inela or elast

GR angle 8 deg ☐ CO_2 inela or elast

Beam current 10 nA ☐ Empty inela or elast

C.I. range 20 nA ☒ ^{28}Si 2.22 (1.86) mg/cm²

☐ _____ mg/cm² 1.715

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. 1.715 V

Gas cell Temp _____ deg Press _____ atm thickness _____ mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

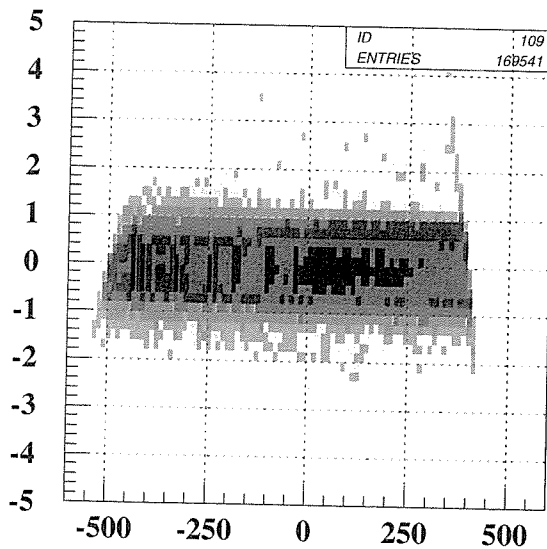
0	Beam Intensity	10.174 nA	0	BLP CLK req	: 9.903 kcps
1	GR event request	1.443 kcps	1	BLP CLK live	: 9.903 kcps
2	GR event live	1.199 kcps	2	BLP Trig req	: 0.000 kcps
3	LAS eventRequest	5.445 kcps	3	BLP Trig live	: 0.000 kcps
4	LAS event live	4.470 kcps	4	Akimune UP	: 0.000 kcps
5	GR clock request	9.904 kcps	5	Akimune Down	: 0.000 kcps
6	GR clock live	8.098 kcps	6	Akimune Left	: 0.000 kcps
7	GR Single	1.197 kcps	7	Akimune Right	: 0.000 kcps
8	GR Single Sample	1.197 kcps	8	Beam Monitor1	: 1.443 kcps
9	LAS Single	4.464 kcps	9	Beam Monitor2	: 1.199 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3	: 0.000 kcps
11	GR & LAS COIN	0.000 kcps	11	GR scinti.1	: 0.000 kcps
12	ALL accept Event	5.662 kcps	12	GR scinti.2	: 125.872 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	: 0.000 kcps
14	GR3377stop(TEND)	5.662 kcps	14		: 0.000 kcps
15	LAS-reject	0.000 kcps	15		: 0.000 kcps

Trig.(GR) live : 83.084 percent
 Trig.(LAS) live : 82.088 percent
 Clock live : 81.770 percent

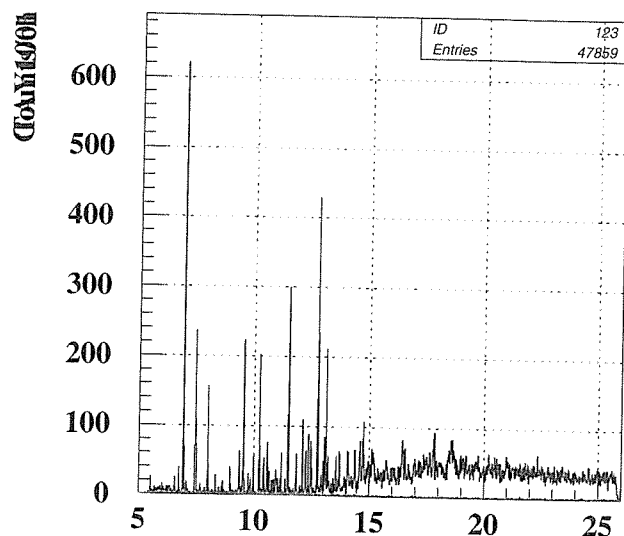
RUN NUM 2076 B.I. Range 20 nA
 RUN START 2007-Nov-28 08:06:57
 NOW 2007-Nov-28 08:08:30

2076

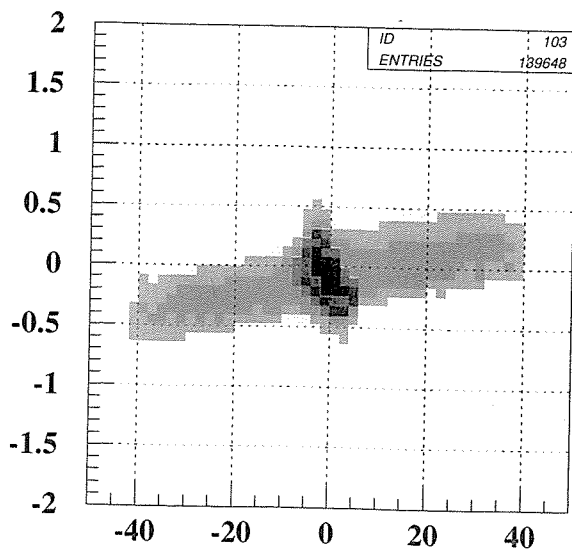
2007/11/28 09.36



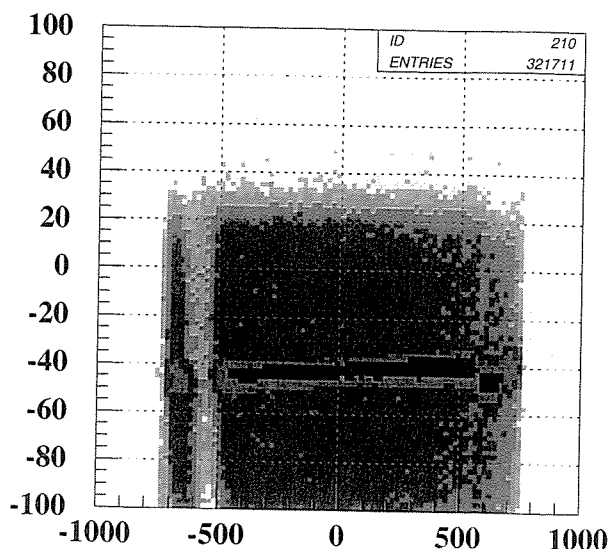
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

#2076 の開始後 約14分後 (8:22) が、BLPの rawdata が
ファイルに落ちていなかったことに気付く。 scaler データは残っているため
解析に使えると思われる。

ILP DAG 復旧
のため

① frc 02 にて、blp init を実行する → 効果なし

② 西実験室に入室、HSMの "enable Acquisition" ランプが消えている。 xdaqmcp の
"daq init"
を実行した。
回復した。

(次のページ)

Run# 2077

Comment 36Ar 8deg disp SFC=1.715

Date 11 / 28

Start 9:43 10:10

Stop :

GR angle 8 deg

Beam current 9 nA

C.I. range 20 nA

Target slit = 10x20mm #1

☐ ²⁰Ne inela or elast

☒ ³⁶Ar inela or elast

☐ CO2 inela or elast

☐ Empty inela or elast

☐ ²⁸Si 2.22 (1.86) mg/cm²

☐ mg/cm²

③ frc 02 上で
必要なプロセ
が停止して
たためと考
えら

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. 1.715 V

Gas cell Temp 27.14 deg Press 1.023 atm thickness 1.5 mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

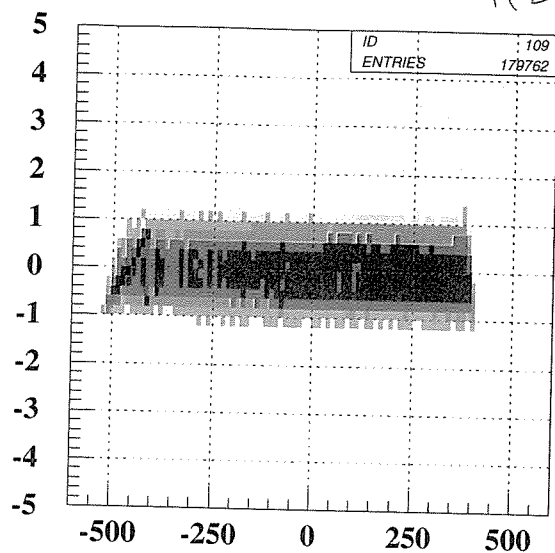
rate			rates		
0	Beam Intensity	9.703 nA	0	BLP CLK req	9.904 kcps
1	GR event request	1.345 kcps	1	BLP CLK live	9.903 kcps
2	GR event live	1.104 kcps	2	BLP Trig req	0.000 kcps
3	LAS eventRequest	5.111 kcps	3	BLP Trig live	0.000 kcps
4	LAS event live	4.208 kcps	4	Akimune UP	0.000 kcps
5	GR clock request	9.904 kcps	5	Akimune Down	0.000 kcps
6	GR clock live	8.209 kcps	6	Akimune Left	0.000 kcps
7	GR Single	1.101 kcps	7	Akimune Right	0.000 kcps
8	GR Single Sample	1.101 kcps	8	Beam Monitor1	1.345 kcps
9	LAS Single	4.201 kcps	9	Beam Monitor2	1.104 kcps
10	LAS SingleSample	0.002 kcps	10	Beam Monitor3	0.000 kcps
11	GR & LAS COIN	0.004 kcps	11	GR scinti.1	0.000 kcps
12	ALL accept Event	5.305 kcps	12	GR scinti.2	119.166 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	0.000 kcps
14	GR3377stop(TEND)	5.305 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 82.070 percent
Trig.(LAS) live : 82.336 percent
Clock live : 82.880 percent

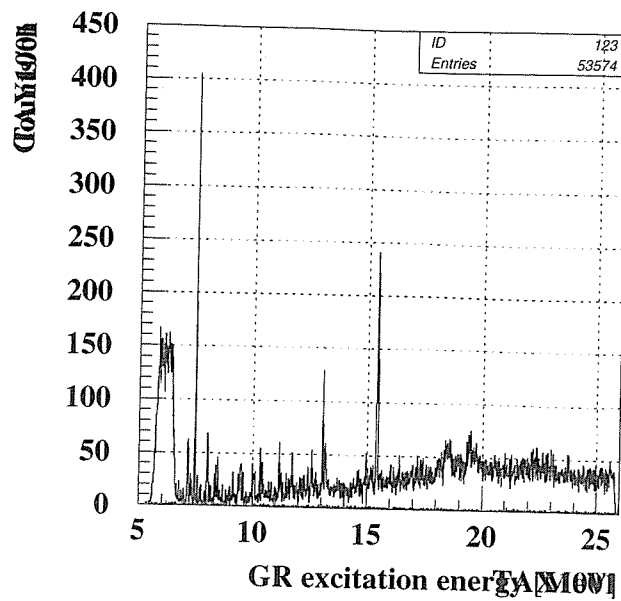
RUN NUM 2077 B.I. Range 20 nA
RUN START 2007-Nov-28 10:08:27
NOW 2007-Nov-28 10:09:58
scaler 0 ch Scal

2007/11/28 11.09

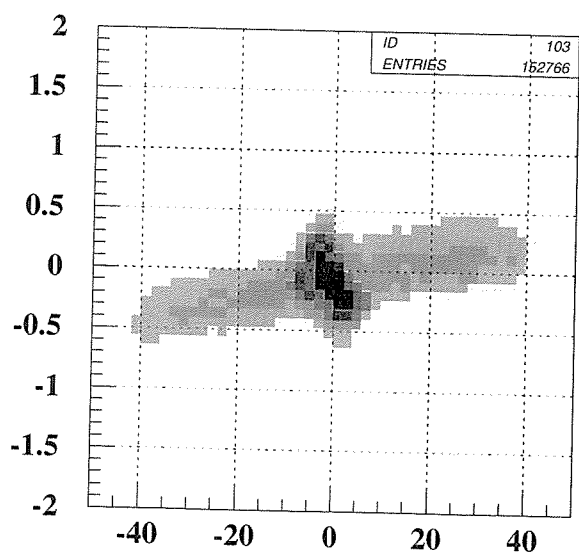
#2077



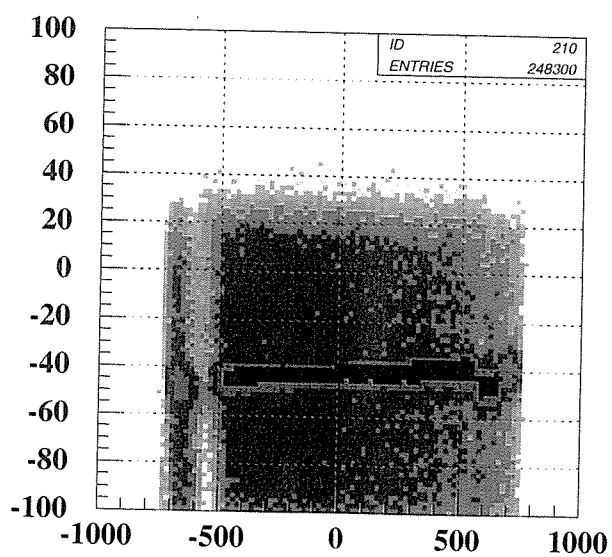
GXTHC GR THC vs X



GEXG GR excitation energy (Y, TH-gated)

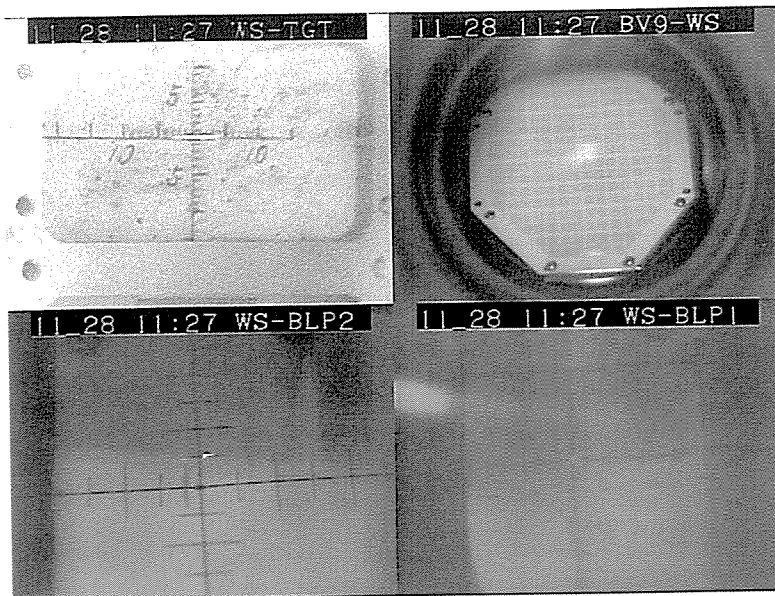


GYPH GR Phi vs Y



LXY LAS Y vs X

11:15 西入位 GR $f_0 \rightarrow 10^6$



Run# 2078 Comment 28 Si 2.22 mg/cm^2 10° disp sl:c
10x20 μm
 Date 11 / 28 Target
 Start 11 : 31 ☐ ^{20}Ne inela or elast
 Stop : ☐ ^{36}Ar inela or elast
 GR angle 10 deg ☐ CO_2 inela or elast
 Beam current 9.6 nA ☐ Empty inela or elast
 C.I. range 200 ~~20~~ nA ☒ ^{28}Si 2.22 (1.86) mg/cm^2
☐ mg/cm^2

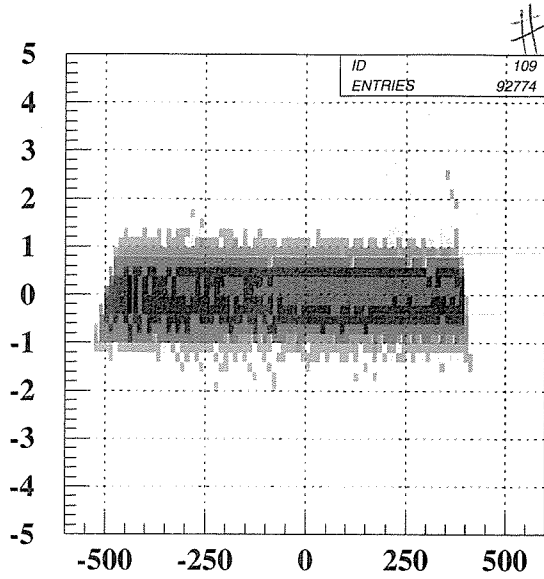
VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☐ SC rot. 1.657 V
 Gas cell Temp : deg Press : atm thickness : mg/cm^2
 Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1		rate3			
0	Beam Intensity	10.050 nA	0	BLP CLK req :	9.767 kcps
1	GR event request	1.262 kcps	1	BLP CLK live :	9.766 kcps
2	GR event live	0.990 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	6.210 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	4.943 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.767 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	7.671 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	0.989 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	0.989 kcps	8	Beam Monitor1 :	1.262 kcps
9	LAS Single	4.938 kcps	9	Beam Monitor2 :	0.990 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.000 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	5.928 kcps	12	GR scinti.2 :	118.206 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	5.928 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

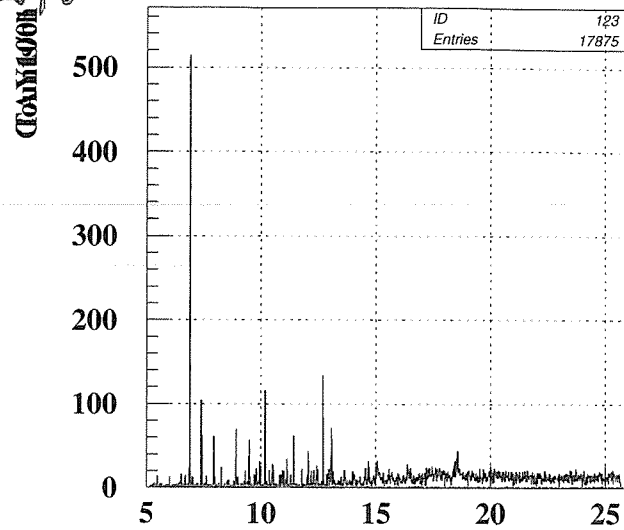
Trig.(GR) live : 78.478 percent
Trig.(LAS) live : 79.585 percent
Clock live : 78.546 percent

scaler down
RUN NUM 2078 B.I. Range 20 nA
RUN START 2007-Nov-28 11:31:42
NOW 2007-Nov-28 11:33:31
scaler 0 ch Scal 1

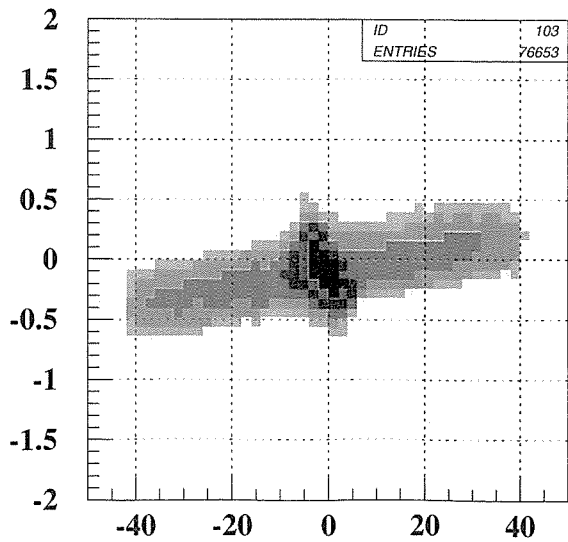
2007/11/28 12.28



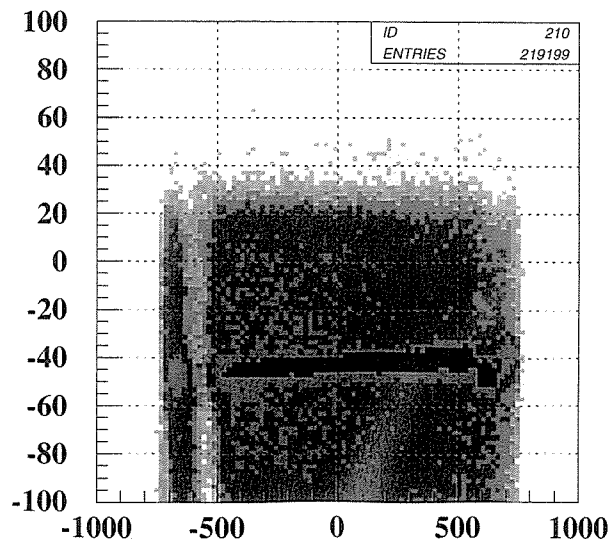
GXTHC GR THC vs X



GEXG GR excitation energy (Y, TH-gated)



GYPH GR Phi vs Y

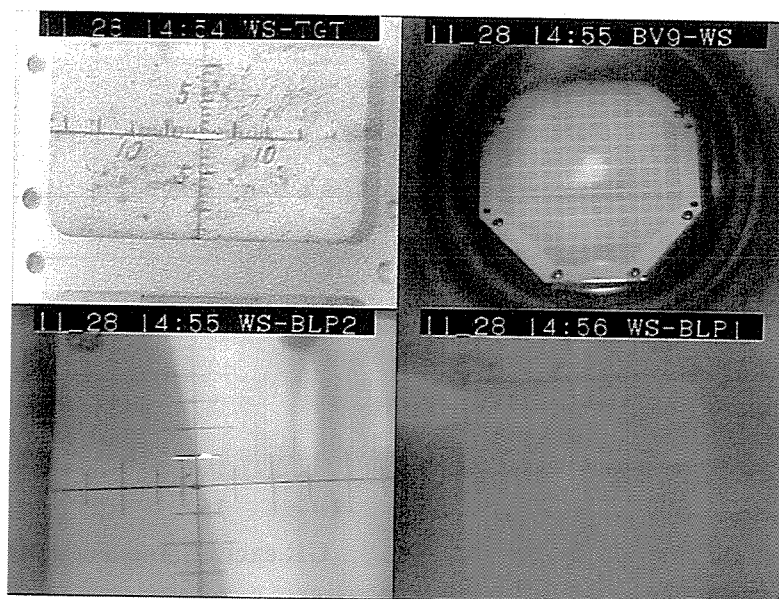


LXY LAS Y vs X

見学のため 12:30 - 14:00 beam stop

14:00 Arc 037⁺ trig setup 1st Las sampling 1/1 → 1/2 1.

4:25 e⁺-u⁺ 西へ通す.



軸出し OK.

Run# 2079 Comment ^{36}Ar 10 deg disp slit = 10 × 20 mr
 Date 11 / 28 Target #1
 Start 15 : 02 ☐ ^{20}Ne inela or elast
 Stop : ☒ ^{36}Ar inela or elast
 GR angle 10 deg ☐ CO_2 inela or elast
 Beam current 9.4 nA ☐ Empty inela or elast
 C.I. range 20 nA ☐ ^{28}Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. 1.657 V
 Gas cell Temp 27.0 deg Press 1.023 atm thickness 1.49 mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

Rate			Rates		
0	Beam Intensity	7.783 nA	0	BLP CLK req	9.904 kcps
1	GR event request	0.927 kcps	1	BLP CLK live	9.905 kcps
2	GR event live	0.853 kcps	2	BLP Trig req	0.000 kcps
3	LAS eventRequest	3.581 kcps	3	BLP Trig live	0.000 kcps
4	LAS event live	3.288 kcps	4	Akimune UP	0.000 kcps
5	GR clock request	9.905 kcps	5	Akimune Down	0.000 kcps
6	GR clock live	9.113 kcps	6	Akimune Left	0.000 kcps
7	GR Single	0.853 kcps	7	Akimune Right	0.000 kcps
8	GR Single Sample	0.853 kcps	8	Beam Monitor1	0.927 kcps
9	LAS Single	3.287 kcps	9	Beam Monitor2	0.853 kcps
10	LAS SingleSample	0.002 kcps	10	Beam Monitor3	0.000 kcps
11	GR & LAS COIN	0.000 kcps	11	GR scinti.1	0.000 kcps
12	ALL accept Event	2.497 kcps	12	GR scinti.2	90.648 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	0.000 kcps
14	GR3377stop(TEND)	2.497 kcps	14		0.000 kcps
15	LAS-reject	0.000 kcps	15		0.000 kcps

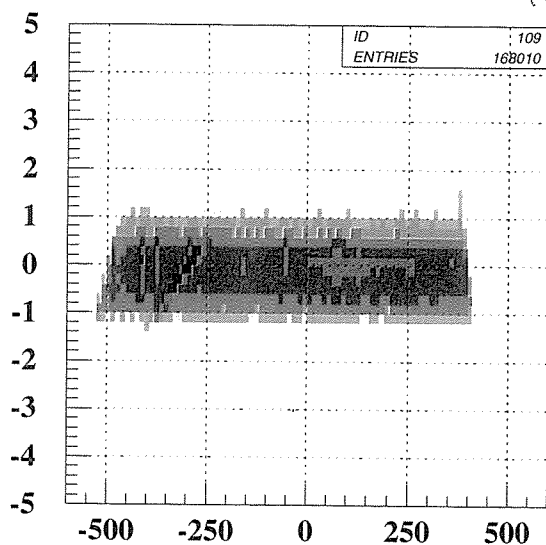
Trig.(GR) live : 91.966 percent
 Trig.(LAS) live : 91.815 percent
 Clock live : 92.003 percent

RUN NUM 2079 B.I. Range 20 nA
 RUN START 2007-Nov-28 15:02:33
 NOW 2007-Nov-28 15:05:31
 scaler 1 ch Scal 1

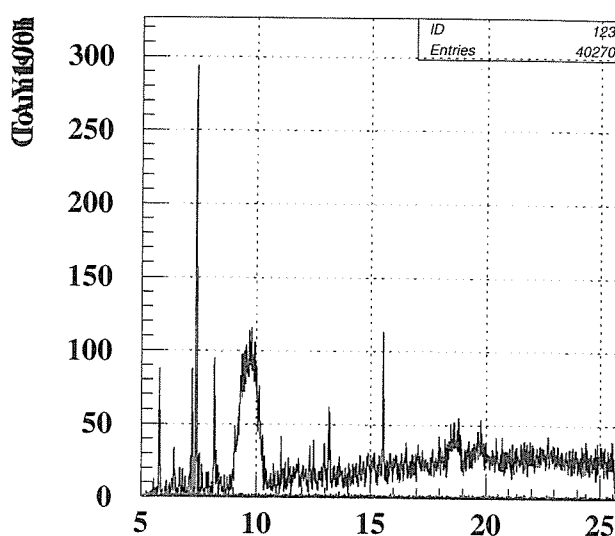
2015. GR x 19.15ch 加算

2007/11/28 16.02

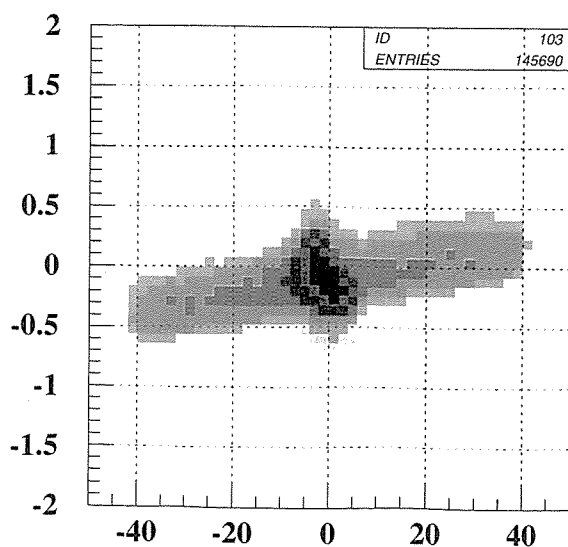
#2079



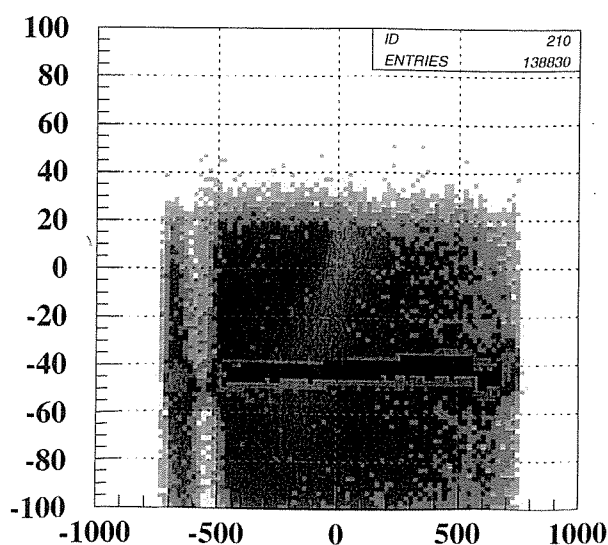
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)

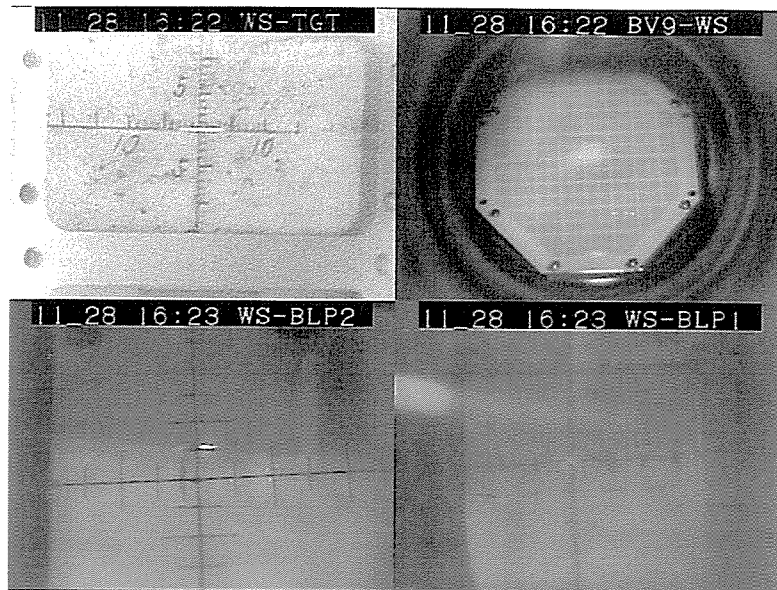


GYPH GR Phi vs Y



LXY LAS Y vs X

16:00 GR 10° → 12°



軸出し-

run 2080 終了後、^{Ar}CO₂に connection refused となる

→ deg map 1 deg 立ち上げ直した
Go

Run# 2080 Comment ²⁸Si 12deg disp. slit 10x20mm LAS samp 1/2

Date 11 / 28

Start 16 : 27

Stop :

GR angle 12 deg

Beam current 10.55 nA

C.I. range 20 nA

Target

☐ ²⁰Ne inela or elast

☐ ³⁶Ar inela or elast

☐ CO₂ inela or elast

☐ Empty inela or elast

☒ ²⁸Si 2.22 (1.86) mg/cm²

☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☐ SC rot. 1.657 V

Gas cell Temp deg Press atm thickness mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

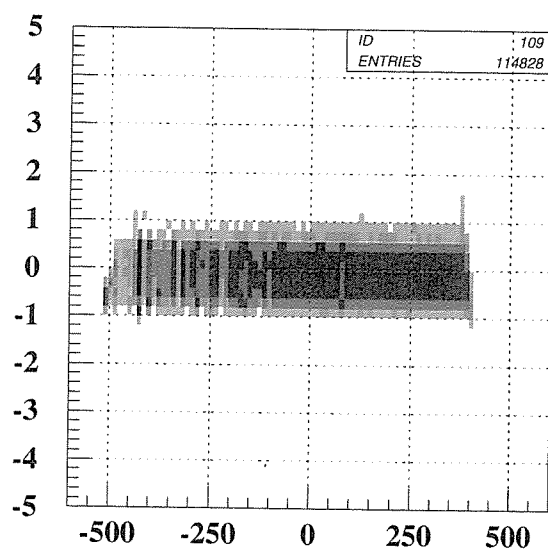
0	Beam Intensity	10.063 nA	0	BLP CLK req	9.594 kcps
1	GR event request	1.321 kcps	1	BLP CLK live	9.594 kcps
2	GR event live	1.150 kcps	2	BLP Trig req	0.000 kcps
3	LAS eventRequest	6.342 kcps	3	BLP Trig live	0.000 kcps
4	LAS event live	5.510 kcps	4	Akimune UP	0.000 kcps
5	GR clock request	9.594 kcps	5	Akimune Down	0.000 kcps
6	GR clock live	8.347 kcps	6	Akimune Left	0.000 kcps
7	GR Single	1.147 kcps	7	Akimune Right	0.000 kcps
8	GR Single Sample	1.147 kcps	8	Beam Monitor1	1.321 kcps
9	LAS Single	5.507 kcps	9	Beam Monitor2	1.150 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3	0.000 kcps
11	GR & LAS COIN	0.004 kcps	11	GR scinti.1	0.000 kcps
12	ALL accept Event	3.904 kcps	12	GR scinti.2	119.037 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	0.000 kcps
14	GR3377stop(TEND)	3.903 kcps	14		0.000 kcps
15	LAS-reject	0.000 kcps	15		0.000 kcps

Trig.(GR) live : 86.997 percent
 Trig.(LAS) live : 86.873 percent
 Clock live : 87.008 percent

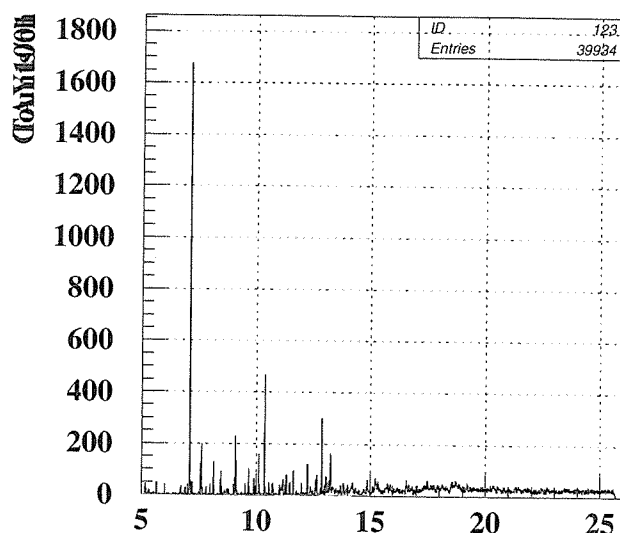
RUN NUM 2080 B.I. Range 20 nA
 RUN START 2007-Nov-28 16:27:46
 NOW 2007-Nov-28 16:29:41
 scaler 1 ch Scal 1

#2081

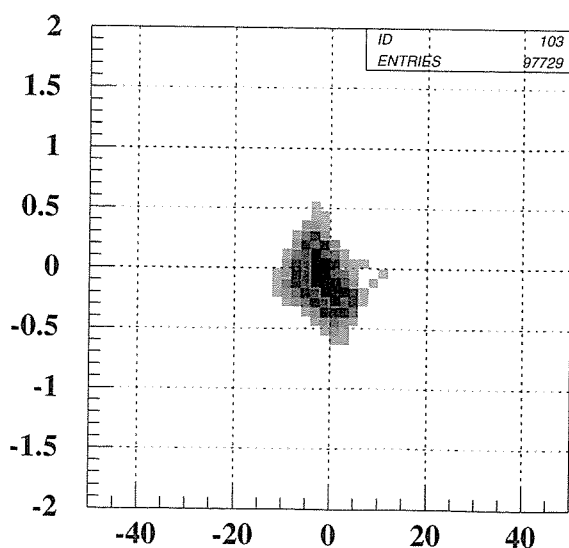
2007/11/28 17.27



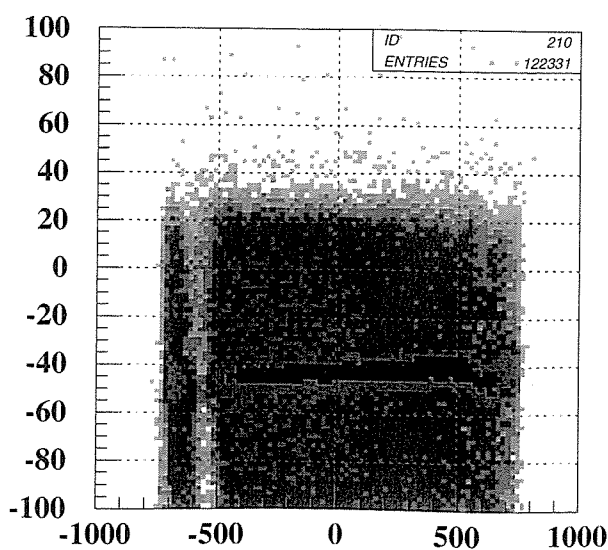
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

Run# 2081 Comment ^{36}Ar 12deg disp slit 10*20 mm LAS ramp 1/2

Date 11 / 28

Start 12 : 31

Stop :

GR angle /2 deg

Beam current 9.6 nA

C.I. range 20 nA

Target

☐ ^{20}Ne inela or elast

☒ ^{36}Ar inela or elast

☐ CO_2 inela or elast

☐ Empty inela or elast

☐ ^{28}Si 2.22 (1.86) mg/cm²

☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. / 657 V

Gas cell Temp 27 deg Press 1.024 atm thickness / 4906 mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

0	Beam Intensity	9.664 nA	0	BLP CLK req :	9.903 kcps
1	GR event request	1.265 kcps	1	BLP CLK live :	9.903 kcps
2	GR event live	1.111 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	5.900 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	5.219 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.903 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.718 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.111 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.111 kcps	8	Beam Monitor1 :	1.265 kcps
9	LAS Single	5.215 kcps	9	Beam Monitor2 :	1.111 kcps
10	LAS SingleSample	0.002 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.000 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.719 kcps	12	GR scinti.2 :	114.743 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.719 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 87.761 percent
 Trig.(LAS) live : 88.470 percent
 Clock live : 88.033 percent

Search up
 RUN NUM 2081 B.I. Range 20 nA
 RUN START 2007-Nov-28 17:31:44
 NOW 2007-Nov-28 17:34:47
 scaler 1 ch Scal

WS Magnet Controller

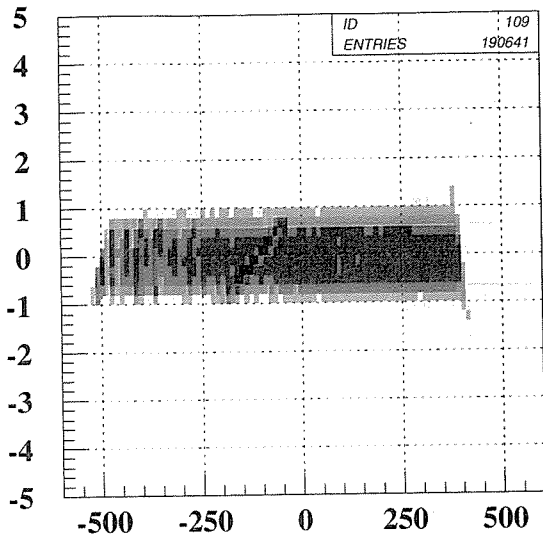
'07/11/28 18:16

WS/PIS

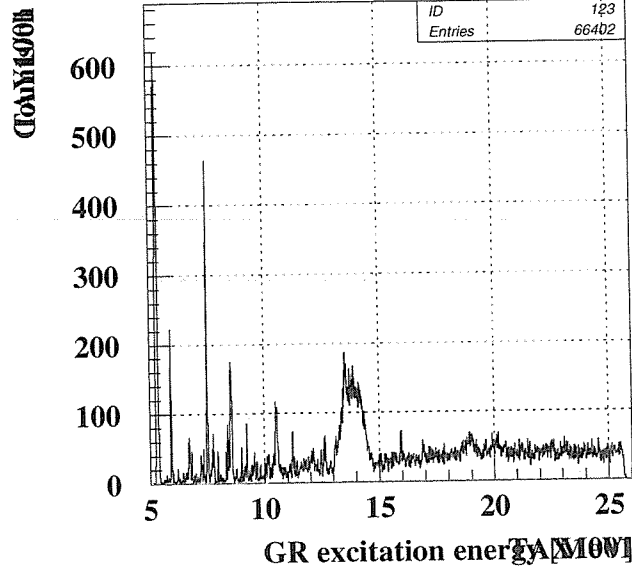
Magnet	Field(Preset/Actual)	Current(Preset/Actual)	Status	PS	NMR	FB
GR Q1	mT	90.30 A				
GR SX	mT	18.10 A				
GR Q2	mT	8.50 A				
GR MQ	mT	0.00 A				
GR MS	mT	0.00 A				
GR D1	868.963 mT	230.51 A				
GR D2	869.216 mT	433.63 A				
GR DSR	120.437 mT	13.54 A				
LAS Q	mT	217.70 A				
LAS D	-747.985 mT	280.30 A				
GR DQ1	mT	50 -0.00 A				
GR DQ2	mT	65.1 0.00 A				

2007/11/28 18.31

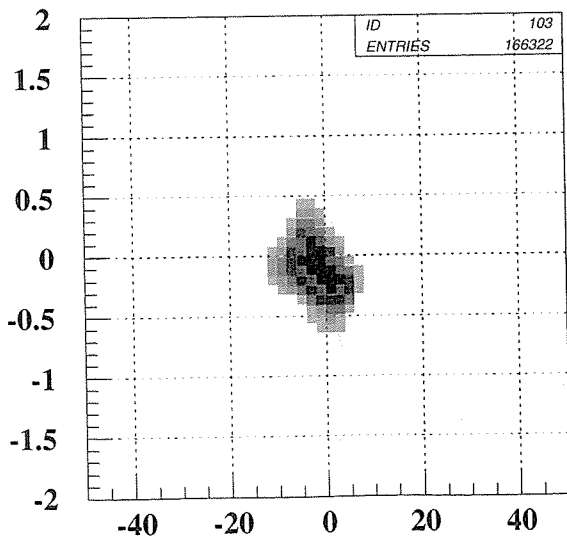
#20P1



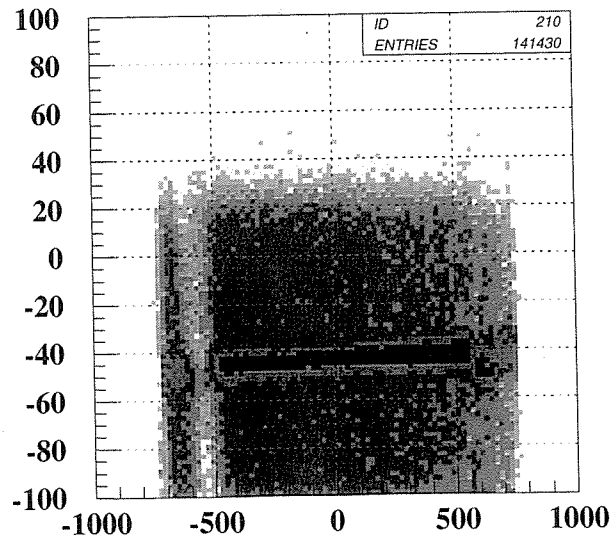
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



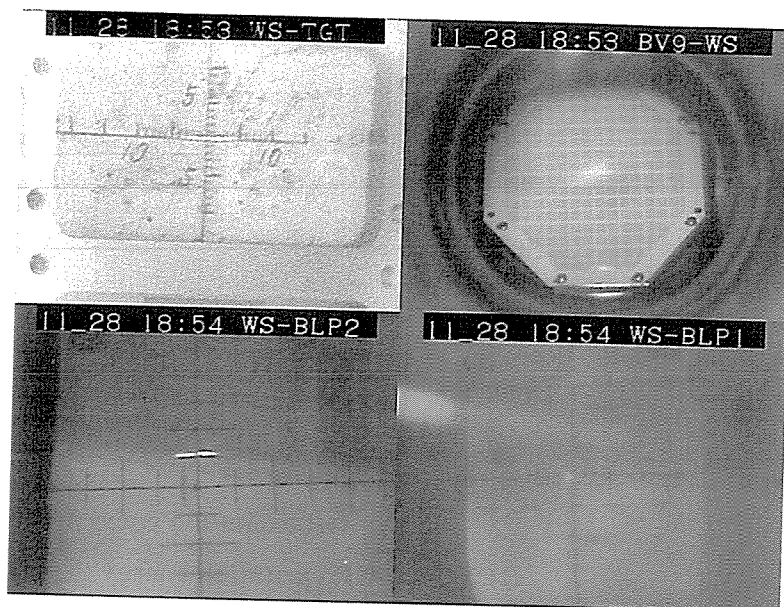
GYPH GR Phi vs Y



LXY LAS Y vs X

18:40 51. GR 12° → 14°

Beam spot check → alignment



Run# 2082 Comment ²⁸Si 14deg Disp collim.
10x20mm
 Date 11, 28 Target LAS simpl. 1/2
 Start 18:57 ☐ ²⁰Ne inela or elast
 Stop : ☒ ³⁶Ar inela or elast
 GR angle 14 deg ☐ CO2 inela or elast
 Beam current nA ☐ Empty inela or elast
 C.I. range 20 nA ☒ ²⁸Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. 1.657 V
 Gas cell Temp 27 deg Press 1.018 atm thickness 1.487 mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

run2082

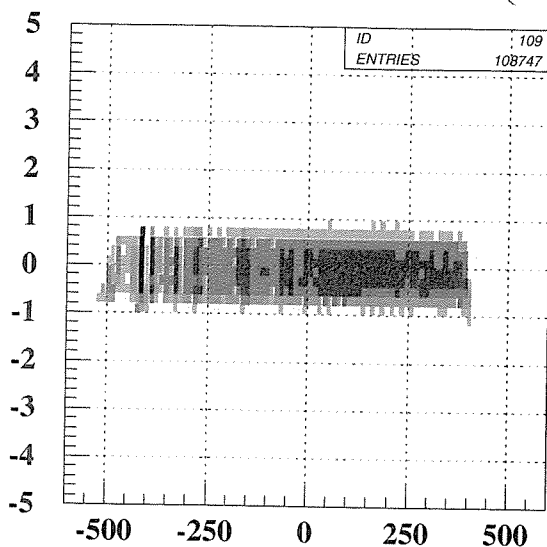
0	Beam Intensity	9.893 nA	0	BLP CLK req	: 9.915 kcps
1	GR event request	1.242 kcps	1	BLP CLK live	: 9.910 kcps
2	GR event live	1.078 kcps	2	BLP Trig req	: 0.017 kcps
3	LAS eventRequest	6.115 kcps	3	BLP Trig live	: 0.017 kcps
4	LAS event live	5.376 kcps	4	Akimune UP	: 0.000 kcps
5	GR clock request	9.916 kcps	5	Akimune Down	: 0.000 kcps
6	GR clock live	8.715 kcps	6	Akimune Left	: 0.000 kcps
7	GR Single	1.077 kcps	7	Akimune Right	: 0.000 kcps
8	GR Single Sample	1.077 kcps	8	Beam Monitor1	: 1.242 kcps
9	LAS Single	5.373 kcps	9	Beam Monitor2	: 1.078 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3	: 0.000 kcps
11	GR & LAS COIN	0.008 kcps	11	GR scinti.1	: 0.000 kcps
12	ALL accept Event	3.764 kcps	12	GR scinti.2	: 115.720 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	: 0.000 kcps
14	GR3377stop(TEND)	3.764 kcps	14		: 0.000 kcps
15	LAS-reject	0.000 kcps	15		: 0.000 kcps

Trig.(GR) live : 86.798 percent
 Trig.(LAS) live : 87.913 percent
 Clock live : 87.895 percent

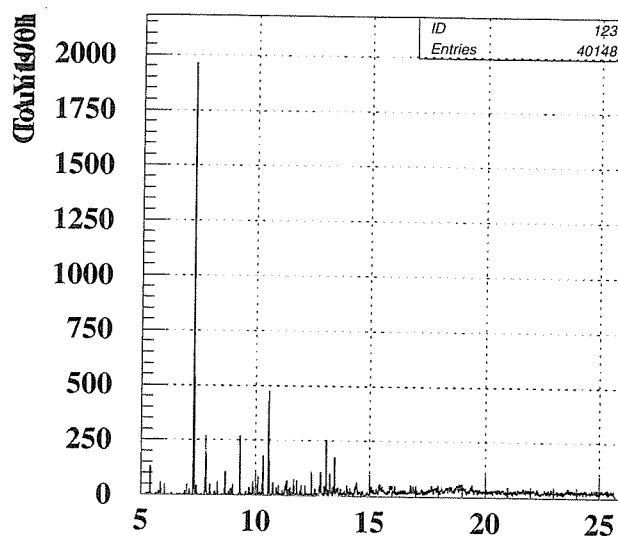
RUN NUM 2082 B.I. Range 20 nA
 RUN START 2007-Nov-28 18:57:10
 NOW 2007-Nov-28 18:58:11
 scaler 0 ch Sca1

2007/11/28 19.56

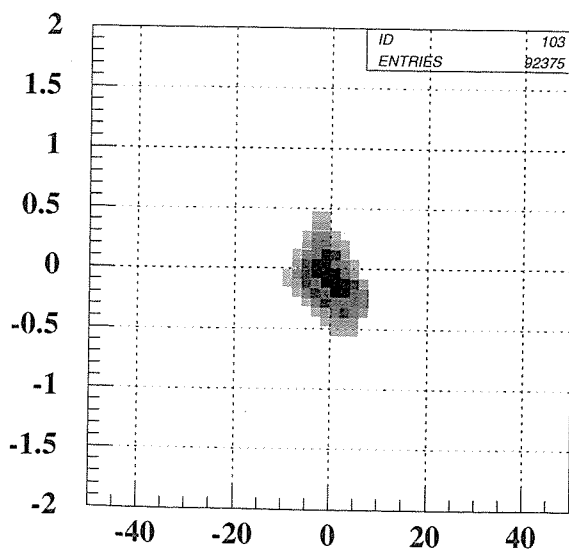
#2082



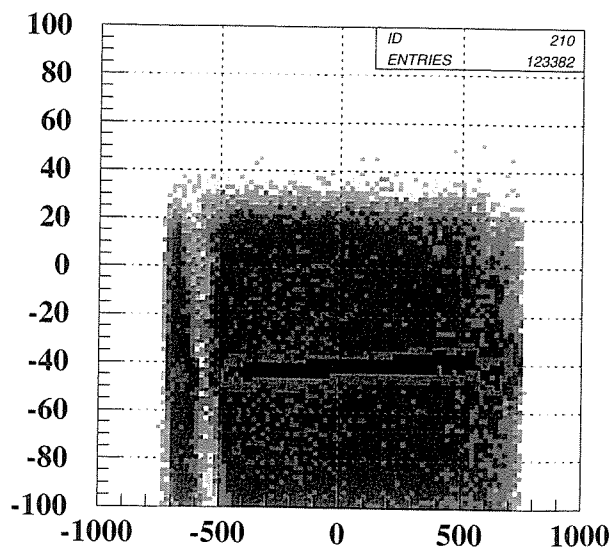
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

Run# 2083 Comment ^{36}Ar 14deg Disp 10x20_{mm} LAS samp. 1/2

Date 11 / 28
 Start 20 : 00
 Stop 21 : 00
 GR angle 14 deg
 Beam current 20 nA
 C.I. range 20 nA

Target
☐ ^{20}Ne inela or elast
☒ ^{36}Ar inela or elast
☐ CO_2 inela or elast
☐ Empty inela or elast
☐ ^{28}Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. 1.657 V
 Gas cell Temp 29 deg Press 1.017 atm thickness 1.486 mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

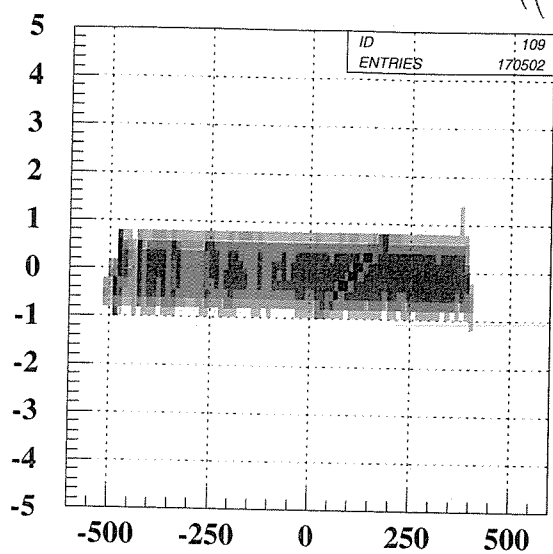
rate			rate		
0	Beam Intensity	9.605 nA	0	BLP CLK req :	9.903 kcps
1	GR event request	1.192 kcps	1	BLP CLK live :	9.903 kcps
2	GR event live	1.043 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	5.889 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	5.196 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.903 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.703 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.040 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.040 kcps	8	Beam Monitor1 :	1.192 kcps
9	LAS Single	5.191 kcps	9	Beam Monitor2 :	1.043 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.000 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.638 kcps	12	GR scinti.2 :	111.186 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.638 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 87.500 percent
Trig.(LAS) live : 88.232 percent
Clock live : 87.876 percent

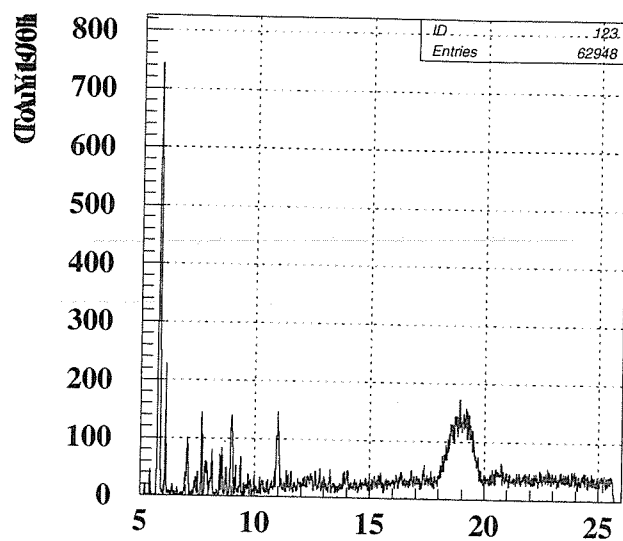
SEARCH DOWN
RUN NUM 2083 B.I. Range 20 nA
RUN START 2007-Nov-28 20:00:10
NOW 2007-Nov-28 20:00:56
scaler 0 ch Scal

2007/11/28 20.55

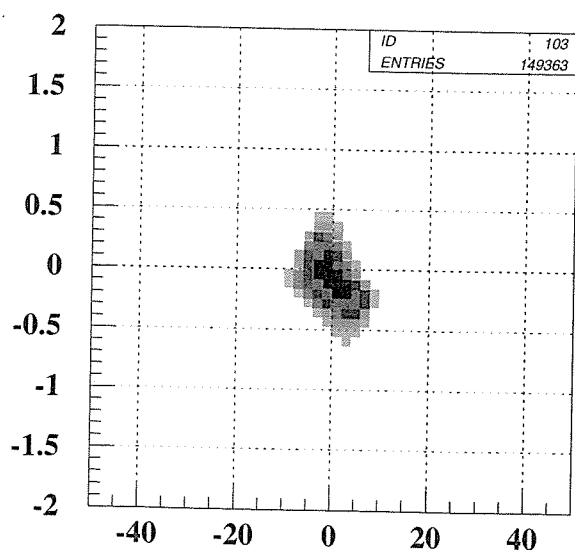
#20A3



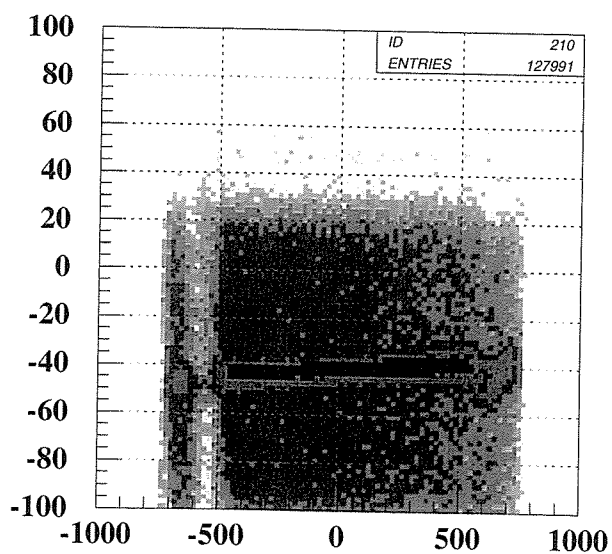
GXTHC GR THC vs X



GEXG GR excitation energy (Y, TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

Beam Transportation check. -

21:00
~~21:00~~

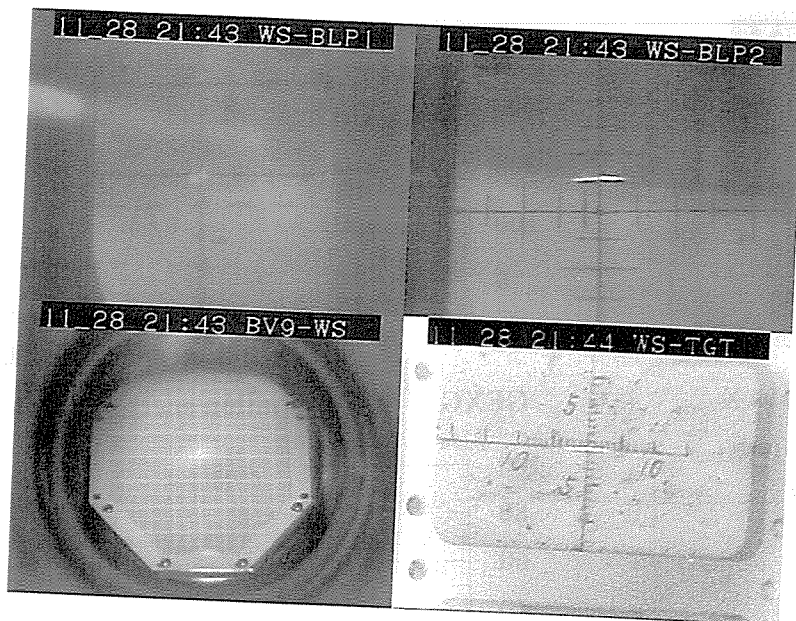
田実馬候室へ

76A_V

target empty (=LT=)

emptyにLT後21

Beam alignment ←



Alignment 21:43
BLP1上でビーム像を
中心にそろせて21:44

BLP1は点が2つあるように見えるが、

写真の左側にはビームの光は無いので、

1カメラが壊れている(?)

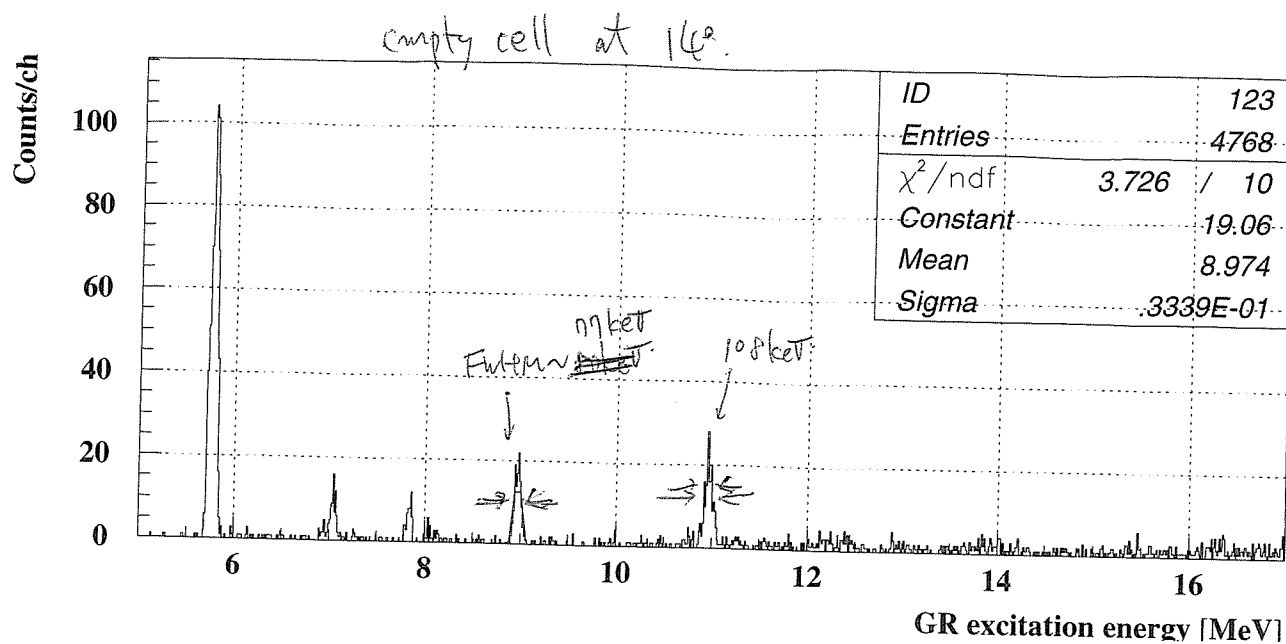
Run# 2084 Comment Empty 14deg LAS = 1/2 Gasup 10mr x 20mr #1
 Date 11/01/28 Target 915
 Start 21:48 ☐ ²⁰Ne inela or elast
 Stop : ☐ ³⁶Ar inela or elast
 GR angle 14 deg ☐ CO2 inela or elast
 Beam current nA ☒ Empty inela or elast
 C.I. range 9.5 nA ☐ ²⁸Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. 1.657 V
 Gas cell Temp 27.2 deg Press -3.83 * atm thickness -5.02 * mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1	rate2
0 Beam Intensity 9.587 nA	0 BLP CLK req : 9.955 kcps
1 GR event request 1.130 kcps	1 BLP CLK live : 9.955 kcps
2 GR event live 1.004 kcps	2 BLP Trig req : 0.000 kcps
3 LAS eventRequest 5.689 kcps	3 BLP Trig live : 0.000 kcps
4 LAS event live 5.089 kcps	4 Akimune UP : 0.000 kcps
5 GR clock request 9.903 kcps	5 Akimune Down : 0.000 kcps
6 GR clock live 8.771 kcps	6 Akimune Left : 0.000 kcps
7 GR Single 1.003 kcps	7 Akimune Right : 0.000 kcps
8 GR Single Sample 1.003 kcps	8 Beam Monitor1 : 1.158 kcps
9 LAS Single 5.087 kcps	9 Beam Monitor2 : 1.018 kcps
10 LAS SingleSample 0.000 kcps	10 Beam Monitor3 : 0.000 kcps
11 GR & LAS COIN 0.000 kcps	11 GR scinti.1 : 0.000 kcps
12 ALL accept Event 3.547 kcps	12 GR scinti.2 : 110.396 kcps
13 Reject event 0.000 kcps	13 GR X-hodo : 0.000 kcps
14 GR3377stop(TEND) 3.547 kcps	14 : 0.000 kcps
15 LAS-reject 0.000 kcps	15 : 0.000 kcps

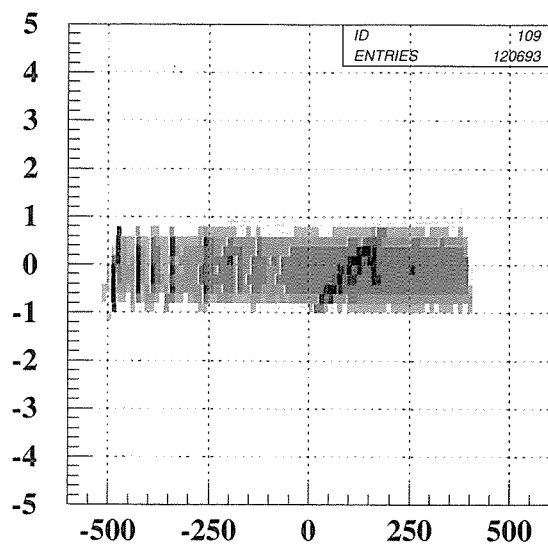
Trig.(GR) live : 88.812 percent	
Trig.(LAS) live : 89.456 percent	
Clock live : 88.568 percent	

Run#	2084	B.I. Range	20 nA
RUN START	2007-Nov-28	21:47:56	
NOW	2007-Nov-28	21:48:42	
Scaler	1 ch	Scal	

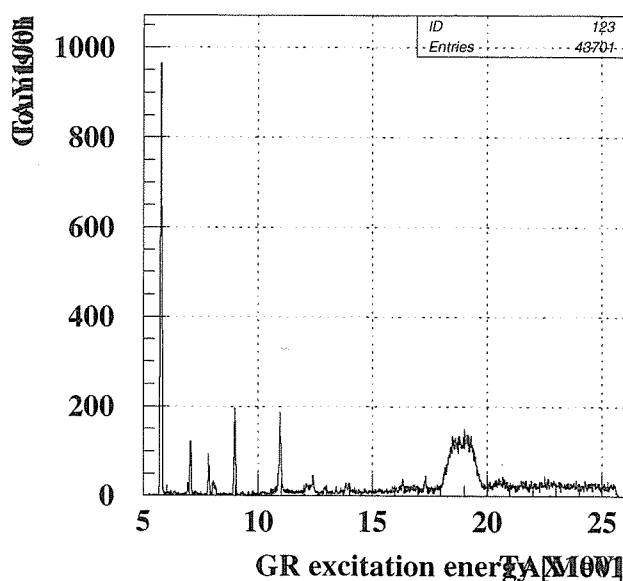


2007/11/28 22.43

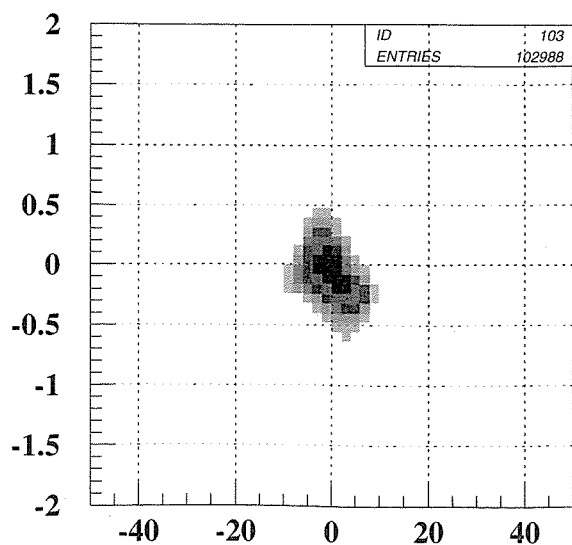
fl 20A4



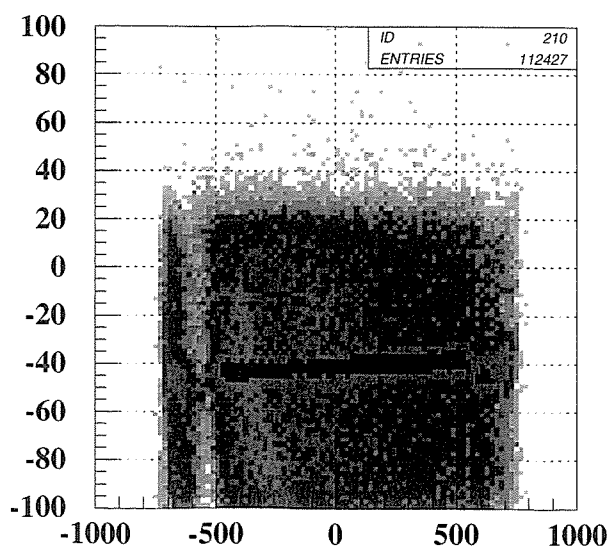
GXTHC GR THC vs X



GEXG GR excitation energy (Y, TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

13-00

西入入室

14° → 12°

#1

Run# 2085 Comment Empty 12 deg LAS = 1/2 samp 10µm x 20µm
 Date 11/28 Target 517
 Start 23 : 00 ☐ ²⁰Ne inela or elast
 Stop : ☐ ³⁶Ar inela or elast
 GR angle 12 deg ☐ CO₂ inela or elast
 Beam current ~~2.22~~ nA ☒ Empty inela or elast
 C.I. range 9.8 nA ☐ ²⁸Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. 1.657 V
 Gas cell Temp 27.3 deg Press -3.4 ^{*}10⁻³ atm thickness -4.14 ^{*}10⁻³ mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

rate		rates			
0	Beam Intensity	9.526 nA	0	BLP CLK req :	9.903 kcps
1	GR event request	1.160 kcps	1	BLP CLK live :	9.903 kcps
2	GR event live	1.017 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	5.660 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	4.972 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.903 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.787 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.016 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.016 kcps	8	Beam Monitor1 :	1.160 kcps
9	LAS Single	4.968 kcps	9	Beam Monitor2 :	1.017 kcps
10	LAS SingleSample	0.002 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.000 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.502 kcps	12	GR scinti.2 :	111.262 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.502 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

rig.(GR) live : 87.669 percent
rig.(LAS) live : 87.844 percent
lock live : 88.737 percent

scaler up
RUN NUM 2085 B.I. Range 20 nA
RUN START 2007-Nov-28 22:59:40
NOW 2007-Nov-28 23:00:16
scaler 1 ch Scal 4450

~~#2~~

1/29

0:05

西入入室

12° → 10°

WS/PIS

Magnet	Field(Preset Actual)	Current(Preset Actual)	Status	PS	NMR	FB
GR Q1	mT	90.30 A	☐	☐	☐	☐
GR SX	mT	18.10 A	☐	☐	☐	☐
GR Q2	mT	8.50 A	☐	☐	☐	☐
GR MQ	mT	0.00 A	☐	☐	☐	☐
GR MS	mT	0.00 A	☐	☐	☐	☐
GR D1	868.962 mT	230.51 A	☐	☐	☐	☐
GR D2	869.214 mT	433.63 A	☐	☐	☐	☐
GR DSR	120.436 mT	13.54 A	☐	☐	☐	☐
LAS Q	mT	217.70 A	☐	☐	☐	☐
LAS D	-747.987 mT	280.30 A	☐	☐	☐	☐
GR DQ1	mT	50 -0.00 A	☐	☐	☐	☐
GR DQ2	mT	65.1 0.00 A	☐	☐	☐	☐

Update

update Cycle 10 sec.

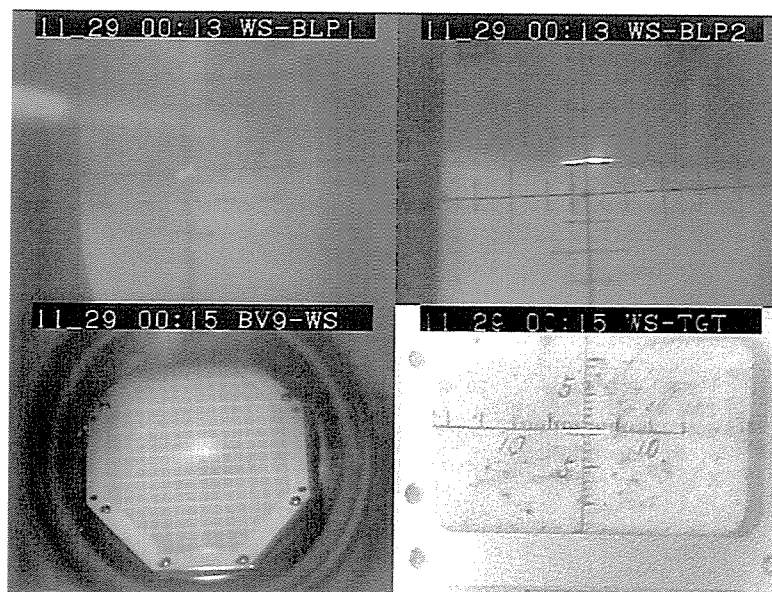
Hcopy

Queue acc3626

exit

0 = 10 スポット確認

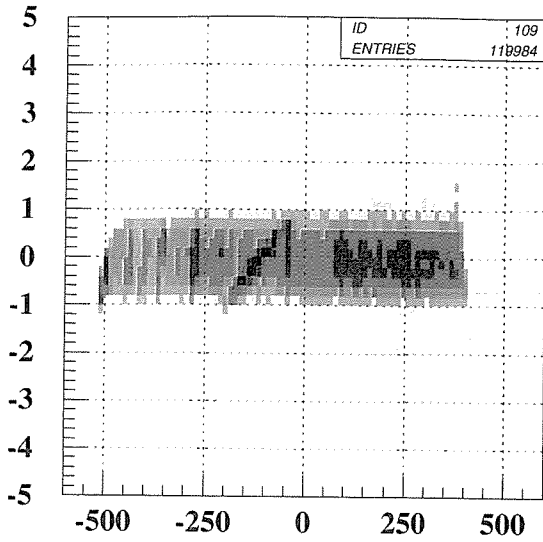
target でかしらへ 移した (上流から見)



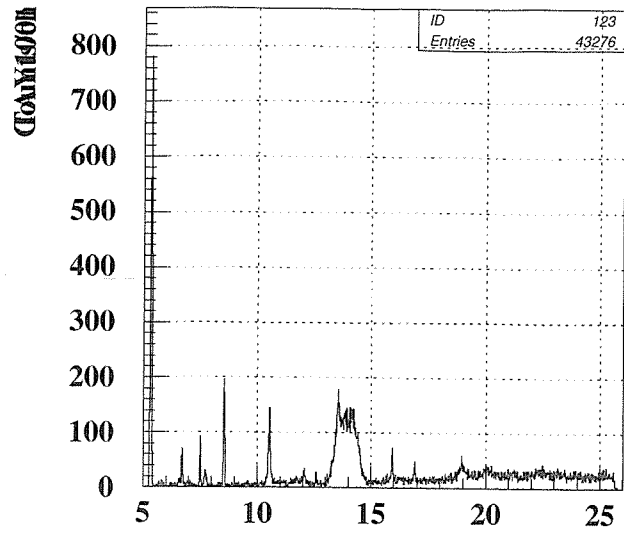
調整後

2007/11/29 00.18

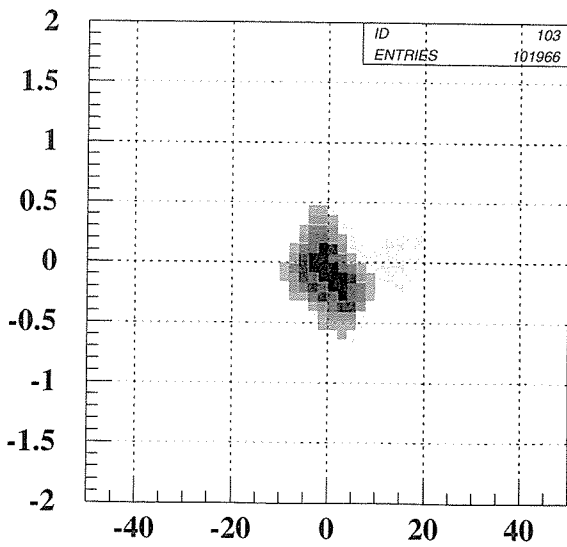
2085,



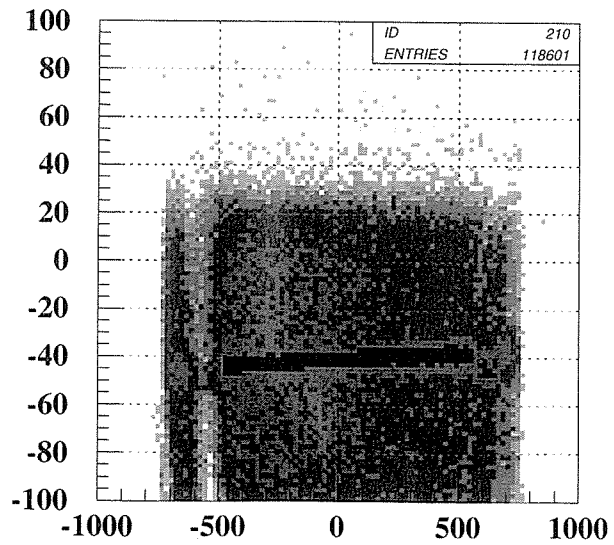
GXTHC GR THC vs X



GEXG GR excitation energy (Y, TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

Run# 2086 Comment Empty 10 deg LAS = 1/2 10 mm x 20 mm slit #1.
 Date 11 / 29
 Start 0 : 20
 Stop 1 : 20
 GR angle 10 deg
 Beam current nA
 C.I. range 9.8 nA

Target
☐ ²⁰Ne inela or elast
☐ ³⁶Ar inela or elast
☐ CO2 inela or elast
☒ Empty inela or elast
☐ ²⁸Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. 1657 V
 Gas cell Temp 27.5 deg Press -3.2e⁻³ atm thickness -2.6e⁻³ mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

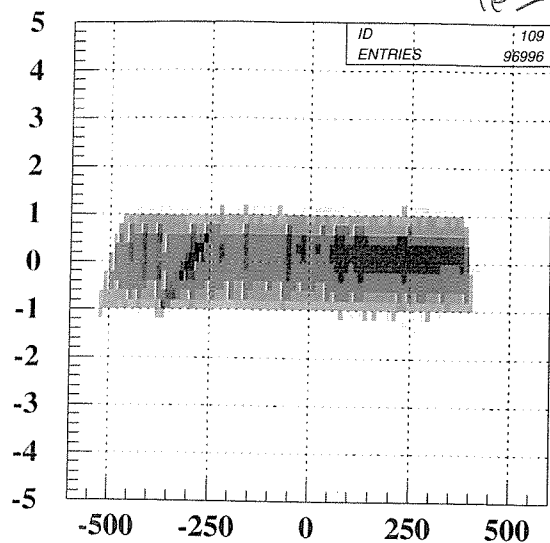
rate			rate		
0	Beam Intensity	9.065 nA	0	BLP CLK req :	9.892 kcps
1	GR event request	1.045 kcps	1	BLP CLK live :	9.891 kcps
2	GR event live	0.942 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	5.178 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	4.641 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.866 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.829 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	0.939 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	0.939 kcps	8	Beam Monitor1 :	1.068 kcps
9	LAS Single	4.636 kcps	9	Beam Monitor2 :	0.958 kcps
10	LAS SingleSample	0.004 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.000 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.260 kcps	12	GR scinti.2 :	107.310 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.260 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

(rig.(GR) live : 90.093 percent
 (rig.(LAS) live : 89.625 percent
 clock live : 89.485 percent

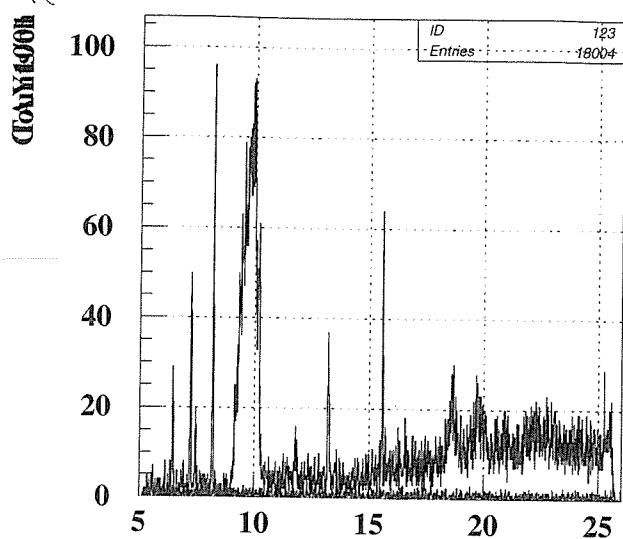
RUN NUM 2086 B.I. Range 20 nA
 RUN START 2007-Nov-29 00:19:39
 NOW 2007-Nov-29 00:20:26
 scaler 0 ch Scal

2007/11/29 01.19

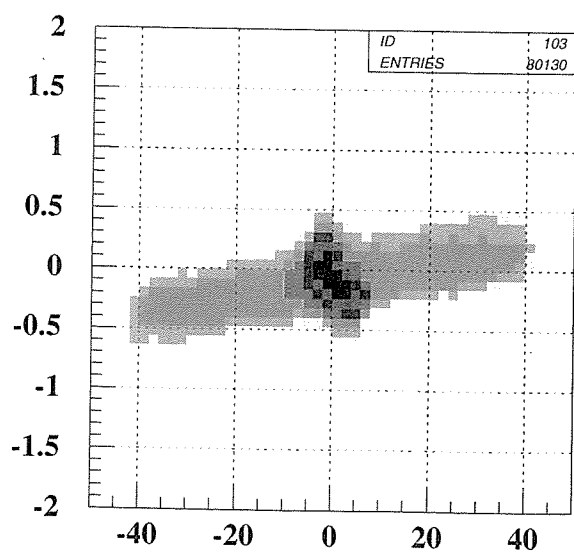
#2 #2086,



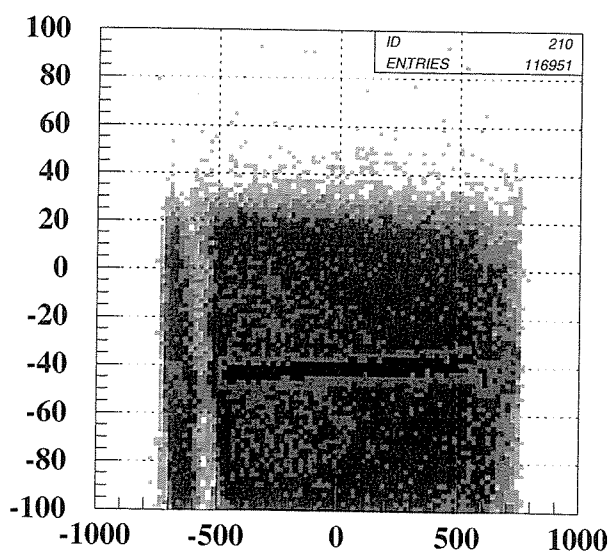
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

西 = 入空 GR 10° → 80

Run# 2087 Comment Empty cell ^{Ar} Las = 1/2 collim. 10x20 mm

Date 11 / 29
 Start 1 : 32
 Stop 2 : 32
 GR angle 8° deg
 Beam current 10 nA
 C.I. range 20 nA

Target
☐ ²⁰Ne inela or elast
☐ ³⁶Ar inela or elast
☐ CO₂ inela or elast
☒ Empty inela or elast
☐ ²⁸Si 2.22 (1.86) mg/cm²
☐ _____ mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. 1.715 V
 Gas cell Temp 27.5 deg Press -0.0014 atm thickness -0.0023 mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

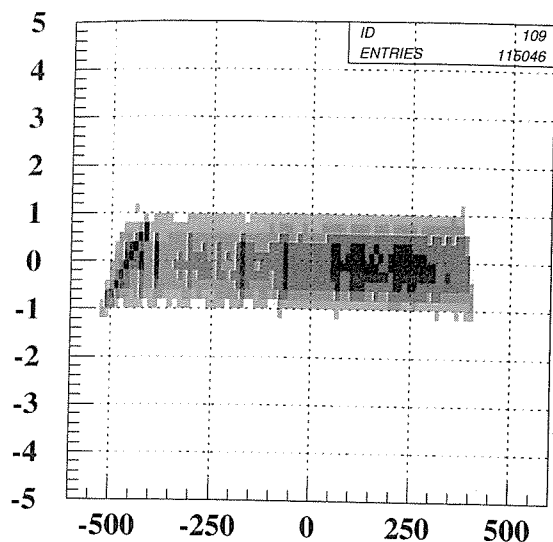
rate			rates		
0	Beam Intensity	8.861 nA	0	BLP CLK req :	9.903 kcps
1	GR event request	1.089 kcps	1	BLP CLK live :	9.904 kcps
2	GR event live	0.975 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	4.533 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	4.077 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.904 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.947 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	0.974 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	0.974 kcps	8	Beam Monitor1 :	1.089 kcps
9	LAS Single	4.076 kcps	9	Beam Monitor2 :	0.975 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.001 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.013 kcps	12	GR scinti.2 :	108.074 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.013 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live :	89.559 percent
Trig.(LAS) live :	89.946 percent
Clock live :	90.340 percent

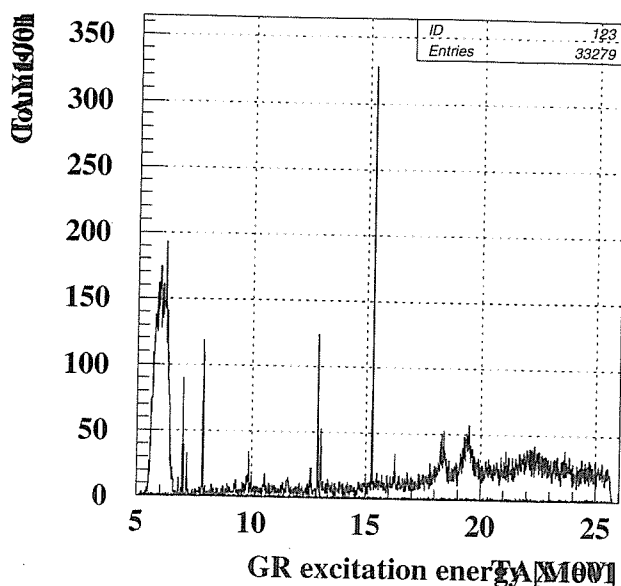
RUN NUM	2087	B.I. Range	20 nA
RUN START	2007-Nov-29	01:32:16	
NOW	2007-Nov-29	01:34:15	
scaler	1	ch	Sca1

2087

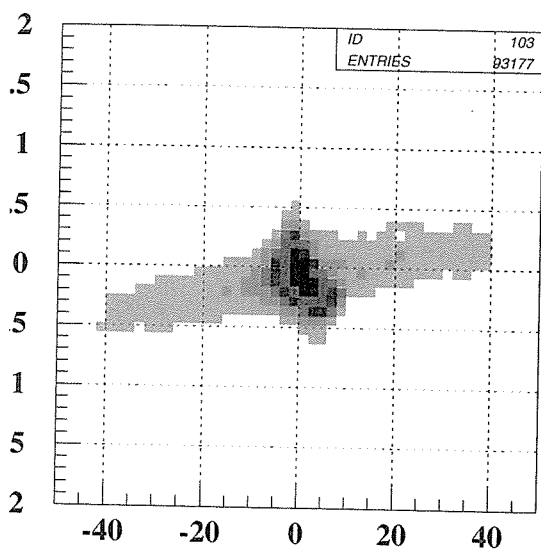
2007/11/29 02.32



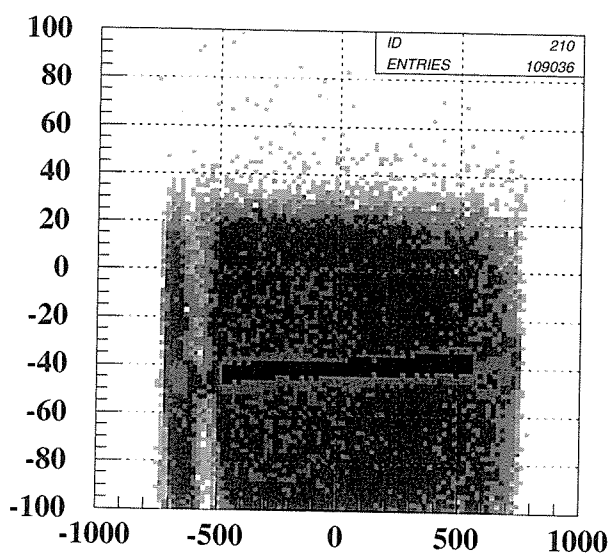
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



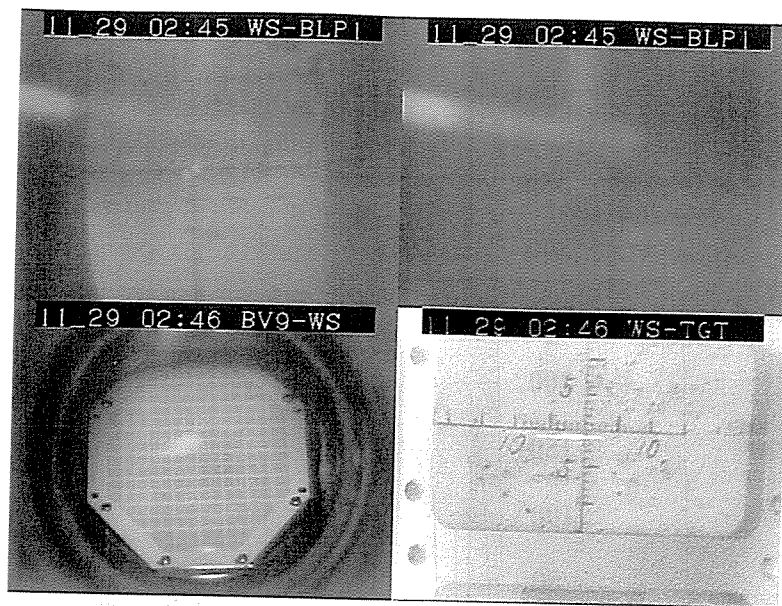
GYPH GR Phi vs Y



LXY LAS Y vs X

2230 西入室 GR $\theta^\circ \rightarrow 6^\circ$

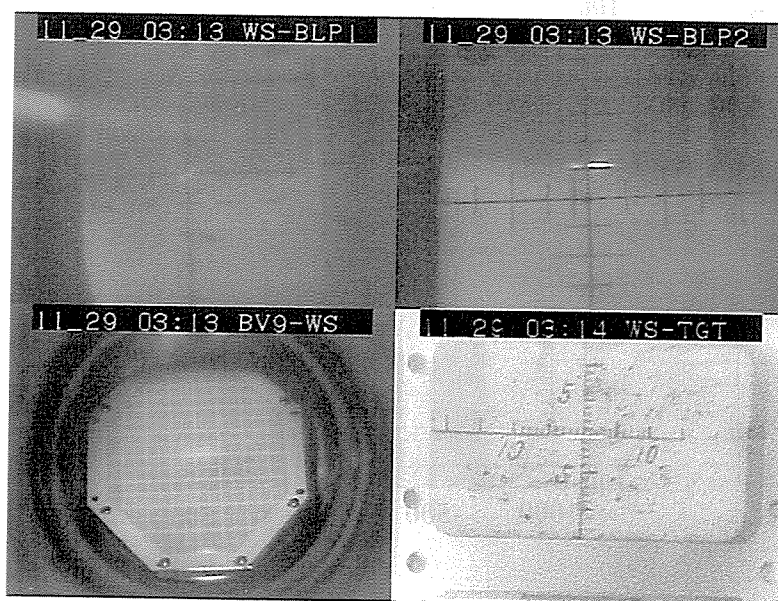
左側 →
調整
位置



調整前

(ZWS)
Targeta ZWSの上下位置
正確に調整する

ATから RINGの入手のあたりで ~~調整~~ 調整



調整後

Run# 2088 Comment Empty cell @ 6° Las = 1/2 collimator
10 x 20 mm
 Date 11 / 29 Target
 Start 3 : 18 ☐ ²⁰Ne inela or elast
 Stop 4 : 20 ☐ ³⁶Ar inela or elast
 IR angle 6° deg ☐ CO2 inela or elast
 Beam current ~ 9 nA ☒ Empty inela or elast
 B.I. range 20 nA ☐ ²⁸Si 2.22 (1.86) mg/cm²
☐ mg/cm² (6° 用)
 /DC ☐ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. 1732 V
 Gas cell Temp 27.5 deg 1.03 x 10⁻³ atm thickness 1.19 x 10⁻³ mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

Rate		Rate			
0	Beam Intensity	9,821 nA	0	BLP CLK req :	9,903 kcps
1	GR event request	1,251 kcps	1	BLP CLK live :	9,872 kcps
2	GR event live	1,134 kcps	2	BLP Trig req :	0,098 kcps
3	LAS eventRequest	4,853 kcps	3	BLP Trig live :	0,098 kcps
4	LAS event live	4,363 kcps	4	Akimune UP :	0,000 kcps
5	GR clock request	9,903 kcps	5	Akimune Down :	0,000 kcps
6	GR clock live	8,853 kcps	6	Akimune Left :	0,000 kcps
7	GR Single	1,134 kcps	7	Akimune Right :	0,000 kcps
8	GR Single Sample	1,134 kcps	8	Beam Monitor1 :	1,251 kcps
9	LAS Single	4,361 kcps	9	Beam Monitor2 :	1,134 kcps
10	LAS SingleSample	0,007 kcps	10	Beam Monitor3 :	0,000 kcps
11	GR & LAS COIN	0,000 kcps	11	GR scinti.1 :	0,000 kcps
12	ALL accept Event	3,315 kcps	12	GR scinti.2 :	118,773 kcps
13	Reject event	0,000 kcps	13	GR X-hodo :	0,000 kcps
14	GR3377stop(TEND)	3,314 kcps	14	:	0,000 kcps
15	LAS-reject	0,000 kcps	15	:	0,000 kcps

Trig.(GR) live : 90.674 percent
 Trig.(LAS) live : 89.901 percent
 Clock live : 89.399 percent

SCOUT DOWN
 RUN NUM 2088 B.I. Range 20 nA
 RUN START 2007-Nov-29 03:18:03
 NOW 2007-Nov-29 03:18:21
 scaler 0 ch Scal

WS Magnet Controller

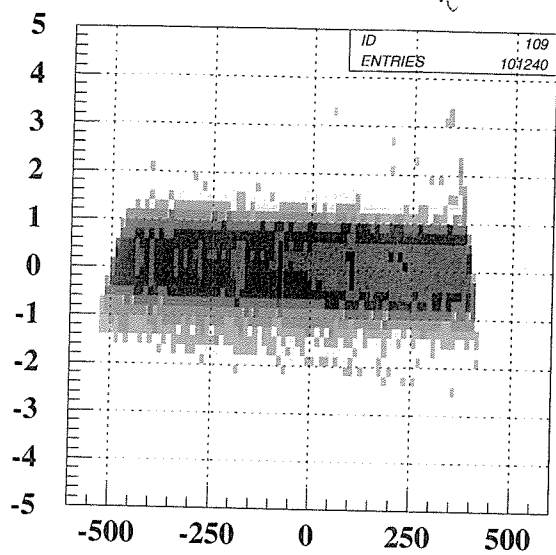
'07/11/29 03:49

WS/PIS

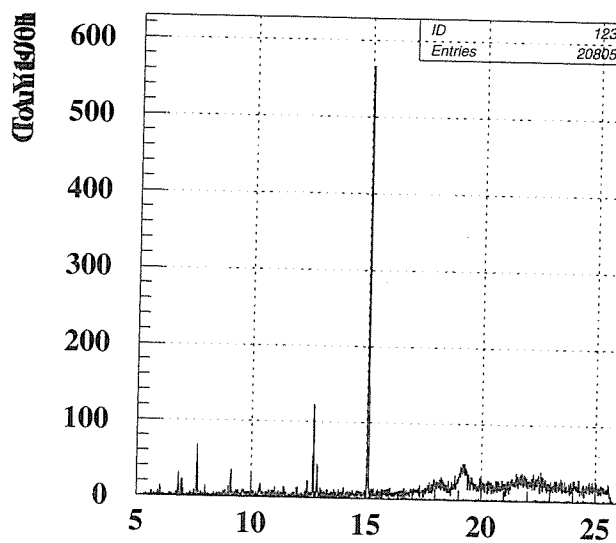
Magnet	Field(Preset/Actual)	Current(Preset/Actual)	Status	PS	NMR	FB
GR Q1		mT	90.30 A			
GR SX		mT	18.10 A			
GR Q2		mT	8.50 A			
GR MQ		mT	0.00 A			
GR MS		mT	0.00 A			
GR D1		868.963 mT	230.51 A			
GR D2		869.213 mT	433.88 A			
GR DSR		120.438 mT	13.54 A			
LAS Q		mT	217.70 A			
LAS D		-747.988 mT	280.30 A			
GR DQ1		mT	50 -0.00 A			
GR DQ2		mT	65.1 0.00 A			

2007/11/29 04.18

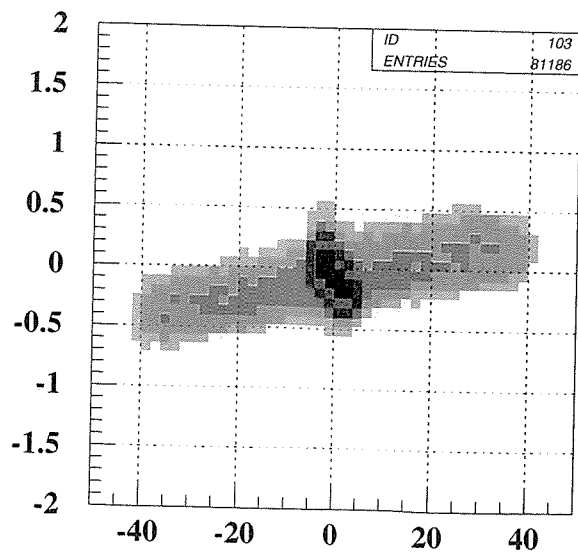
#2088



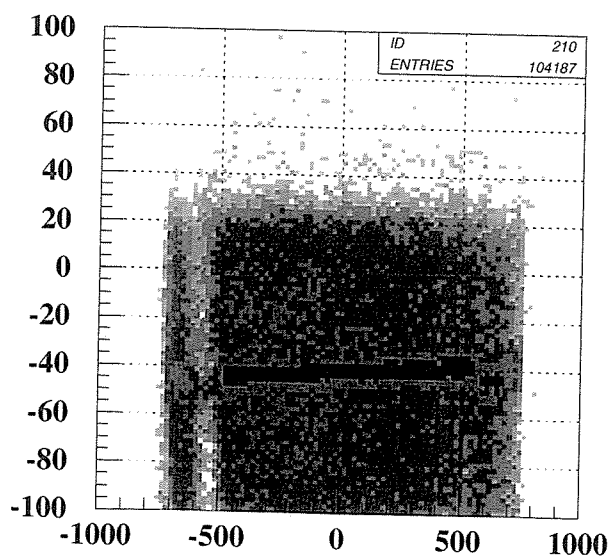
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

4:30 西入室.

7段うがー $\rightarrow$ 50mm スラット に変更.
 ガス empty $\rightarrow$ CO₂ 1.

GRは 6の村.

5:30 退室.

7段うがー の設置をミスったので再度入室

6:35 退室.

軸をといてした

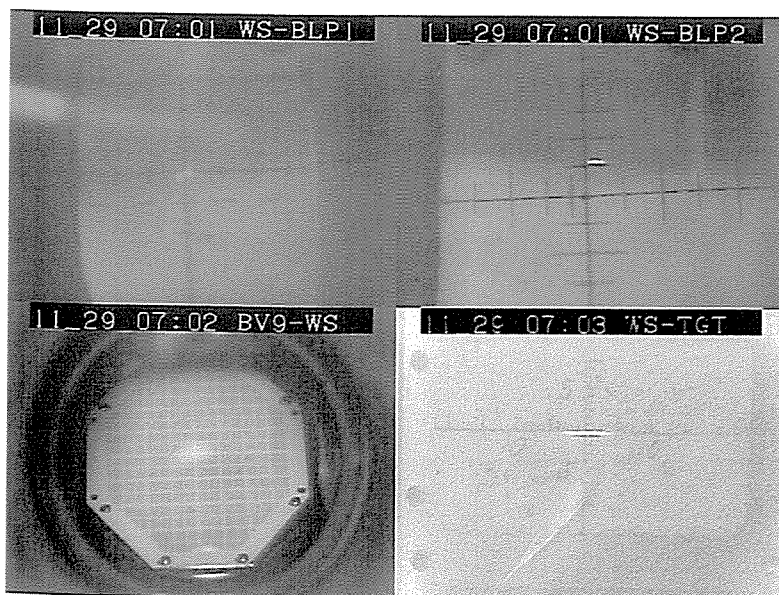
- B_E
- B_{M2}
- B_{M6}
- B_{M7}

← 花?

をいすかに調整したため、センサーの軸は変わったかもしれない。
 (取付け時のセンサーは変わっていない)

↑

そこからこの調整は あんまりしない方がいい



← 調整後の写真

Run# 2089 Comment CO₂ @ 6° LAS samp = 1/2, 1/cm x 12cm slit

Date 11 / 29

Start 7 : 06

Stop :

GR angle 6 deg

Beam current ~9 nA

C.I. range 20 nA

Target

☐ ²⁰Ne inela or elast

☐ ³⁶Ar inela or elast

☒ CO₂ inela or elast

☐ Empty inela or elast

☐ ²⁸Si 2.22 (1.86) mg/cm²

☐ mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☐ 0deg ☐ Q1 ☒ SC rot. 1.732 V

Gas cell Temp 26.9 deg Press 1.067 atm thickness 1.908 mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

Rate			Rate		
0	Beam Intensity	9.782 nA	0	BLP CLK req :	9.903 kcps
1	GR event request	1.395 kcps	1	BLP CLK live :	9.903 kcps
2	GR event live	1.257 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	4.783 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	4.262 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.903 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.830 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.256 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.256 kcps	8	Beam Monitor1 :	1.395 kcps
9	LAS Single	4.258 kcps	9	Beam Monitor2 :	1.257 kcps
10	LAS SingleSample	0.003 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.001 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.385 kcps	12	GR scinti.2 :	118.344 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.385 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 90.091 percent

Trig.(LAS) live : 89.098 percent

Clock live : 89.172 percent

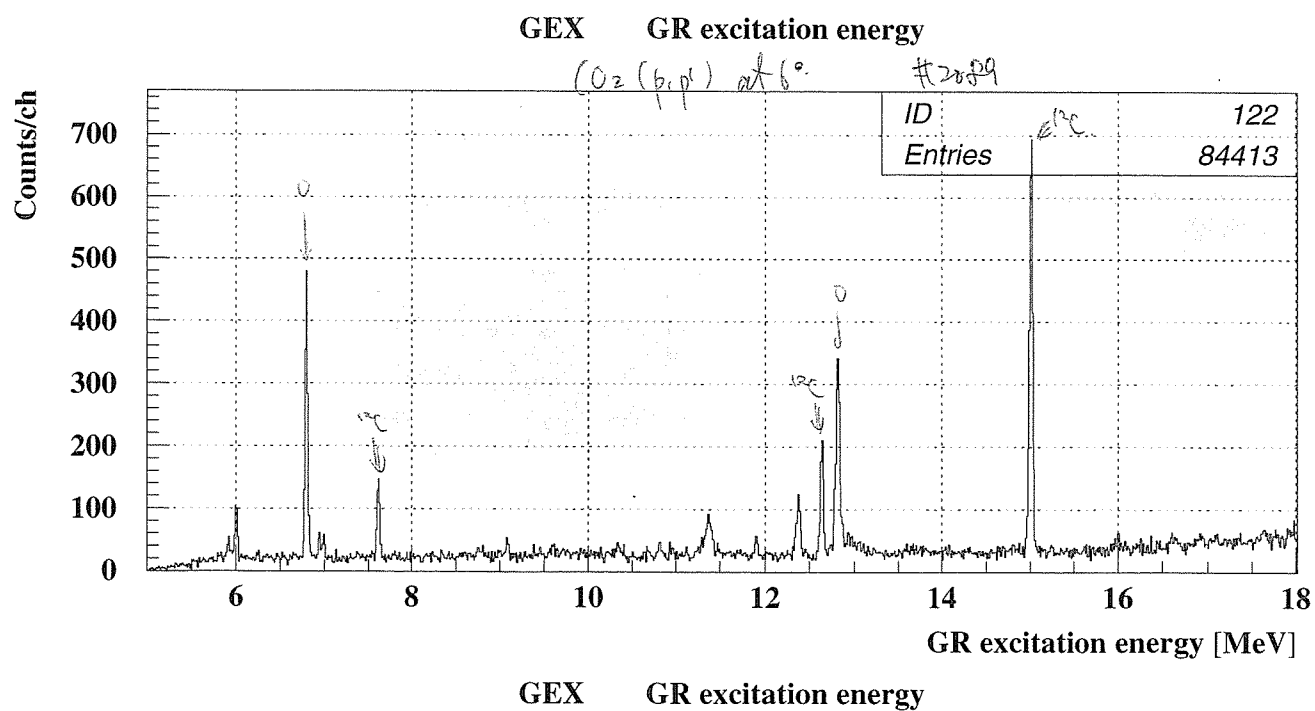
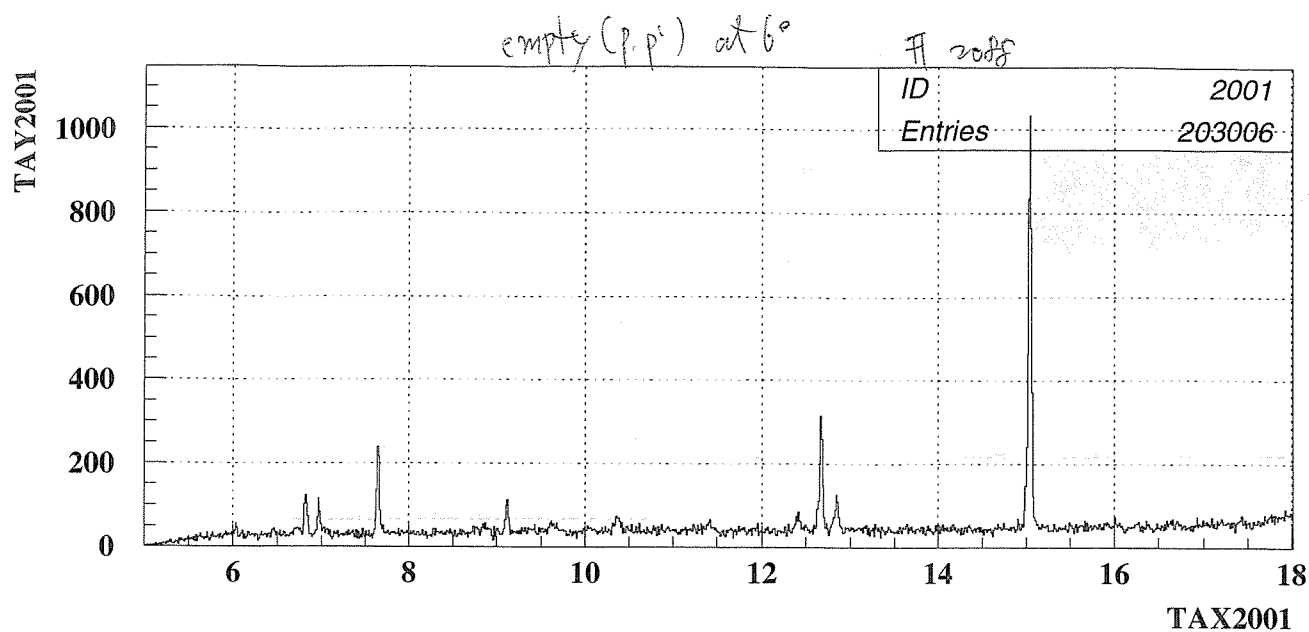
RUN NUM 2089 B.I. Range 20 nA

RUN START 2007-Nov-29 07:06:58

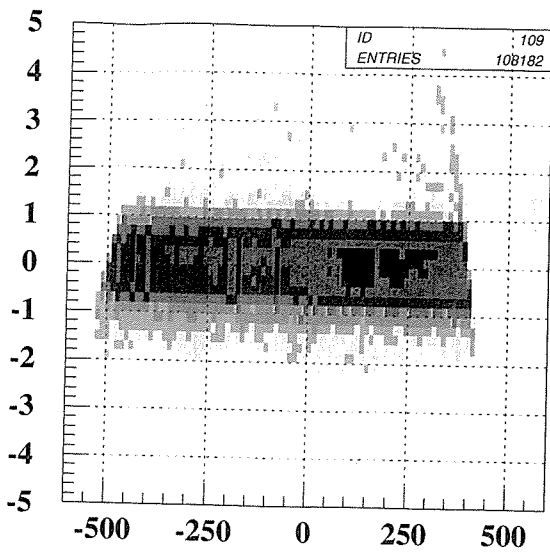
NOW 2007-Nov-29 07:07:56

scaler 0 ch Sca1

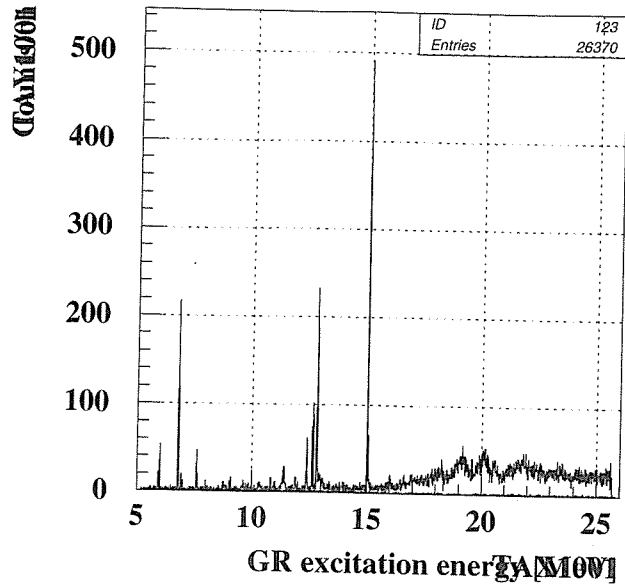
2007/11/29 07.30



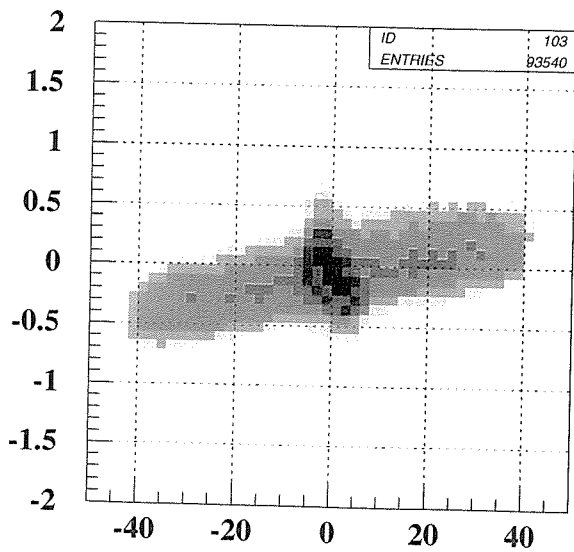
2089.



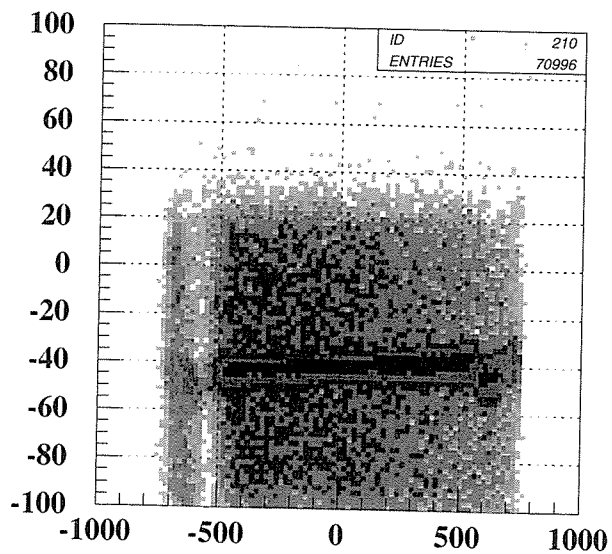
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



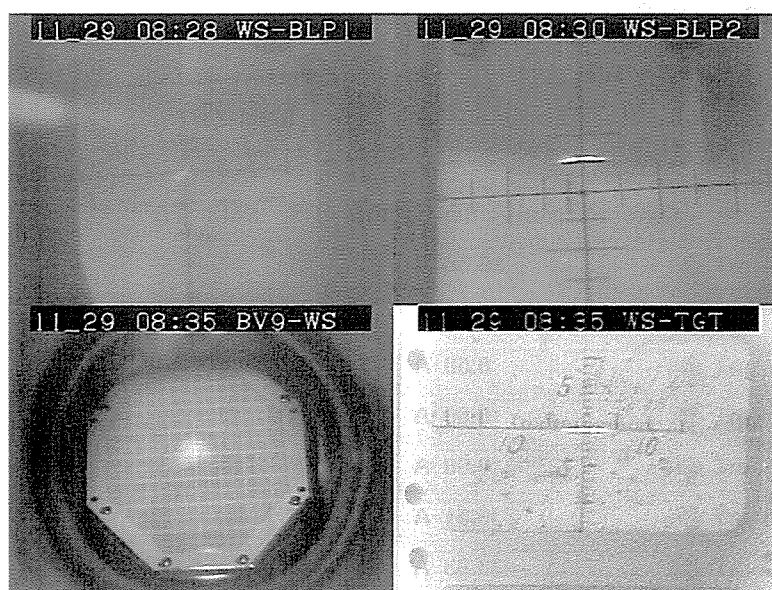
GYPH GR Phi vs Y



LXY LAS Y vs X

7:40 西入室,

- $\pm 10\text{mr} \times \pm 20\text{mr}$ $\rightarrow$ 調整 (full-open).
- gas $\text{CO}_2 \rightarrow$ empty.
- SLFC $\rightarrow$ QIFC + SLFC 1.
- GR $6^\circ \rightarrow 4.5^\circ$ 1.
- LAS sample $1/2 \rightarrow 1/1$ 1.



Run# 2090 Comment Empty Cell @ 4.5° *Las sample = 1/1*
No collimeter.

Date 11 / 29 Target
☐ ²⁰Ne inela or elast

Start 8 : 47 ☐ ³⁶Ar inela or elast

Stop 10 : 18 ☐ CO₂ inela or elast

GR angle 4.5 deg ☒ Empty inela or elast

Beam current 9~10 nA ☐ ²⁸Si 2.22 (1.86) mg/cm²

C.I. range 20 nA ☐ mg/cm²

Q1 position for 4° measurement

VDC ☐ OK ☐ Tripped F.C. ☐ 0deg ☒ Q1 ☐ SC rot. 3.902 V

Gas cell Temp 27.1 deg Press atm thickness mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

Rate	Rate
0 Beam Intensity 9.143 nA	0 BLP CLK req : 9.894 kcps
1 GR event request 0.806 kcps	1 BLP CLK live : 9.893 kcps
2 GR event live 0.737 kcps	2 BLP Trig req : 0.000 kcps
3 LAS eventRequest 1.771 kcps	3 BLP Trig live : 0.000 kcps
4 LAS event live 1.635 kcps	4 Akimune UP : 0.000 kcps
5 GR clock request 9.894 kcps	5 Akimune Down : 0.000 kcps
6 GR clock live 9.151 kcps	6 Akimune Left : 0.000 kcps
7 GR Single 0.737 kcps	7 Akimune Right : 0.000 kcps
8 GR Single Sample 0.737 kcps	8 Beam Monitor1 : 0.806 kcps
9 LAS Single 1.634 kcps	9 Beam Monitor2 : 0.737 kcps
10 LAS SingleSample 0.004 kcps	10 Beam Monitor3 : 0.000 kcps
11 GR & LAS COIN 0.002 kcps	11 GR scinti.1 : 0.000 kcps
12 ALL accept Event 2.371 kcps	12 GR scinti.2 : 69.806 kcps
13 Reject event 0.000 kcps	13 GR X-hodo : 0.000 kcps
14 GR3377stop(TEND) 2.371 kcps	14 : 0.000 kcps
15 LAS-reject 0.000 kcps	15 : 0.000 kcps

Trig.(GR) live : 91.495 percent
 Trig.(LAS) live : 92.316 percent
 Clock live : 92.490 percent

RUN NUM 2090 B.I. Range 20 nA
 RUN START 2007-Nov-29 08:47:52
 NOW 2007-Nov-29 08:54:36
 scaler 0 ch Scal

WS Magnet Controller

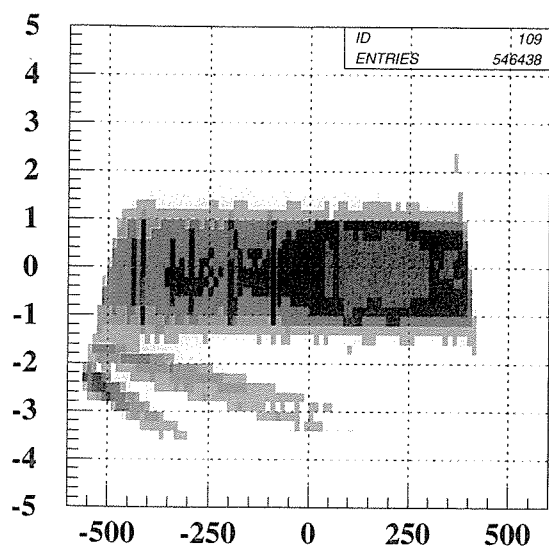
'07/11/29 08:55

/WS/PIS\

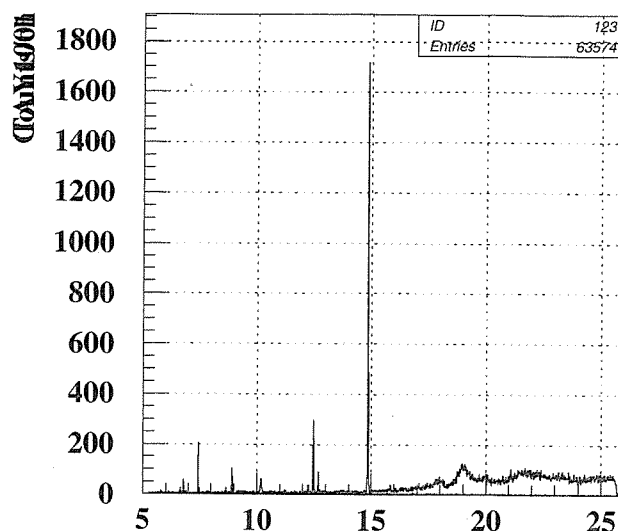
Magnet	Field(Preset Actual)	Current(Preset Actual)	Status	PS	NMR	FB
GR Q1	mT	90.30 A				
GR SX	mT	18.10 A				
GR Q2	mT	8.50 A				
GR MQ	mT	0.00 A				
GR MS	mT	0.00 A				
GR D1	868.963 mT	230.51 A				
GR D2	869.213 mT	433.63 A				
GR DSR	120.438 mT	13.54 A				
LAS Q	mT	217.70 A				
LAS D	-747.989 mT	280.30 A				
GR DQ1	mT	50 -0.00 A				
GR DQ2	mT	65.1 0.00 A				

#2090

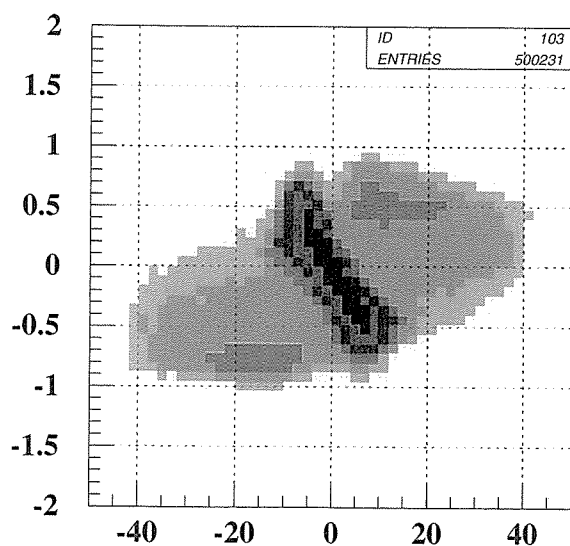
2007/11/29 10.12



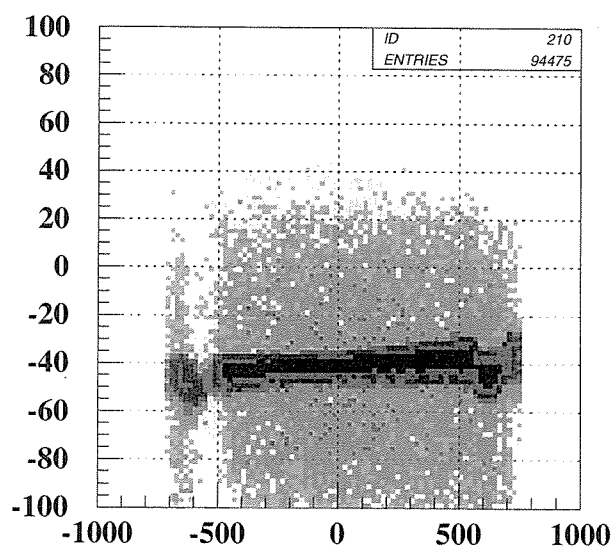
GXTHC GR THC vs X



GEXG GR excitation energy (Y, TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

Run# 2091

Comment Empty Cell @ 2.5 deg

Date 11 / 29

Start 10 : 34

Stop :

GR angle 2.5 deg

Beam current nA

C.I. range 20 nA

Target

☐ ²⁰Ne inela or elast☐ ³⁶Ar inela or elast☐ CO2 inela or elast☒ Empty inela or elast☐ ²⁸Si 2.22 (1.86) mg/cm²☐ mg/cm²VDC ☐ OK ☐ Tripped F.C. ☐ 0deg ☒ Q1 ☐ SC rot. 2.353 VGas cell Temp 27 deg Press 1.5 e-03 atm thickness 1.7 e-03 mg/cm²Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1		rate3			
0	Beam Intensity	8,508 nA	0	BLP CLK req :	9,902 kcps
1	GR event request	0,884 kcps	1	BLP CLK live :	9,902 kcps
2	GR event live	0,827 kcps	2	BLP Trig req :	0,000 kcps
3	LAS eventRequest	1,533 kcps	3	BLP Trig live :	0,000 kcps
4	LAS event live	1,432 kcps	4	Akimune UP :	0,000 kcps
5	GR clock request	9,903 kcps	5	Akimune Down :	0,000 kcps
6	GR clock live	9,197 kcps	6	Akimune Left :	0,000 kcps
7	GR Single	0,826 kcps	7	Akimune Right :	0,000 kcps
8	GR Single Sample	0,826 kcps	8	Beam Monitor1 :	0,884 kcps
9	LAS Single	1,430 kcps	9	Beam Monitor2 :	0,827 kcps
10	LAS SingleSample	0,000 kcps	10	Beam Monitor3 :	0,000 kcps
11	GR & LAS COIN	0,004 kcps	11	GR scinti.1 :	0,000 kcps
12	ALL accept Event	2,257 kcps	12	GR scinti.2 :	69,800 kcps
13	Reject event	0,000 kcps	13	GR X-hodo :	0,000 kcps
14	GR3377stop(TEND)	2,257 kcps	14	:	0,000 kcps
15	LAS-reject	0,000 kcps	15	:	0,000 kcps

Trig.(GR) live : 93,570 percent
Trig.(LAS) live : 93,414 percent
Clock live : 92,873 percent

0

scaler up

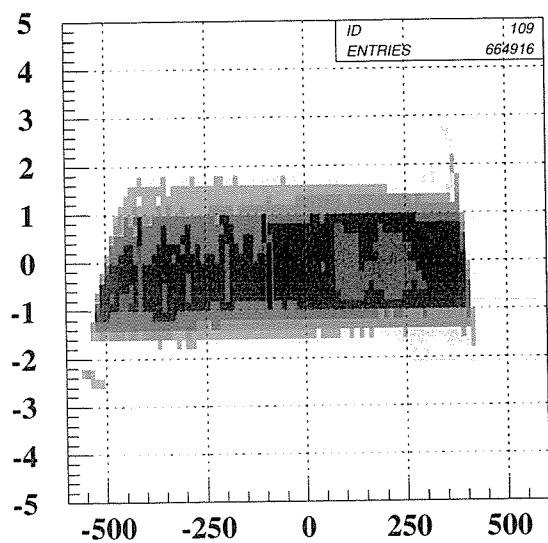
RUN NUM 2091 B.I. Range 20 nA
RUN START 2007-Nov-29 10:34:23
NOW 2007-Nov-29 10:35:42
scaler 1 ch Scal

Trig.(GR) live : 93.570 percent
 Trig.(LAS) live : 93.414 percent
 Clock live : 92.873 percent

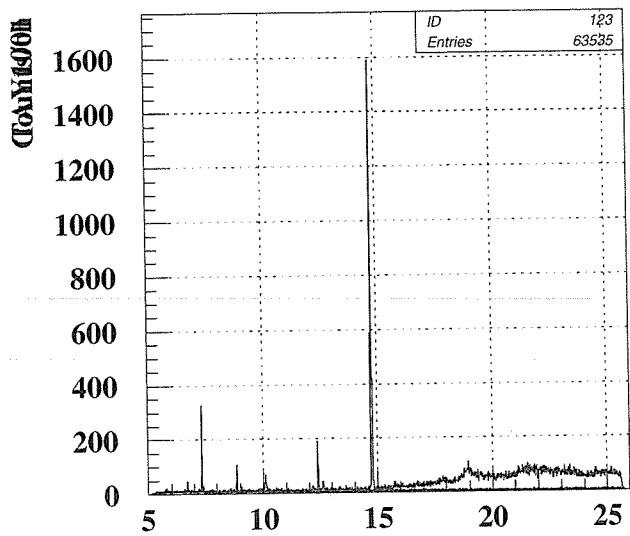
RUN NUM 2091 B.I. Range 20 nA
 RUN START 2007-Nov-29 10:34:23
 NOW 2007-Nov-29 10:35:42
 scaler 1 ch Scal

2007/11/29 12.04

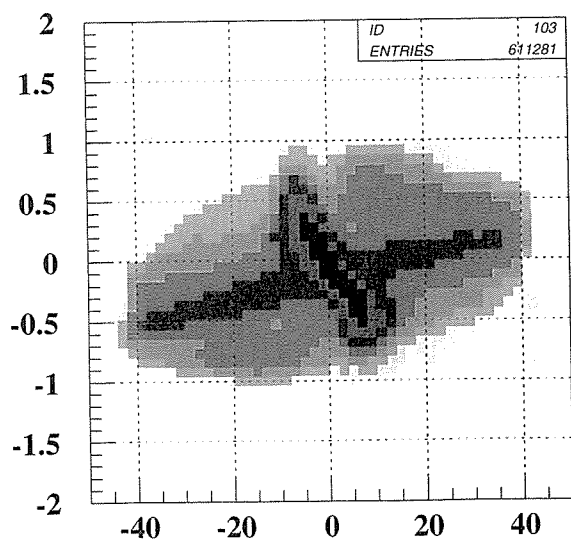
2001



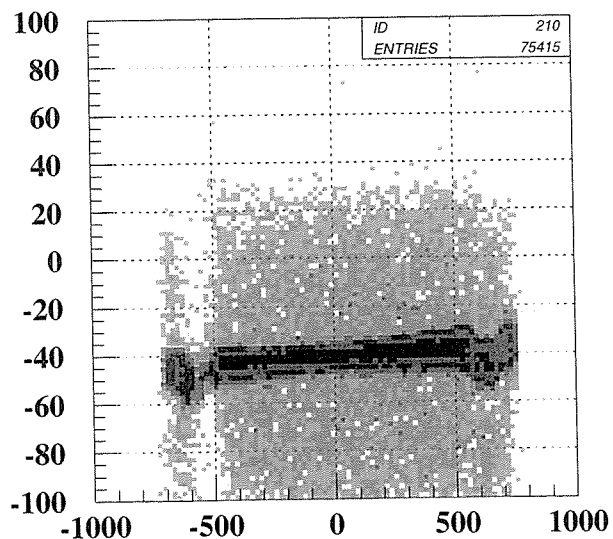
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



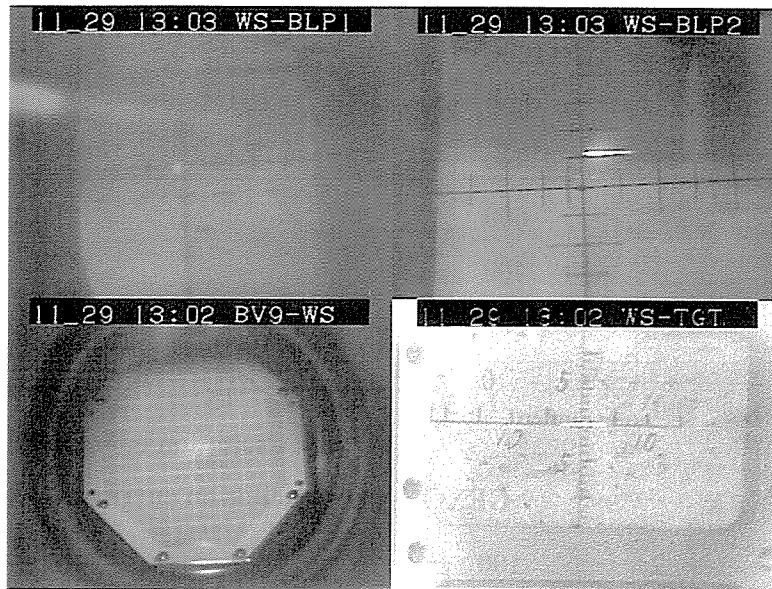
GYPH GR Phi vs Y



LXY LAS Y vs X

12210

西入室,

GR $\phi 2.5^\circ \rightarrow 0^\circ$ 

before.

BLP2 m² 1/2 1.

直前の BT 71 は左にずれた

1/2

WS Magnet Controller

07/11/29 13:07

WS/PIS

Magnet	Field(Preset Actual)	Current(Preset Actual)	Status	PS	NMR	FB
GR Q1	mT	90.30 A	☐	☐	☐	☐
GR SX	mT	18.10 A	☐	☐	☐	☐
GR Q2	mT	8.50 A	☐	☐	☐	☐
GR MQ	mT	0.00 A	☐	☐	☐	☐
GR MS	mT	0.00 A	☐	☐	☐	☐
GR D1	868.963 mT	230.51 A	☐	☐	☐	☐
GR D2	869.217 mT	433.38 A	☐	☐	☐	☐
GR DSR	120.441 mT	13.54 A	☐	☐	☐	☐
LAS Q	mT	217.70 A	☐	☐	☐	☐
LAS D	-747.990 mT	280.30 A	☐	☐	☐	☐
GR DQ1	mT	50.00 A	☐	☐	☐	☐
GR DQ2	mT	65.10 A	☐	☐	☐	☐

← 0度制管用

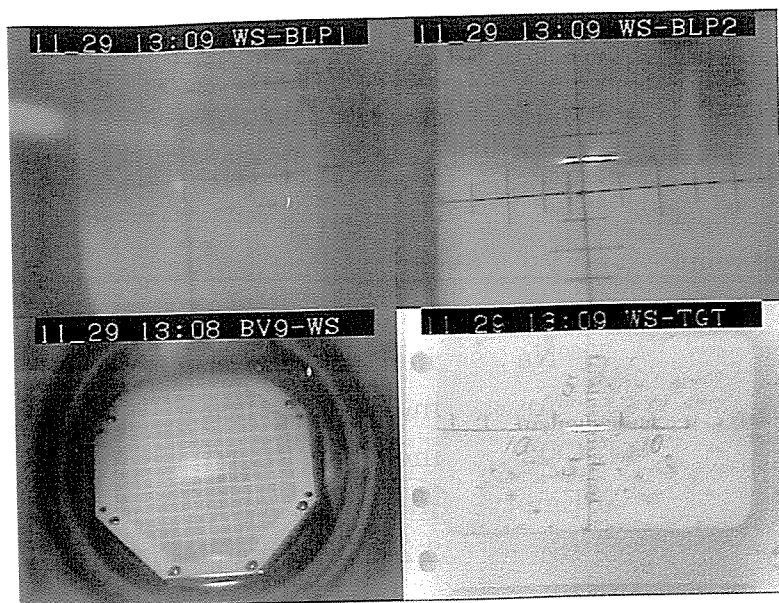
Update

update Cycle 10 sec.

Hcopy

Queue acc3626

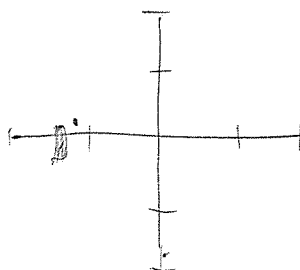
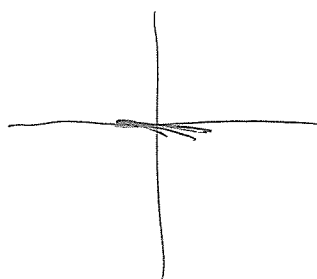
exit



調整後

-1mm:Q.

GR - bump

lognote #29 P.1544.
同じくらい

#2 P.1544修正

中しな

中し上下に傾く

Ring 入射スリットを tune して

400cps @ 3nA

200cps @ 3nA にして

ただし beam の最大量は 10nA.

Rate1		Rate			
0	Beam Intensity	3,981 nA	0	BLP CLK req :	9,903 kcps
1	GR event request	0,236 kcps	1	BLP CLK live :	9,903 kcps
2	GR event live	0,232 kcps	2	BLP Trig req :	0,000 kcps
3	LAS eventRequest	0,014 kcps	3	BLP Trig live :	0,000 kcps
4	LAS event live	0,014 kcps	4	Akimune UP :	0,000 kcps
5	GR clock request	9,904 kcps	5	Akimune Down :	0,000 kcps
6	GR clock live	9,829 kcps	6	Akimune Left :	0,000 kcps
7	GR Single	0,232 kcps	7	Akimune Right :	0,000 kcps
8	GR Single Sample	0,232 kcps	8	Beam Monitor1 :	0,236 kcps
9	LAS Single	0,014 kcps	9	Beam Monitor2 :	0,232 kcps
10	LAS SingleSample	0,004 kcps	10	Beam Monitor3 :	0,000 kcps
11	GR & LAS COIN	0,015 kcps	11	GR scinti.1 :	0,000 kcps
12	ALL accept Event	0,246 kcps	12	GR scinti.2 :	12,028 kcps
13	Reject event	0,000 kcps	13	GR X-hodo :	0,000 kcps
14	GR3377stop(TEND)	0,246 kcps	14	:	0,000 kcps
15	LAS-reject	0,000 kcps	15	:	0,000 kcps

Trig.(GR) live : 98.340 percent
Trig.(LAS) live : 100.000 percent
Clock live : 99.248 percent

Scaler up
RUN NUM 9999 B.I. Range 6 nA
RUN START 2007-Nov-29 13:14:24
NOW 2007-Nov-29 13:30:26
scaler 1 ch Sca1

Trig.(GR) live : 98.340 percent
 Trig.(LAS) live : 100.000 percent
 Clock live : 99.248 percent

Run Num 9999 B.I. Range 6 nA
 Run Start 2007-Nov-29 13:14:24
 Now 2007-Nov-29 13:30:26
 scaler 1 ch Scal

tune 後

ガスセル

※入口と出口の膜による散乱

Run# 2092 Comment Empty 0deg disp. #1Date 11/29Start 13:37Stop 14:50GR angle 0 degBeam current 4 nAC.I. range 6 nA

Target

☐ ²⁰Ne inela or elast☐ ³⁶Ar inela or elast☐ CO₂ inela or elast☒ Empty inela or elast☐ ²⁸Si 2.22 (1.86) mg/cm²☐ mg/cm²VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. VGas cell Temp 25 deg Press 1.2e-4 atm thickness 4.6e-4 mg/cm²Print out? ☐ histograms ☐ rate table ☐ magnet table

Rate			Rates		
0	Beam Intensity	3.675 nA	0	BLP CLK req :	9.904 kcps
1	GR event request	1.281 kcps	1	BLP CLK live :	9.905 kcps
2	GR event live	1.221 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.053 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.049 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.904 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.525 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.221 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.221 kcps	8	Beam Monitor1 :	1.281 kcps
9	LAS Single	0.049 kcps	9	Beam Monitor2 :	1.221 kcps
10	LAS SingleSample	0.008 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.532 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	1.270 kcps	12	GR scinti.2 :	12.618 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	1.270 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 95.333 percent					
Trig.(LAS) live : 92.583 percent					
Clock live : 96.180 percent					

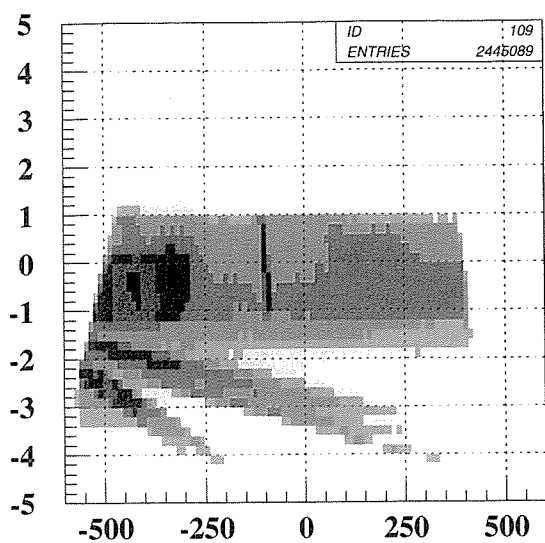
↑

2092 の Ring 入射の BLS 3 th 2 z R.G. の 2 度 1 度 2 度 3 度 (dipole)

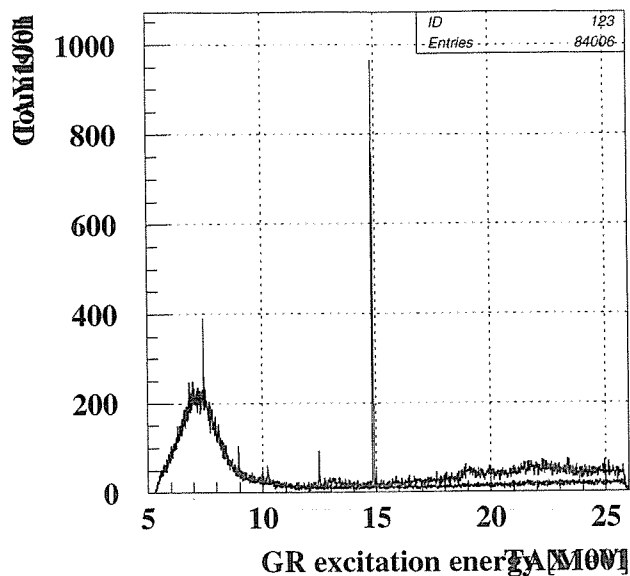
Empty Cell 2 200 cps / 2 nA
~ 500 cps / nA

ATF の RF 5 度 2 度 3 度 2 度 Stop

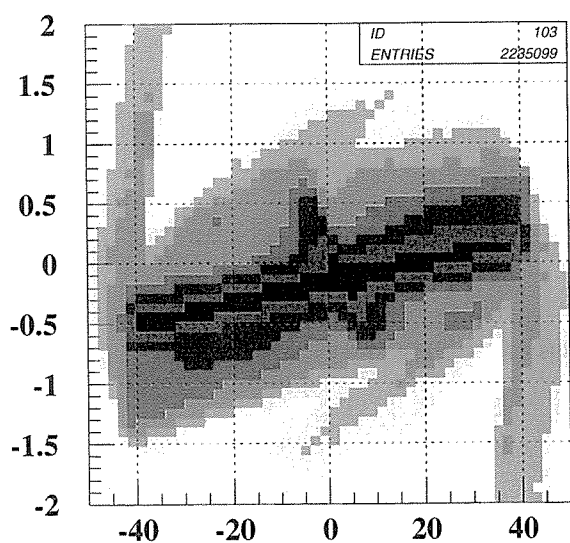
2092



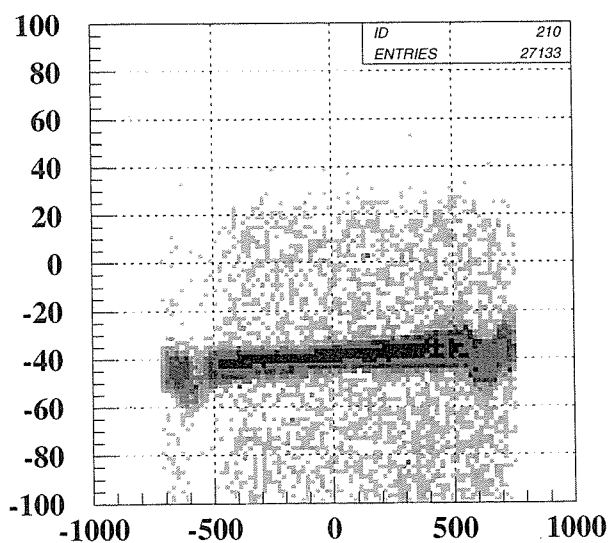
GXTHC GR THC vs X



GEXG GR excitation energy (Y, TH-gated)



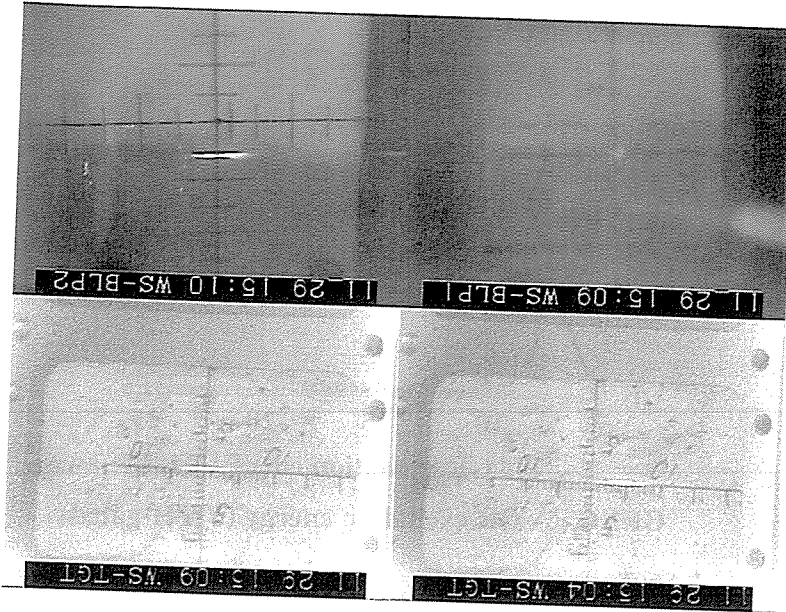
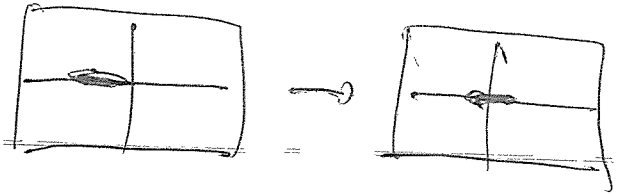
GYPH GR Phi vs Y



LXY LAS Y vs X

85

target 2
 beam position が左にずれていた。
 Cavity 電圧を少し上げて
 中心にのせてみる



WS Magnet Controller

'07/11/29 15:03

WS/PIS

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1		mT		90.30 A				
GR SX		mT		18.10 A				
GR Q2		mT		8.50 A				
GR MQ		mT		0.00 A				
GR MS		mT		0.00 A				
GR D1	868.962 mT		230.51 A					
GR D2	869.217 mT		433.63 A					
GR DSR	120.440 mT		13.54 A					
LAS Q		mT	217.70 A					
LAS D	-747.990 mT		280.30 A					
GR DQ1		mT	50.00 A					
GR DQ2		mT	65.10 A					

Update

update Cycle 10 sec.

Hcopy

Queue acc3626

exit

Run# 2093 Comment Empty (cell) 0 deg disp #2

Date 11 / 29 Target
 Start 15:18 ☐ ²⁰Ne inela or elast
 Stop ~~16:20~~ 17:20 ☐ ³⁶Ar inela or elast
 GR angle 0 deg ☐ CO₂ inela or elast
 Beam current 44 nA ☒ Empty inela or elast
 C.I. range 6 nA ☐ ²⁸Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V
 Gas cell Temp deg Press atm thickness mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

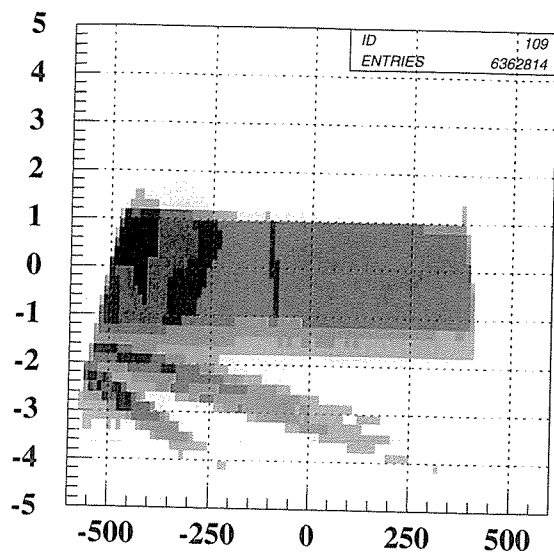
rate1			rate2		
0	Beam Intensity	4.707 nA	0	BLP CLK req :	9.901 kcps
1	GR event request	2.962 kcps	1	BLP CLK live :	9.901 kcps
2	GR event live	2.651 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.060 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.054 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.901 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.095 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	2.651 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	2.651 kcps	8	Beam Monitor1 :	2.962 kcps
9	LAS Single	0.054 kcps	9	Beam Monitor2 :	2.651 kcps
10	LAS SingleSample	0.008 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.386 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	2.705 kcps	12	GR scinti.2 :	17.118 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	2.705 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 89.498 percent
 Trig.(LAS) live : 90.164 percent
 Clock live : 91.867 percent

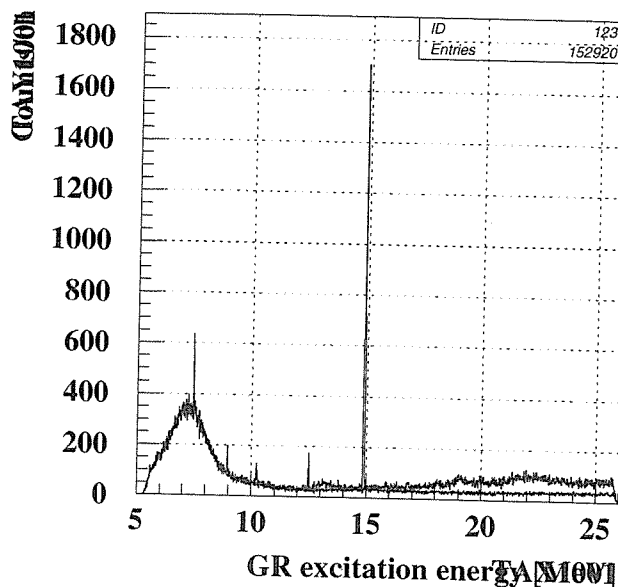
]
 RUN NUM 2093 B.I. Range 6 nA
 RUN START 2007-Nov-29 15:17:05
 NOW 2007-Nov-29 17:13:40
 scaler 0 ch Scal

2007/11/29 17.18

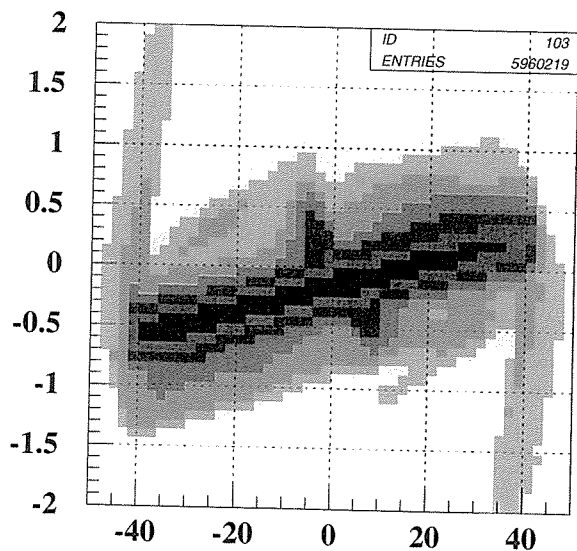
#2093



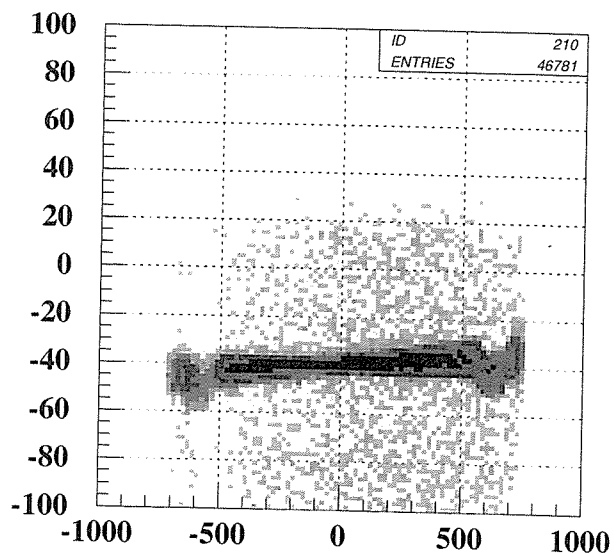
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y

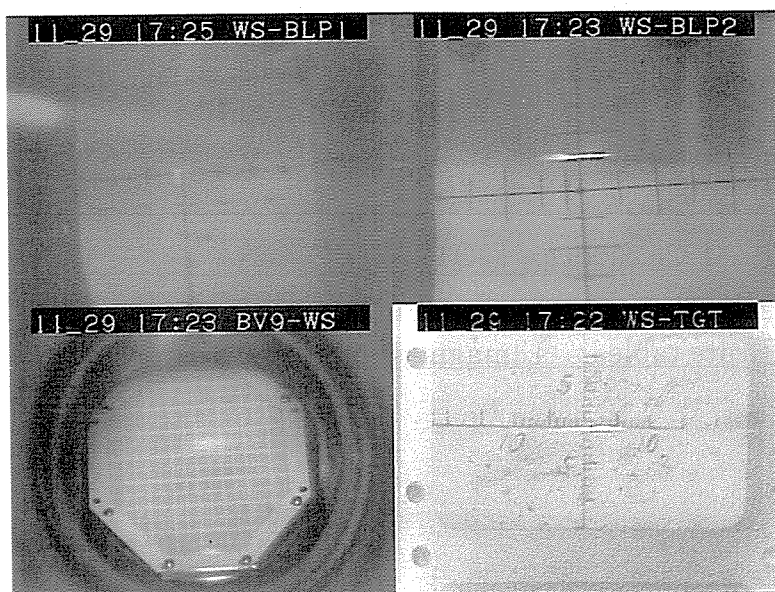


LXY LAS Y vs X

#2093 終了後、17:20 頃

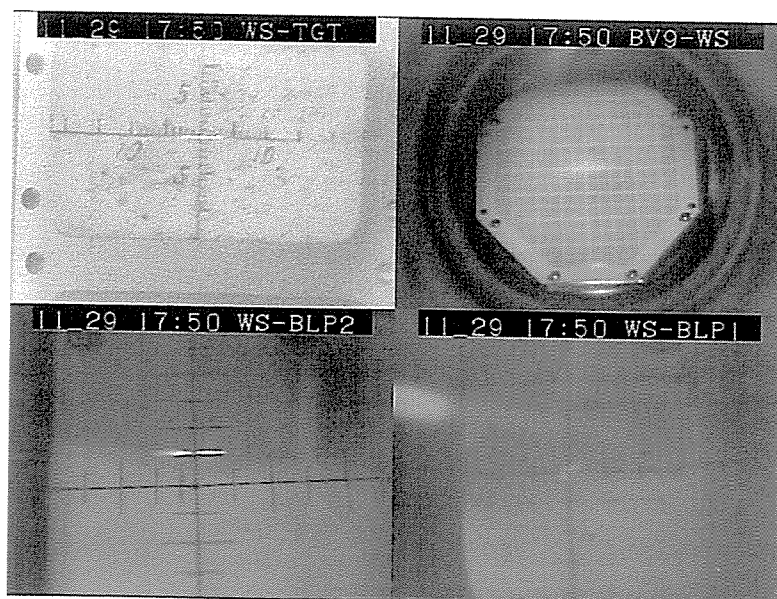
・ beam spot 確認 → スポットがズレている

調整前



← ちょうど下の右に
ずれている。

調整後



Run# 2094 Comment Aramide 0deg disp #1

Date 11 / 29 Target
 Start 18 : 05 ☐ ²⁰Ne inela or elast
 Stop 19 : 45 ☐ ³⁶Ar inela or elast
 GR angle 0 deg ☐ CO2 inela or elast
 Beam current 3.7 nA ☐ Empty inela or elast
 C.I. range 6 nA ☐ ²⁸Si 2.22 (1.86) mg/cm²
☒ Aramide 50 ~~µm~~ ~~mg/cm²~~

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

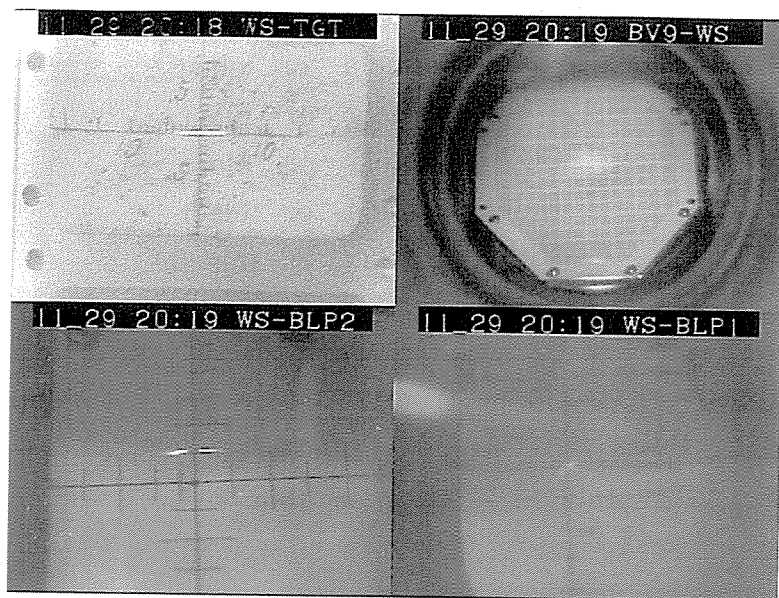
rate1			rate3		
0	Beam Intensity	3.758 nA	0	BLP CLK req :	9.903 kcps
1	GR event request	6.439 kcps	1	BLP CLK live :	9.903 kcps
2	GR event live	5.281 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.173 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.154 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.903 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.259 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	5.281 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	5.281 kcps	8	Beam Monitor1 :	6.439 kcps
9	LAS Single	0.154 kcps	9	Beam Monitor2 :	5.281 kcps
10	LAS SingleSample	0.004 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.733 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	5.435 kcps	12	GR scinti.2 :	17.650 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	5.435 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live :	82.022 percent
Trig.(LAS) live :	88.701 percent
Clock live :	83.393 percent

N NUM	2094	B.I. Range	6 nA
N START	2007-Nov-29	18:05:02	
N	2007-Nov-29	18:05:53	
aler	1	ch	Scal

Trig. rate $\pm 2\%$ BG? - Run stop

1. 調整終了後.



beam 量を減らす. B.G. に増えたのを調整した

最初 beam spot は左に寄っていた. 上下は 2-3mm Beam Line をずらした.

Ring の OTC と Cavity 電圧を適当に. Ring 入射の steerer を調整した

付: 今の gas での beam 量を同じにしておく

WS の steerer と BM の transport を調整した
→ B.G. を減らす

Blank 率 $\sim \frac{150}{130} \text{ cps/nA}$
(600 cps / 4 nA)

Run# 2095 Comment Aramide 0deg disp #2

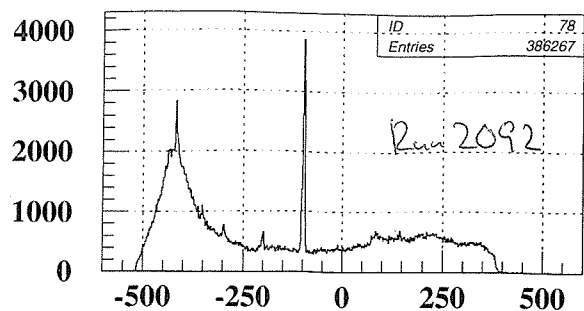
Date 11 / 29 Target
 Start 20 : 24 ☐ ²⁰Ne inela or elast
 Stop 21 : 37 ☐ ³⁶Ar inela or elast
 GR angle 0 deg ☐ CO₂ inela or elast
 Beam current 4.1 nA ☐ Empty inela or elast
 C.I. range 6 nA ☐ ²⁸Si 2.22 (1.86) mg/cm²
☒ Aramide 50 ~~mg/cm²~~
~~μm/cm²~~

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V
 Gas cell Temp deg Press atm thickness mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1			rate3		
0	Beam Intensity	3.987 nA	0	BLP CLK req :	9.903 kcps
1	GR event request	4.322 kcps	1	BLP CLK live :	9.903 kcps
2	GR event live	3.783 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.187 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.164 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.903 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.726 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	3.783 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	3.783 kcps	8	Beam Monitor1 :	4.322 kcps
9	LAS Single	0.164 kcps	9	Beam Monitor2 :	3.783 kcps
10	LAS SingleSample	0.006 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.528 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.947 kcps	12	GR scinti.2 :	16.164 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.947 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

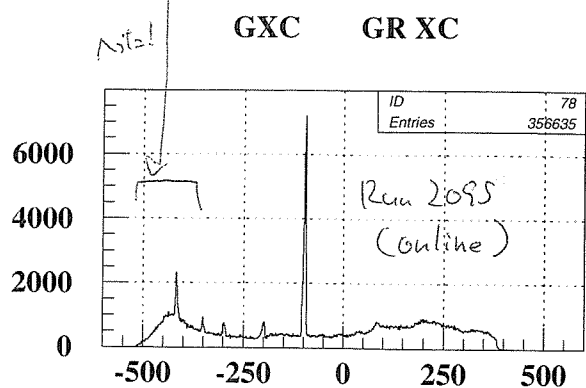
Trig.(GR) live :	87.548 percent
Trig.(LAS) live :	87.435 percent
Clock live :	98.122 percent

RUN NUM	2095	B.I.	Range	6 nA
RUN START	2007-Nov-29		20:24:35	
NOW	2007-Nov-29		20:29:54	
scaler	1	ch	Scal	



Beam origin BG is ≈ 2.1 !

* Beam loss monitor is ~ 4 kcps $\approx 2 \times 10^8$ $\neq$ FLI $\approx 10^8$, T_{ch} is 2.1 $\neq 1.1$?



GXC GRXC

DI is F BG is F GR trg. rate 不安定 Live 70%~85%

↓

Run stop

↓

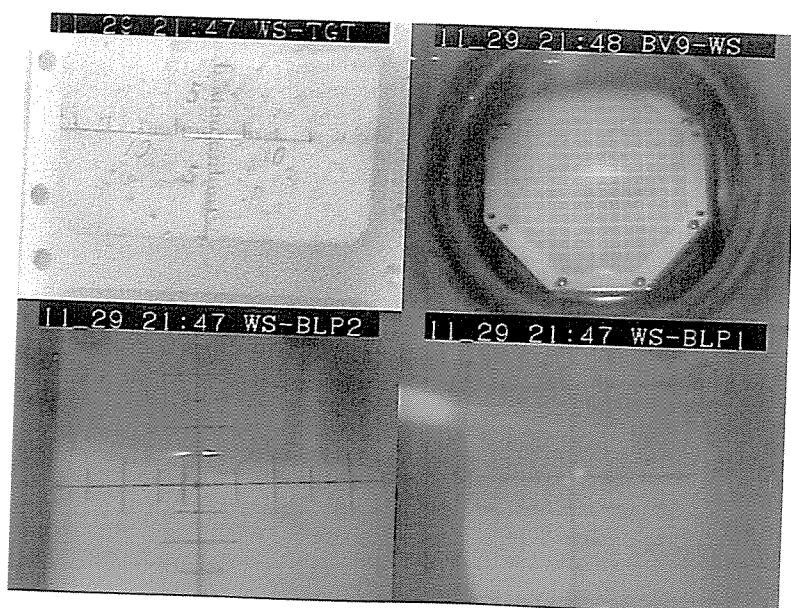
Beam Left on Target and BLP2.

Slightly high on BD9.

↓

Alignment: WS-BM4 (3, 3 Dipole 3rd)

Steeper



Run# 2096 Comment Alamide 0 deg disp #3

Date 11/29

Start 21:54

Stop 28:20

GR angle 0 deg

Beam current 3.4 nA

C.I. range 6 nA

Target

☐ ²⁰Ne inela or elast

☐ ³⁶Ar inela or elast

☐ CO₂ inela or elast

☐ Empty inela or elast

☐ ²⁸Si 2.22 (1.86) mg/cm²

☒ Aramide ~~mg/cm²~~ 50.4 μm

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

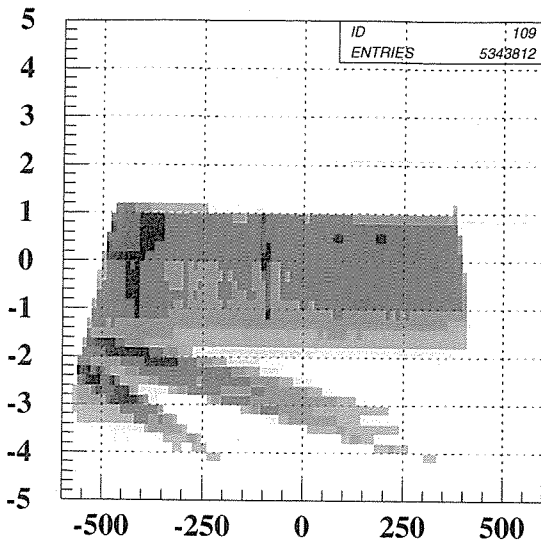
rate1			rate3		
0	Beam Intensity	3.465 nA	0	BLP CLK req :	9.940 kcps
1	GR event request	3.566 kcps	1	BLP CLK live :	9.940 kcps
2	GR event live	3.140 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.158 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.141 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.940 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.962 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	3.140 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	3.140 kcps	8	Beam Monitor1 :	3.566 kcps
9	LAS Single	0.141 kcps	9	Beam Monitor2 :	3.140 kcps
10	LAS SingleSample	0.004 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.629 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.281 kcps	12	GR scinti.2 :	13.751 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.281 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live :	88.055 percent
Trig.(LAS) live :	88.820 percent
Clock live :	90.161 percent

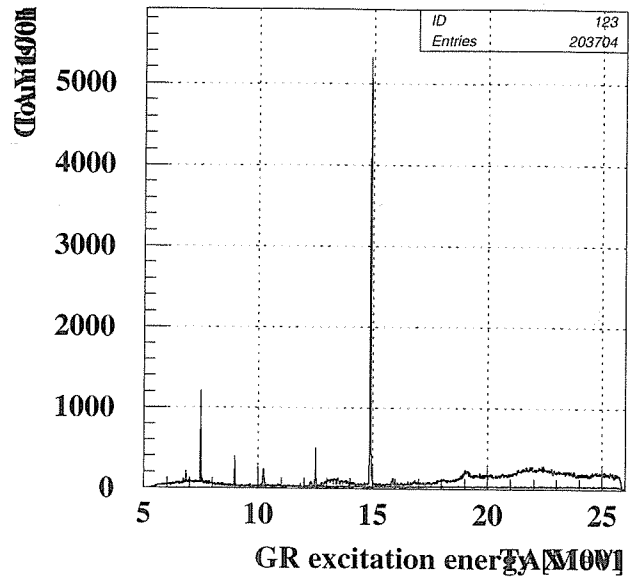
RUN NUM	2096	B.I.	Range	6 nA
RUN START	2007-Nov-29		21:53:20	
NOW	2007-Nov-29		21:56:19	
scaler	0	ch	Sca1	

2007/11/29 23.18

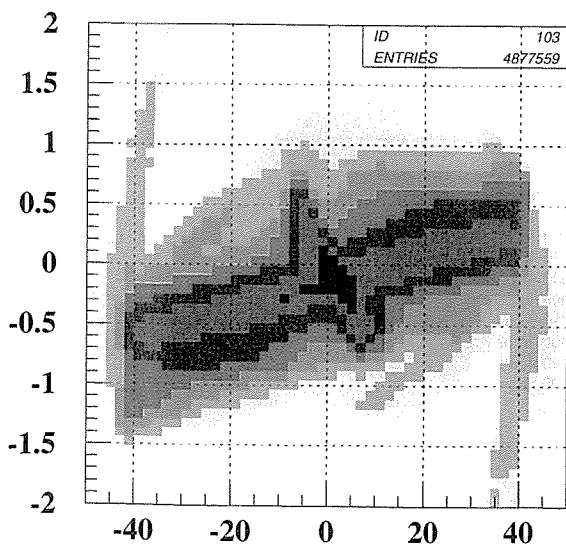
#2096



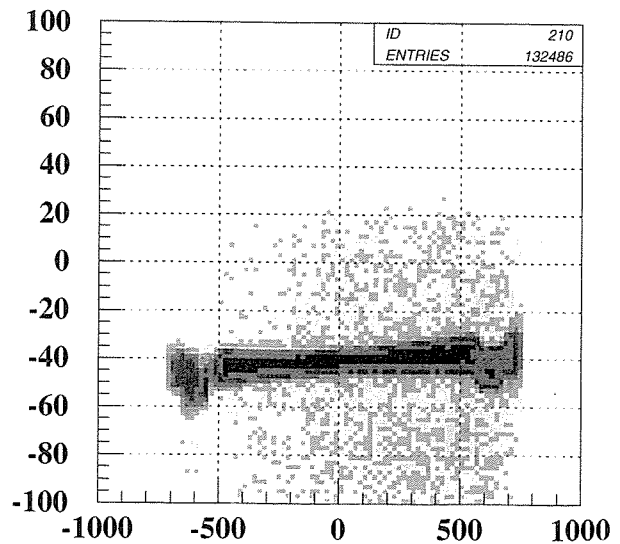
GXTHC GR THC vs X



GEXG GR excitation energy (Y,TH-gated)



GYPH GR Phi vs Y



LXY LAS Y vs X

Run# 2097 Comment Aramide 0 deg disp #4

Date 11, 29

Start 23 : 20

Stop :

GR angle 0 deg

Beam current 4 nA

C.I. range 6 nA

Target

☐ ²⁰Ne inela or elast

☐ ³⁶Ar inela or elast

☐ CO2 inela or elast

☐ Empty inela or elast

☐ ²⁸Si 2.22 (1.86) mg/cm²

☒ Aramide ~~mg/cm²~~ 50 μ m

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp deg Press atm thickness mg/cm²

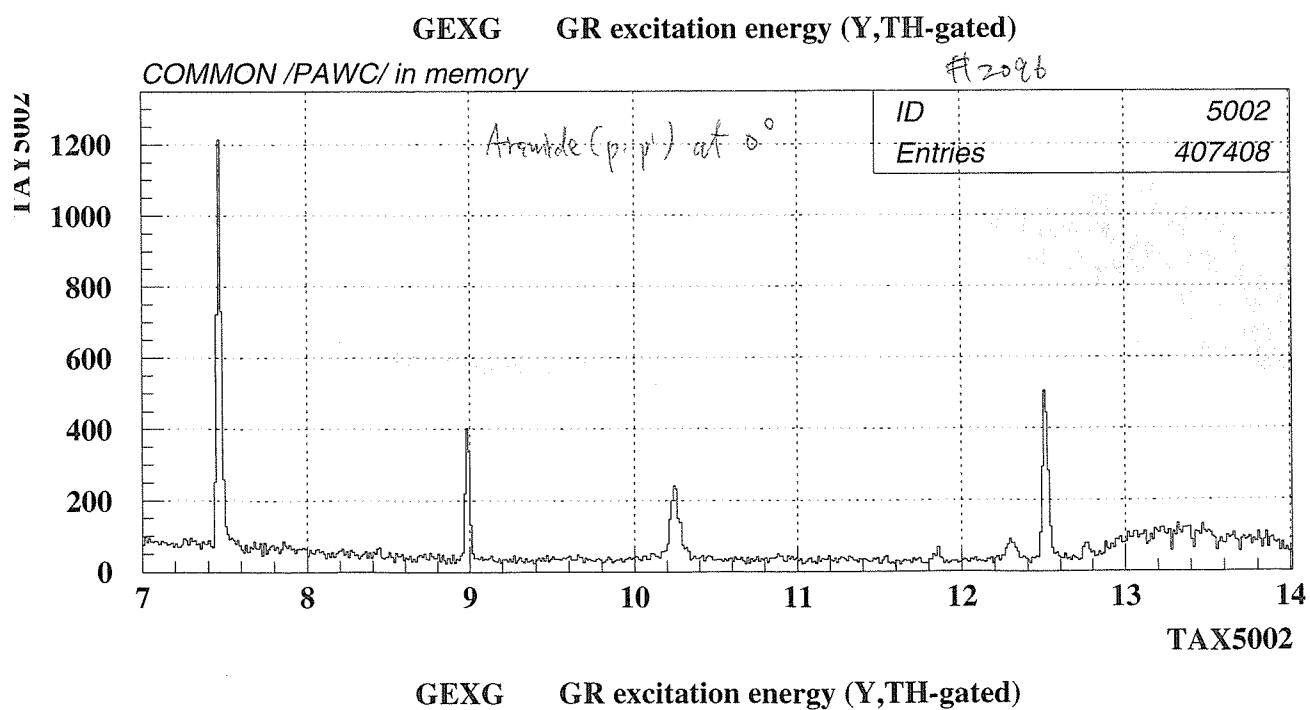
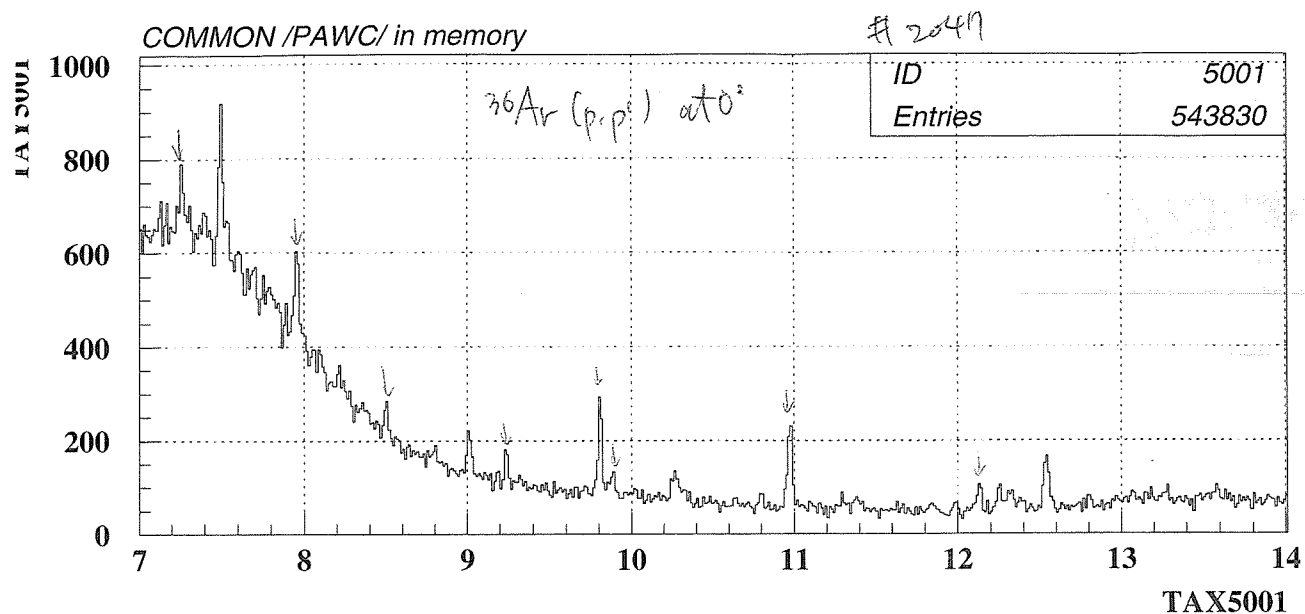
Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1			rate3		
0	Beam Intensity	4.409 nA	0	BLP CLK req :	10.159 kcps
1	GR event request	4.580 kcps	1	BLP CLK live :	10.158 kcps
2	GR event live	3.975 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.178 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.162 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	10.158 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.925 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	3.975 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	3.975 kcps	8	Beam Monitor1 :	4.580 kcps
9	LAS Single	0.162 kcps	9	Beam Monitor2 :	3.975 kcps
10	LAS SingleSample	0.008 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.807 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	4.137 kcps	12	GR scinti.2 :	17.718 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	4.136 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live :	86.787 percent
Trig.(LAS) live :	90.960 percent
Clock live :	87.856 percent

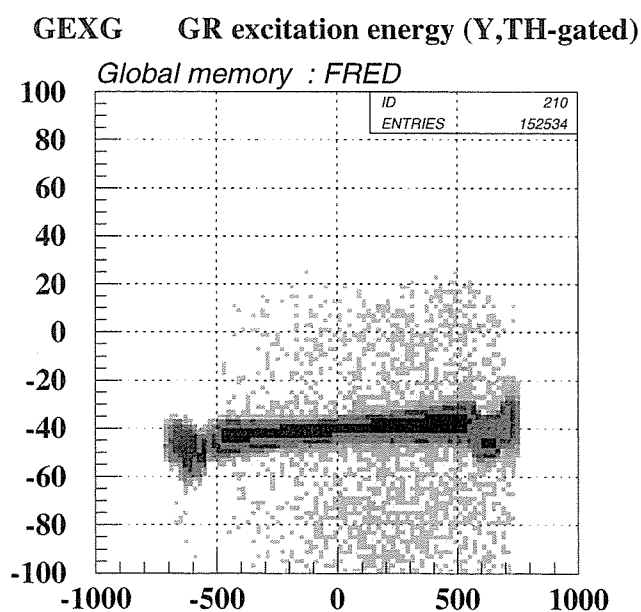
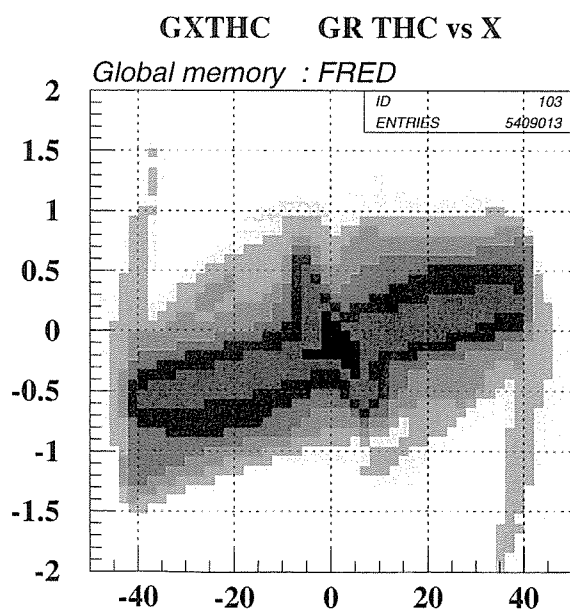
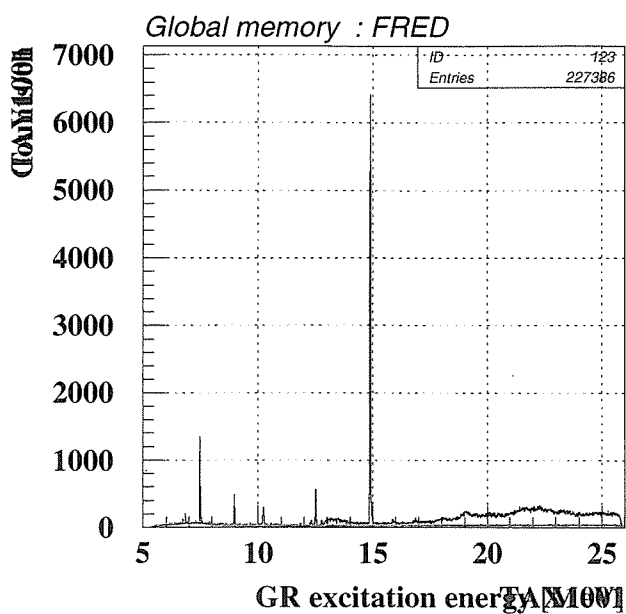
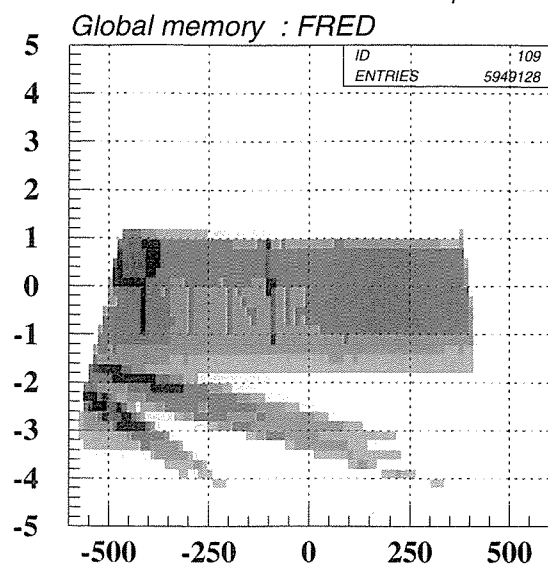
RUN NUM	2097	B.I. Range	6 nA
RUN START	2007-Nov-29	23:15:32	
NOW	2007-Nov-29	23:20:45	
scaler	0 ch	Scal	

2007/11/29 23.50



#2097

2007/11/30 00.46



GYPH GR Phi vs Y

LXY LAS Y vs X

1/20 1:00 empty ↓
CO2 に 変えたいとして、破型、

その時の電圧が全減したため、24μg、60℃

有酸素で培養して

GR 0° → 4.5° スリットは入る。

カルシウムは投入。

5:00 西通室。

4.5°の調整
↓

WS Magnet Controller

'07/11/30 05:12

WS/PIS

Magnet	Field(Preset/Actual)	Current(Preset/Actual)	Status	PS	NMR	FB
GR Q1	mT	90.30 A				
GR SX	mT	18.10 A				
GR Q2	mT	8.50 A				
GR MQ	mT	0.00 A				
GR MS	mT	0.00 A				
GR D1	868.964 mT	230.51 A				
GR D2	869.215 mT	433.63 A				
GR DSR	mT	13.54 A				
LAS Q	mT	217.70 A				
LAS D	mT	280.30 A				
GR DQ1	mT	-0.00 A				
GR DQ2	mT	0.00 A				

Update

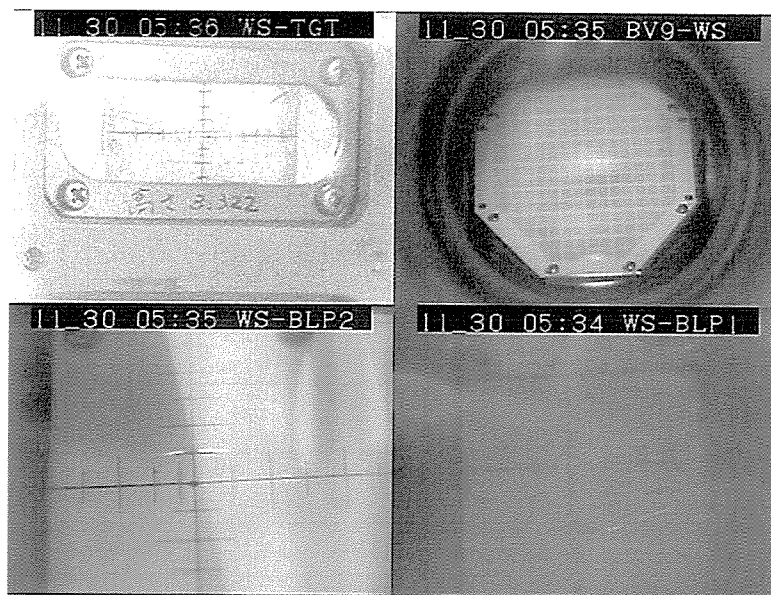
update Cycle 10 sec.

Hcopy

Queue acc3626

exit

5:30~ ビー4 スポット 確認



確認済。今日は
これだけ
↓

100A SC.F.C position 4.333 D → 4.344 D に変えた
60A 700cps 700cps ~2k cps になった

4.344 D 4.344

100A → 500cps CSU

Run# 2098 Comment ^{24}Mg 2.5 mg/cm², 4.5 deg disp #1

Date 11 / 30 Target

Start 6 : 24 ☐ ^{20}Ne inela or elast

Stop 7 : 55 ☐ ^{36}Ar inela or elast

GR angle 4.5 deg ☐ CO_2 inela or elast

Beam current 11.75 nA ☐ Empty inela or elast

C.I. range 20 / 75 nA ☐ ^{28}Si 2.22 (1.86) mg/cm²

☒ ^{24}Mg 2.5 mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☒ Q1 ☐ SC rot. 3.900 V

Gas cell Temp _____ deg Press _____ atm thickness _____ mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

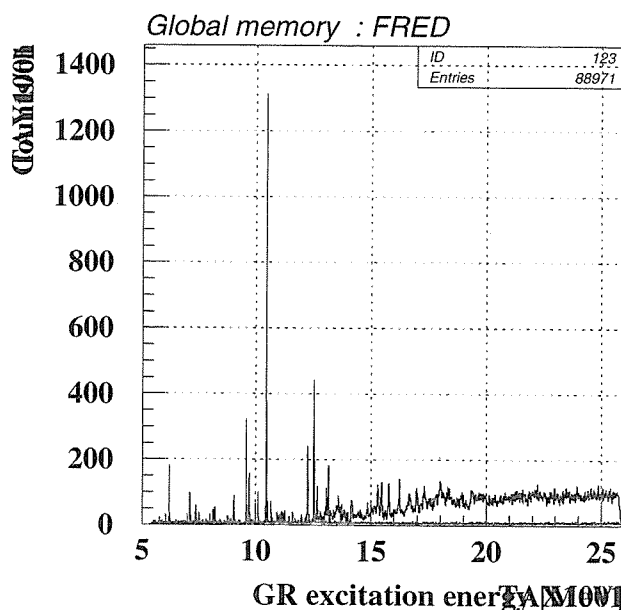
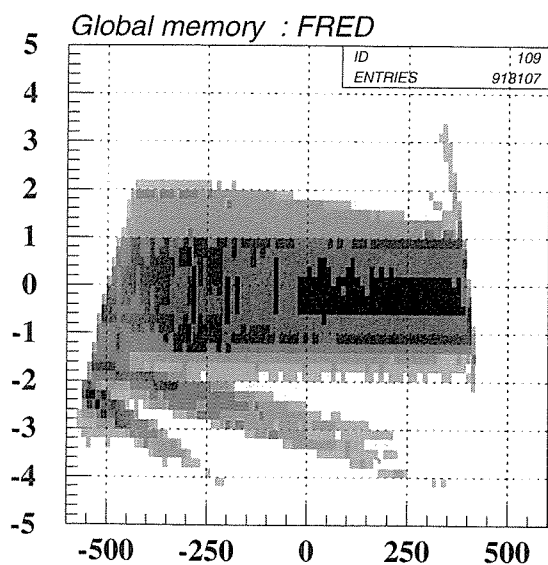
rate1			rate3		
0	Beam Intensity	10.486 nA	0	BLP CLK req	9.903 kcps
1	GR event request	1.167 kcps	1	BLP CLK live	9.903 kcps
2	GR event live	1.039 kcps	2	BLP Trig req	0.000 kcps
3	LAS eventRequest	2.387 kcps	3	BLP Trig live	0.000 kcps
4	LAS event live	2.071 kcps	4	Akimune UP	0.000 kcps
5	GR clock request	9.902 kcps	5	Akimune Down	0.000 kcps
6	GR clock live	8.923 kcps	6	Akimune Left	0.000 kcps
7	GR Single	1.039 kcps	7	Akimune Right	0.000 kcps
8	GR Single Sample	1.039 kcps	8	Beam Monitor1	1.167 kcps
9	LAS Single	2.070 kcps	9	Beam Monitor2	1.039 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3	0.000 kcps
11	GR & LAS COIN	0.006 kcps	11	GR scinti.1	0.000 kcps
12	ALL accept Event	3.109 kcps	12	GR scinti.2	75.710 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	0.000 kcps
14	GR3377stop(TEND)	3.109 kcps	14		0.000 kcps
15	LAS-reject	0.000 kcps	15		0.000 kcps

Trig.(GR) live	: 89.001 percent
Trig.(LAS) live	: 86.741 percent
Clock live	: 90.113 percent

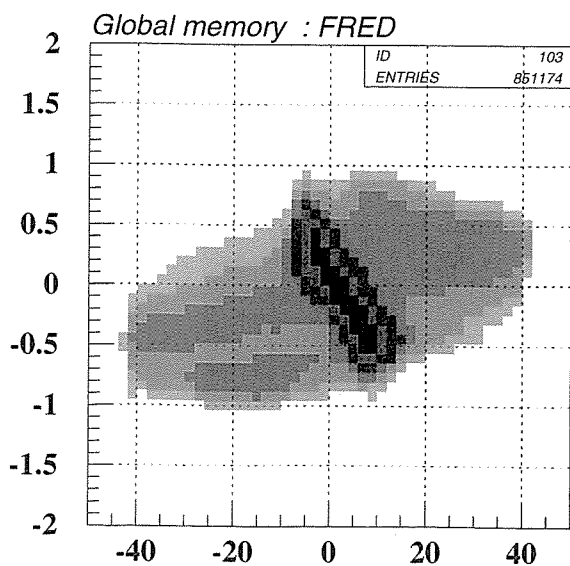
RUN NUM	2098	B.I. Range	20 nA
RUN START	2007-Nov-30	06:24:30	
NOW	2007-Nov-30	06:32:30	
scaler	1 ch	Scal	

2098

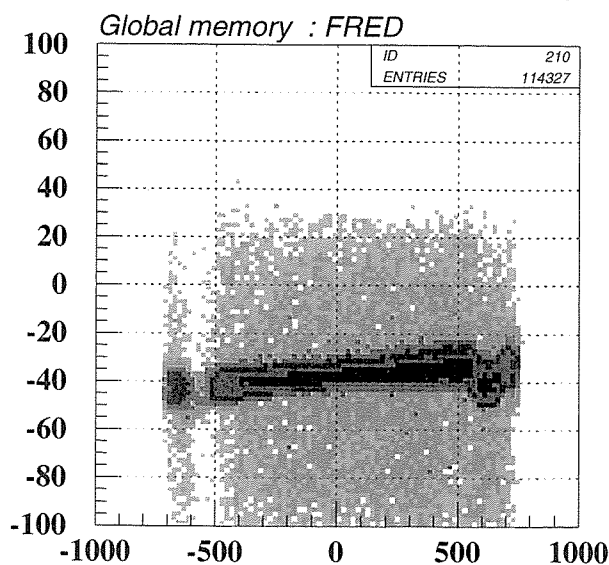
2007/11/30 07:55



GXTHC GR THC vs X



GEXG GR excitation energy (Y, TH-gated)



GYPH GR Phi vs X

LXY LAS Y vs X

Run# 2099	Comment ^{40}Ca 3.5 mg/cm ² 4.5 deg #1
-----------	--

Date 11 / 30
 Start 8 : 01
 Stop :
 GR angle 4.5 deg
 Beam current 9.3 nA
 C.I. range 20 nA

Target	
☐ ^{20}Ne	inela or elast
☐ ^{36}Ar	inela or elast
☐ CO_2	inela or elast
☐ Empty	inela or elast
☐ ^{28}Si	2.22 (1.86) mg/cm^2
☒ ^{40}Ca	3.5 mg/cm^2

VDC ☒ OK ☐ Tripped F.C. ☐ 0deg ☒ Q1 ☐ SC rot. 3.9% V
 Gas cell Temp deg Press atm thickness mg/cm2
 Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1		rate3	
0	Beam Intensity	8,175	nA
1	GR event request	1,179	kcps
2	GR event live	1,064	kcps
3	LAS eventRequest	1,590	kcps
4	LAS event live	1,420	kcps
5	GR clock request	9,903	kcps
6	GR clock live	9,127	kcps
7	GR Single	1,064	kcps
8	GR Single Sample	1,419	kcps
9	LAS Single	0,003	kcps
10	LAS SingleSample	0,000	kcps
11	GR & LAS COIN	0,000	kcps
12	ALL accept Event	2,484	kcps
13	Reject event	0,000	kcps
14	GR3377stop(TEND)	2,484	kcps
15	LAS-reject	0,000	kcps

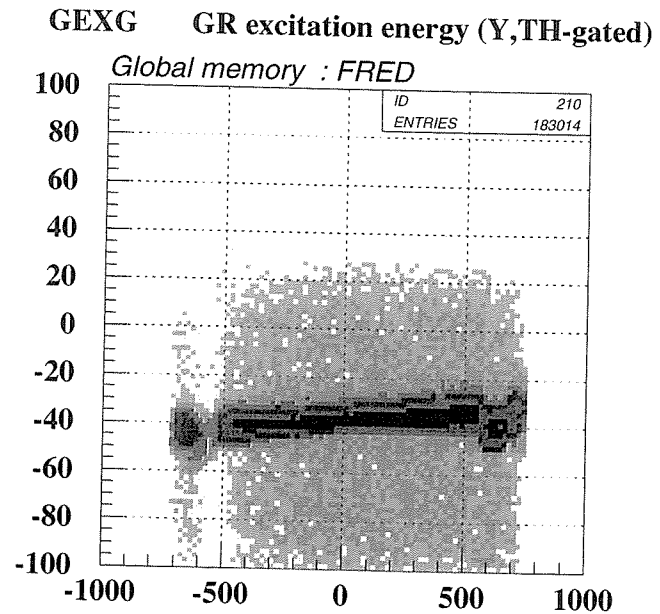
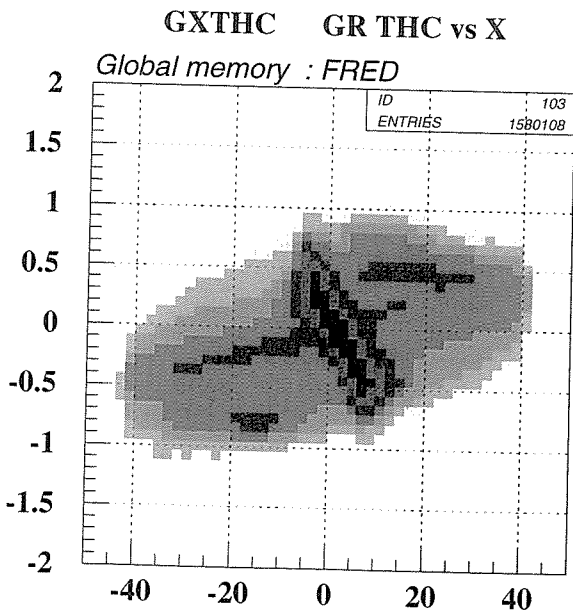
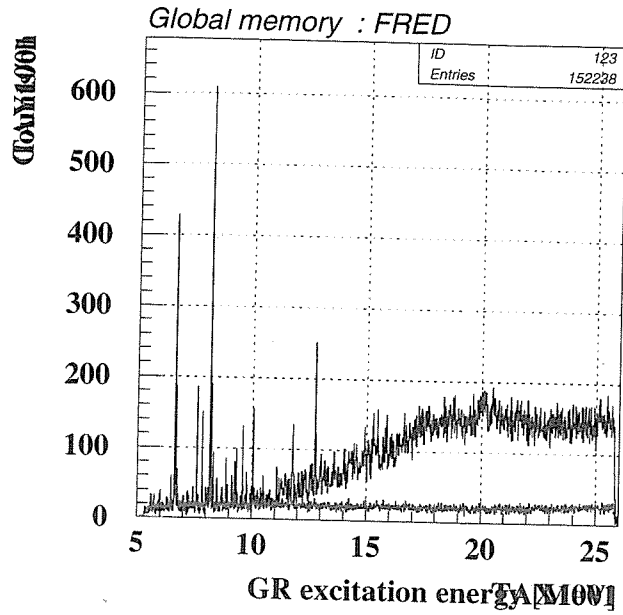
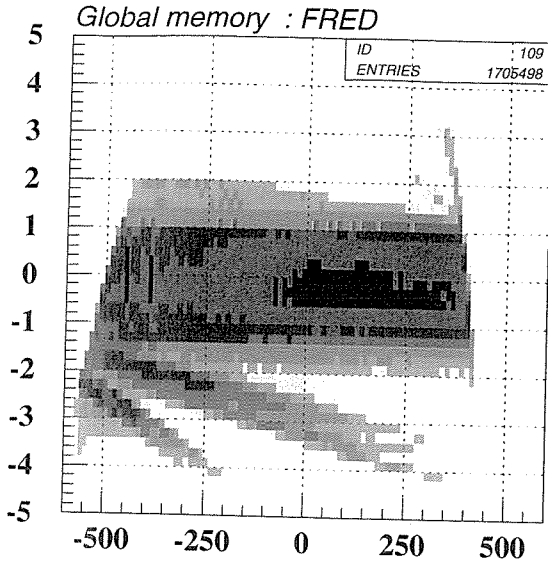
Trig.(GR) live : 90.274 percent
Trig.(LAS) live : 89.334 percent
Clock live : 92.171 percent

rate1		rate3	
0	BLP CLK req	:	9.903 kcps
1	BLP CLK live	:	9.903 kcps
2	BLP Trig req	:	0.000 kcps
3	BLP Trig live	:	0.000 kcps
4	Akimune UP	:	0.000 kcps
5	Akimune Down	:	0.000 kcps
6	Akimune Left	:	0.000 kcps
7	Akimune Right	:	0.000 kcps
8	Beam Monitor1	:	1.179 kcps
9	Beam Monitor2	:	1.064 kcps
10	Beam Monitor3	:	0.000 kcps
11	GR scinti.1	:	0.000 kcps
12	GR scinti.2	:	57.794 kcps
13	GR X-hodo	:	0.000 kcps
14		:	0.000 kcps
15		:	0.000 kcps

RUN NUM 2099 B.I. Range 20 nA
RUN START 2007-Nov-30 08:01:53
NOW 2007-Nov-30 08:02:42
 scaler 0 ch Scal

#2099

2007/11/30 09.32



GYPH GR Phi vs Y

LXY LAS Y vs X

9-25. Q1 FC calib.

File Window Temp 07/11/30 09:34

/Main/Change Set/check state/change pol

Spin UP/DOWN(1<T<999) 10 10 x0.1 sec Refresh

Veto Time(>10) 1000 msec Refresh

AUTO HATA IN/OUT/NUE 10 99 20 Refresh

測定用 (変更前)

File Window Temp 07/11/30 09:34

/Main/Change Set/check state/change pol

Spin UP/DOWN(1<T<999) 10 10 x0.1 sec Refresh

Veto Time(>10) 1000 msec Refresh

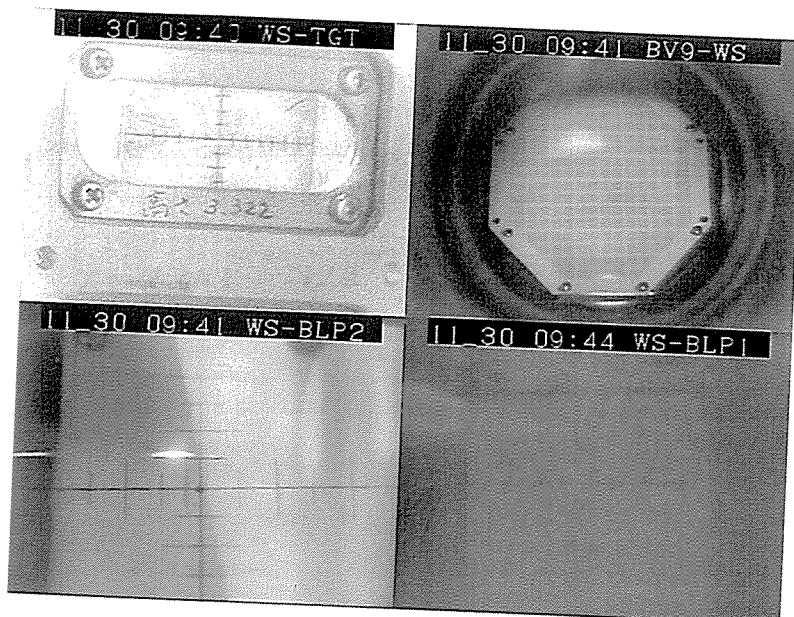
AUTO HATA IN/OUT/NUE 8 8 20 Refresh

変更しません
FC calib用 (変更後)

ピンポイント確認 → 右下に示した

※ 4.5 測定前の H2-調整の後に
ピンポイント確認もし 行ったことになっている。

なので 4.5 を測定する



before

また、BLP1用のカメラ (viewer を見るカメラ) にかかり悪く写っているので、交換もする。

(残像が残り、~~確認~~ 番号 7-4 の蛍光灯が消滅)



← ビーシの軸調整後

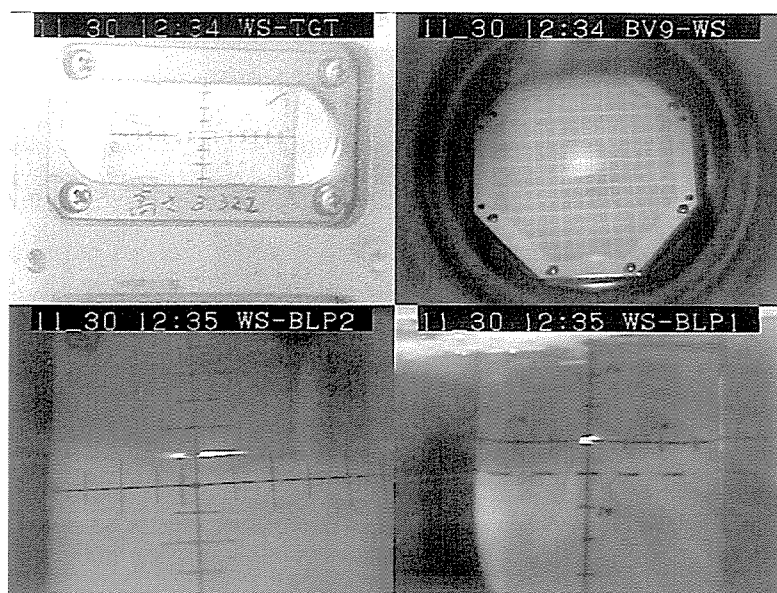
tuning が ~~良~~ うまいからなので
昨日 8 時の トランスポートに戻してもらった。

WSdev の 姿勢 がおかしいので、WSdev を 立ち上げ ~~直そうと~~ したら 立ち上がらなかった。
 ↓ ポジションがリフレッシュされ
 ↓ UP or down の 反応 が 来た 時 になる

→ 両実験室 入室

LAS の ミニサー 内部. ERR 表示あり
 → 電源 入れ直し

⇒ 回復



←
トラレスポートを
戻したあとの様子

5. beam の B.G. が非常に大きい
 6. 標的上の spot が横に長い (Beam Line 2 f)

か) 再調整 (途中)

Ring の 3/4 に達したときに当たった模様。

調整した beam が小さくなった 15200

Q1-IC を clock 為
 動かしたか. 3.902 V に
 戻した

→ blank 2 700 cps/10 nA

OK

WS Device Controller

'07/11/30 14:59

WS\CHAMBER\GR\LAS

Device: Preset & Actual Values (Manual Operation Buttons)

Target Position	◆	1.536	1.538 V	DOWN	◀	■	▶	UP
Target Rotation	◆		3.393 V	CW	◀	■	▶	CCW
FC Position	◆		4.382 V	DOWN	◀	■	▶	UP
FC Rotation	◆	2.000	2.002 V	CCW	◀	■	▶	CW
FC Tilt	◆		2.869 V	CCW	◀	■	▶	CW
Table Rotation	◆		1.389 V	CCW	◀	■	▶	CW

Update

Cycle 5 sec.

Hcopy

Queue acc3626

exit

WS Device Controller

'07/11/30 14:57

WS\CHAMBER\GR\LAS

Device: Preset & Actual Values (Manual Operation Buttons)

Q1 FC	◆	3.902	3.905 V	IN	◀	■	▶	OUT
Yamagoshi Left	◆		32.389 V	OUT	◀	■	▶	IN
Yamagoshi Right	◆		32.389 V	OUT	◀	■	▶	IN
Yamagoshi Up	◆		32.389 V	OUT	◀	■	▶	IN
Yamagoshi Down	◆		32.389 V	OUT	◀	■	▶	IN
FP Stopper Position	◆		0.360 V	OUT	◀	■	▶	IN
FP Stopper Rotation	◆		0.001 V	CCW	◀	■	▶	CW

Update

Cycle 5 sec.

Hcopy

Queue acc3626

exit

Run# 2100 Comment 4th Mg 2.5 mg/cm² 4.5° 4.7 V

Date 11/30

Start 15:02

Stop :

GR angle 4.5 deg

Beam current 9.7 nA

C.I. range 20 nA

Target

☐ ²⁰Ne inela or elast

☐ ³⁶Ar inela or elast

☐ CO2 inela or elast

☐ Empty inela or elast

☐ ²⁸Si 2.22 (1.86) mg/cm²

☒ ²⁴Mg 2.5 mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☐ 0deg ☒ Q1 ☐ SC rot. 3.905 V

Gas cell Temp : deg Press : atm thickness : mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1		rate3	
0	Beam Intensity	9.767 nA	
1	GR event request	1.042 kcps	
2	GR event live	0.928 kcps	
3	LAS eventRequest	1.989 kcps	
4	LAS event live	1.822 kcps	
5	GR clock request	9.716 kcps	
6	GR clock live	8.855 kcps	
7	GR Single	0.928 kcps	
8	GR Single Sample	0.928 kcps	
9	LAS Single	1.822 kcps	
10	LAS SingleSample	0.002 kcps	
11	GR & LAS COIN	0.005 kcps	
12	ALL accept Event	2.749 kcps	
13	Reject event	0.000 kcps	
14	GR3377stop(TEND)	2.749 kcps	
15	LAS-reject	0.000 kcps	

0	BLP CLK req	:	9.903 kcps
1	BLP CLK live	:	9.903 kcps
2	BLP Trig req	:	0.000 kcps
3	BLP Trig live	:	0.000 kcps
4	Akimune UP	:	0.000 kcps
5	Akimune Down	:	0.000 kcps
6	Akimune Left	:	0.000 kcps
7	Akimune Right	:	0.000 kcps
8	Beam Monitor1	:	1.110 kcps
9	Beam Monitor2	:	1.021 kcps
10	Beam Monitor3	:	0.000 kcps
11	GR scinti.1	:	0.000 kcps
12	GR scinti.2	:	72.156 kcps
13	GR X-hodo	:	0.000 kcps
14	:	:	0.000 kcps
15	:	:	0.000 kcps

RUN NUM	9999	B.I.	Range	20 nA
RUN START	2007-Nov-30		11:26:20	
NOW	2007-Nov-30		15:00:37	
scaler	0	ch	Sca1	

16:40 : AVFのRFが止まった。7"は35分くらい。
run stop. ← 4.5°の位置に移動した。

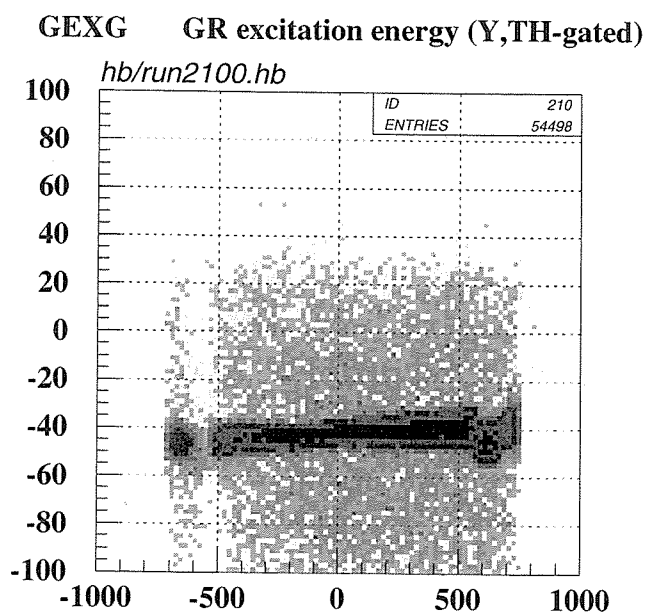
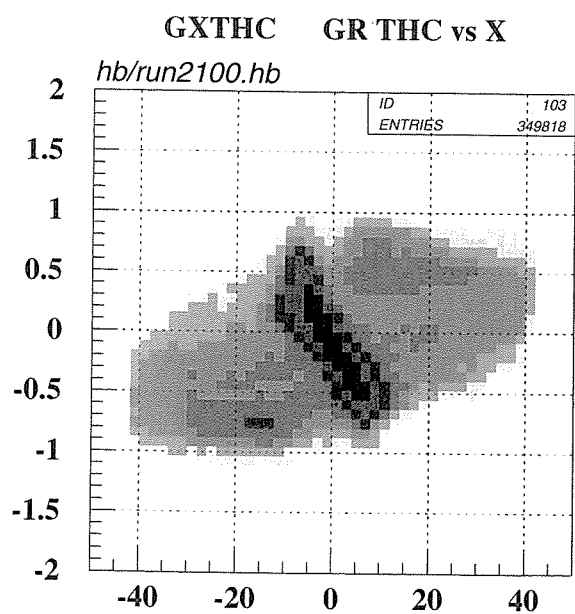
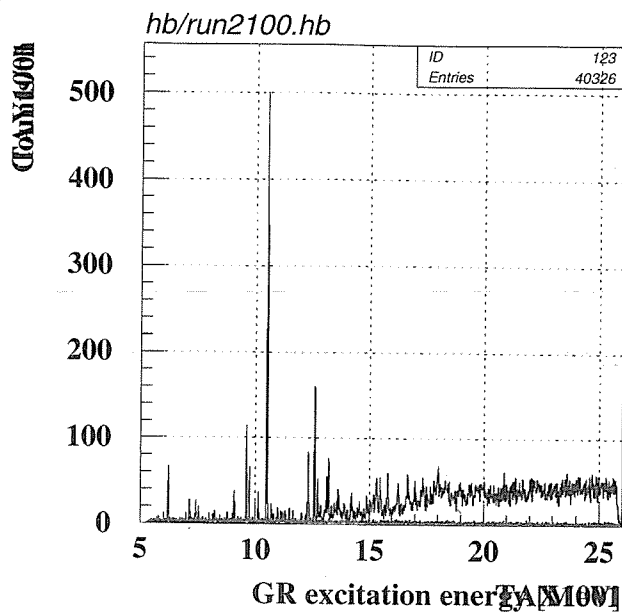
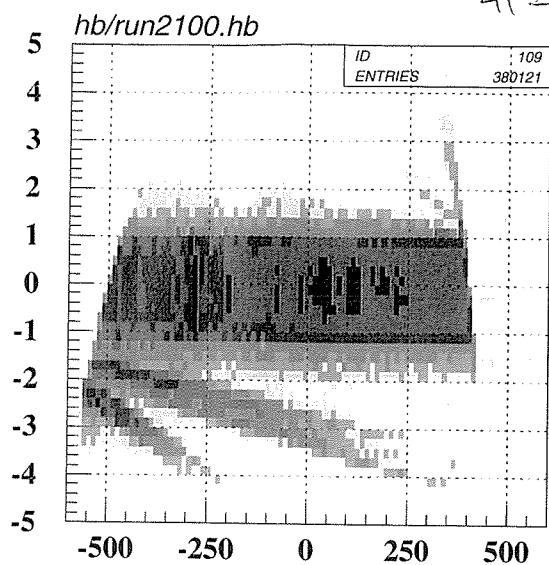


対位角を確認すると正にズレていた。

16:55. 輻射完了。

2007/11/30 15.48

#2100



GYPH GR Phi vs Y

LXY LAS Y vs X

Run# 2101 Comment ^{40}Ca gRange 4.5deg DISP (3.5mg/cm²)

Date 11 / 30 Target

Start 16 : 17 ☐ ^{20}Ne inela or elast

Stop : ☐ ^{36}Ar inela or elast

GR angle 4.5 deg ☐ CO_2 inela or elast

Beam current 10 nA ☐ Empty inela or elast

C.I. range 20 nA ☐ ^{28}Si 2.22 (1.86) mg/cm²

☒ ^{40}Ca 3.5 mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☐ 0deg ☒ Q1 ☐ SC rot. 3.905 V

Gas cell Temp deg Press atm thickness mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1			rate3		
0	Beam Intensity	9.940 nA	0	BLP CLK req :	9.904 kcps
1	GR event request	1.665 kcps	1	BLP CLK live :	9.904 kcps
2	GR event live	1.334 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	1.945 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	1.751 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.904 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.940 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.334 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.334 kcps	8	Beam Monitor1 :	1.665 kcps
9	LAS Single	1.751 kcps	9	Beam Monitor2 :	1.334 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.001 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.085 kcps	12	GR scinti.2 :	72.918 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.085 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live :	80.153 percent
Trig.(LAS) live :	90.020 percent
Clock live :	90.270 percent

RUN NUM	2101	B.I. Range	20 nA
RUN START	2007-Nov-30	16:17:02	
NOW	2007-Nov-30	16:20:22	
scaler	1 ch	Scal	

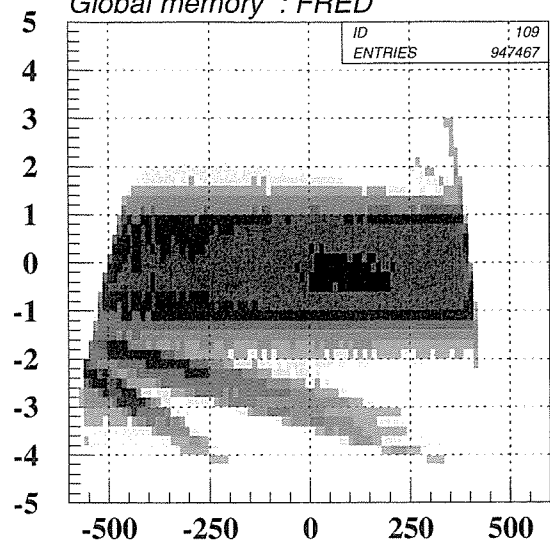
26日後 11-11-17 (金) か 落ちた

(数日後復旧)

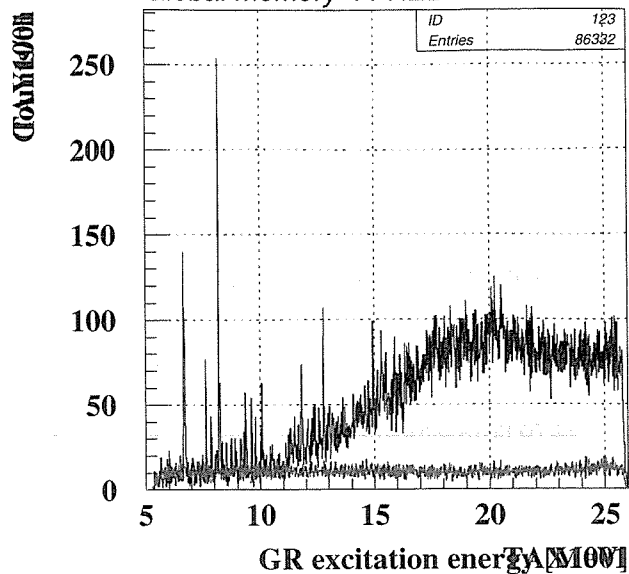
2007/11/30 17.17

2101

Global memory : FRED

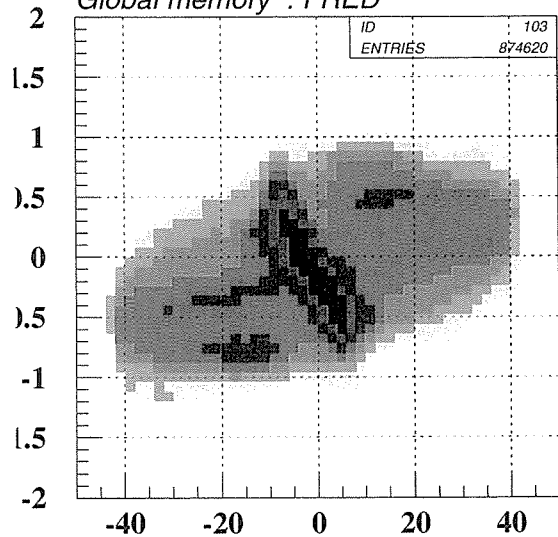


Global memory : FRED



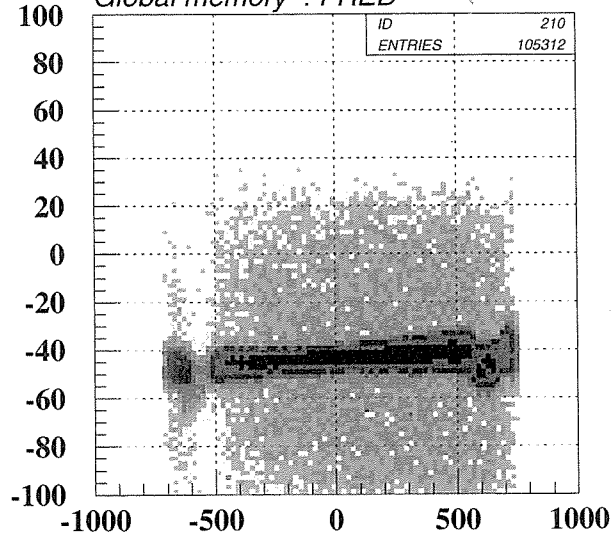
GXTHC GR THC vs X

Global memory : FRED



GEXG GR excitation energy (Y, TH-gated)

Global memory : FRED



GYPH GR Phi vs Y

LXY LAS Y vs X

FC calib at 4.5° → BLP 2.0T

File Window Temp		07/11/30 17:18	
☒Main ☒Change Set ☒check state ☒change pol			
Spin UP/DOWN(1<T<999)	10	10	x0.1 sec Refresh
Veto Time(>10)	1000		msec Refresh
AUTO HATA IN/OUT/MUE	8	8	20 Refresh

変更

2102 BLP - SCFC with blank. → 1.651T (in)

true = 22903.
 chance = 248
 BL sum = 22054

SCFC is 2.0T (out).
高±2 4.383T.

→ 0.9935

2103 BLP - Q1FC. at 3.905T with blank.

true = 22245
 chance = 200
 BL sum = 21157

→ 0.9597

2104 BLP - Q1FC at 3.905T with $\epsilon_0(a) 3.5 \mu\text{g}/\text{cm}^2$

true = 24315

chance = 268.

BZ-sum = 23056.

→

0.9500

測定のエラー
↓

2105 BLP - Q1FC at 4.505T with $\epsilon_0(a) 3.5 \mu\text{g}/\text{cm}^2$

true = 22806

chance = 270

BZ-sum = 21867.

→

0.9703

File	Window	Temp	07/11/30 17:45	
Main / Change Set / check state / change pol				
Spin UP/DOWN(1 < T < 999)	10	10	x0.1 sec	Refresh
Veto Time(>10)	1000		msec	Refresh
AUTO HATA IN/OUT/NUC	10	99	20	Refresh

111=30. λ' 五入量、

GR 4.5° → 0°

3段 3A- 投入

CO₂ gas 減る、

1P=50 減る、

WS Magnet Controller

'07/11/30 18:53

WS/PIS

Magnet	Field(Preset/Actual)	Current(Preset/Actual)	Status	PS	NMR	FB
GR Q1	mT	90.30 A	☐	☐	☐	☐
GR SX	mT	18.10 A	☐	☐	☐	☐
GR Q2	mT	8.50 A	☐	☐	☐	☐
GR MQ	mT	0.00 A	☐	☐	☐	☐
GR MS	mT	0.00 A	☐	☐	☐	☐
GR D1	868.963 mT	230.51 A	☐	☐	☐	☐
GR D2	869.216 mT	433.63 A	☐	☐	☐	☐
GR DSR	120.441 mT	13.54 A	☐	☐	☐	☐
LAS Q	mT	217.70 A	☐	☐	☐	☐
LAS D	-747.989 mT	280.30 A	☐	☐	☐	☐
GR DQ1	mT	50 50.00 A	☐	☐	☐	☐
GR DQ2	mT	65.1 65.10 A	☐	☐	☐	☐

Update

update Cycle 10 sec.

Hcopy

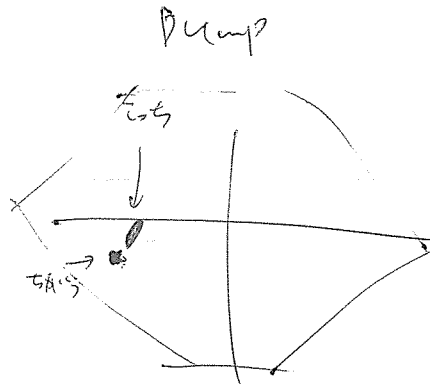
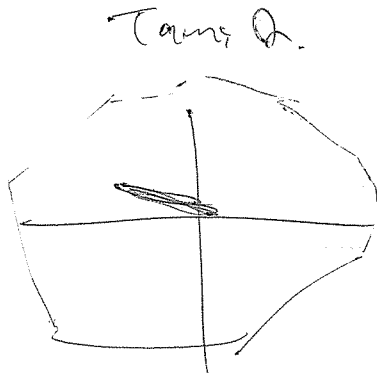
Queue acc3626

exit

19:00 - 軸出し

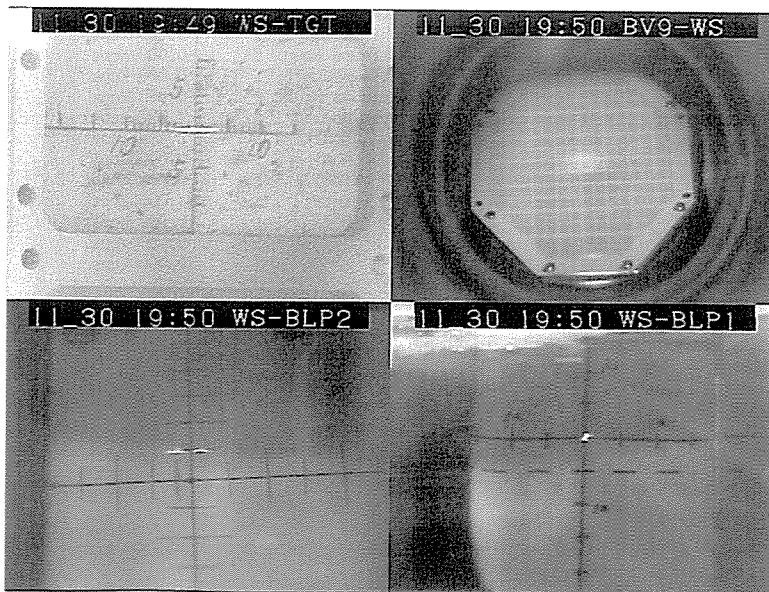
Steps @ 4uA.

うーん少しハロ-かたがた



Ring の RF の位相を調整 軸は止まる 600cps @ 4uA

もう一度軸確認



0.0033 atm/h of ethyl

0.0307 m lach. 無視下

9

Target			
☐ ^{20}Ne	inela	or	elast
☐ ^{36}Ar	inela	or	elast
☒ CO_2	inela	or	elast
☐ Empty	inela	or	elast
☐ ^{28}Si	2.22 (1.86) mg/cm^2		
☐	mg/cm^2		

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V
Gas cell Temp 21 deg Press 1.05 atm thickness 1.90 mg/cm²
Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1			rate3		
0	Beam Intensity	3.927 nA	0	BLP CLK req :	10.141 kcps
1	GR event request	2.692 kcps	1	BLP CLK live :	10.140 kcps
2	GR event live	2.489 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.087 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.080 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	10.140 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.376 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	2.489 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	2.489 kcps	8	Beam Monitor1 :	2.692 kcps
9	LAS Single	0.080 kcps	9	Beam Monitor2 :	2.489 kcps
10	LAS SingleSample	0.006 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.235 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	2.569 kcps	12	GR scinti.2 :	14.085 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	2.569 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 92.431 percent

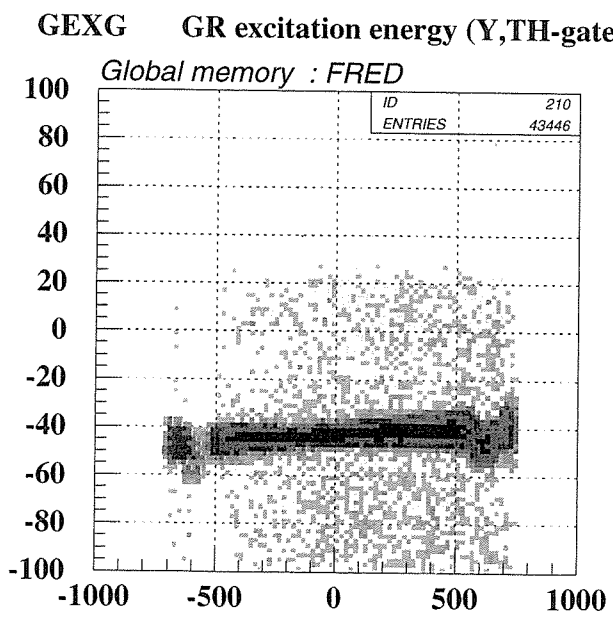
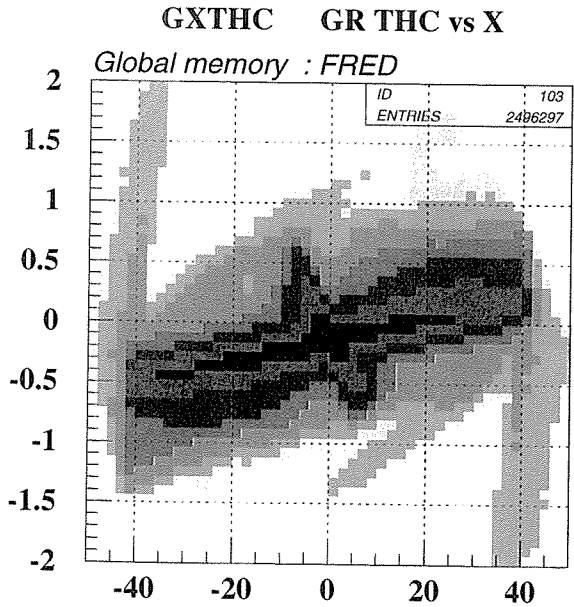
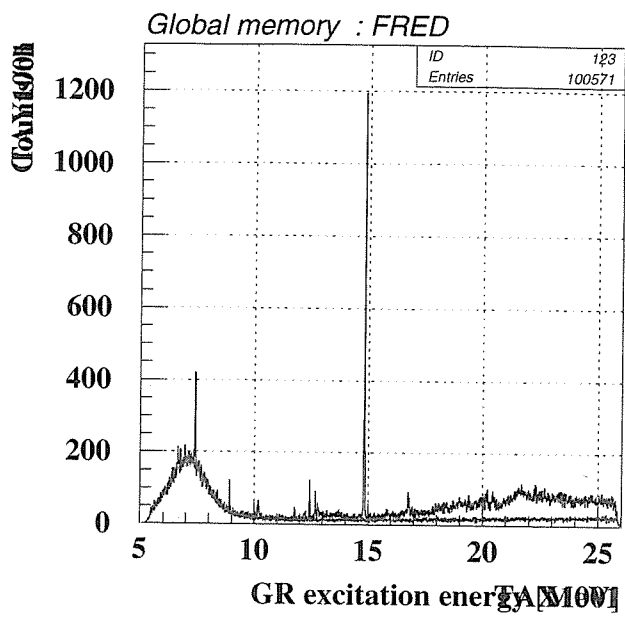
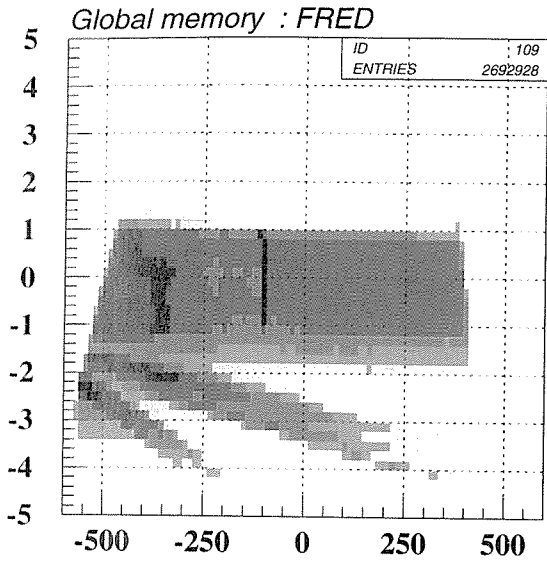
Trig.(LAS) live : 91.954 percent

Clock live : 92.466 percent

RUN NUM	2106	B.I. Range	6 nA
RUN START	2007-Nov-30	19:59:35	
NOW	2007-Nov-30	20:02:08	
scaler	1	ch	Scal1

#2166

2007/11/30 21.03



GYPH GR Phi vs Y

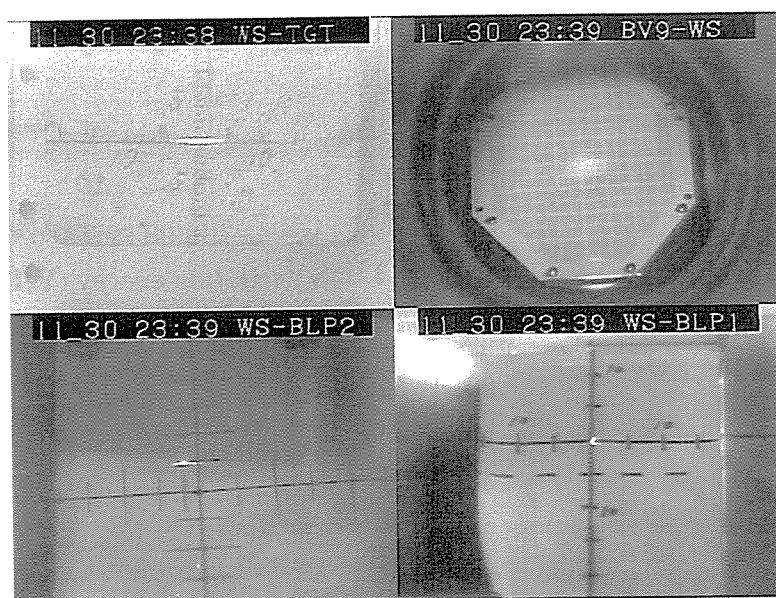
LXY LAS Y vs X

21:00 西入室

^{20}Ne 充てんして冷却するも、11-1割、あまた...orz
20日のセルは常温1年ほど充てん。

23:30 西退室

23:35 スポット確認、



↑
BLP2はちぎれた。

12- を check した。
(blank)

$\sim 300 \text{ cps}$ @ $4 \mu\text{A}$

い-は ちぎれた。

funny してやう

Ring入射の BIZ を tune してみよう。

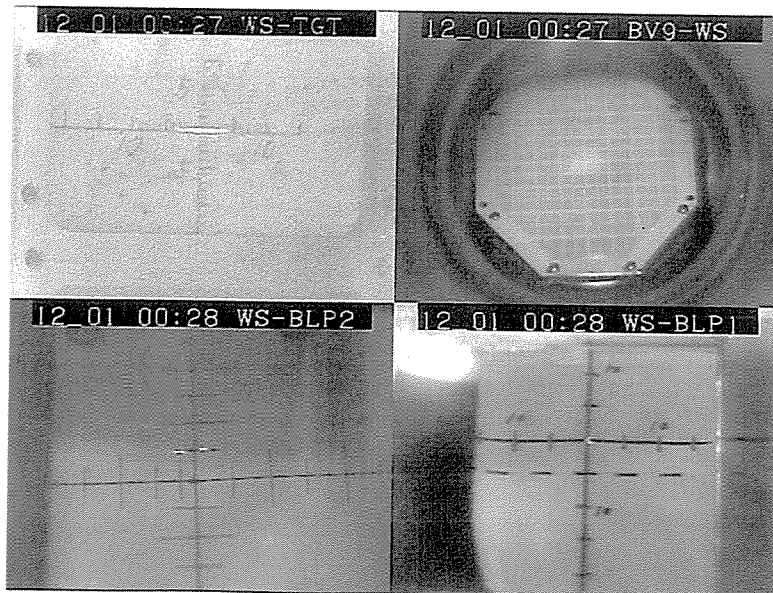
rate1			rate3		
0	Beam Intensity	3.852 nA	0	BLP CLK req	9.902 kcps
1	GR event request	0.412 kcps	1	BLP CLK live	9.903 kcps
2	GR event live	0.404 kcps	2	BLP Trig req	0.000 kcps
3	LAS eventRequest	0.021 kcps	3	BLP Trig live	0.000 kcps
4	LAS event live	0.020 kcps	4	Akimune UP	0.000 kcps
5	GR clock request	9.903 kcps	5	Akimune Down	0.000 kcps
6	GR clock live	9.775 kcps	6	Akimune Left	0.000 kcps
7	GR Single	0.404 kcps	7	Akimune Right	0.000 kcps
8	GR Single Sample	0.404 kcps	8	Beam Monitor1	0.412 kcps
9	LAS Single	0.020 kcps	9	Beam Monitor2	0.404 kcps
10	LAS SingleSample	0.002 kcps	10	Beam Monitor3	0.000 kcps
11	GR & LAS COIN	0.006 kcps	11	GR scinti.1	0.000 kcps
12	ALL accept Event	0.423 kcps	12	GR scinti.2	10.879 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	0.000 kcps
14	GR3377stop(TEND)	0.423 kcps	14		0.000 kcps
15	LAS-reject	0.000 kcps	15		0.000 kcps

Trig.(GR) live : 98.095 percent
 Trig.(LAS) live : 95.238 percent
 Clock live : 98.713 percent

RUN NUM 9999 B.I. Range 6 nA
 RUN START 2007-Nov-30 23:41:52
 NOW 2007-Dec-01 00:17:54
 scaler 0 ch Scal

これは、毎月 1 0.02 q/m とおける計算 → c/e

もう一度 スタート確認 したいのでした。



tune 後

blank に して もう一度 check.

↳ 50 cps @ 1 nA ~~100 cps~~

1-6 111 211 212

Run# 2107 Comment 20Ne 0deg disp #1

Date 12/1

Start 0:37

Stop 2:42

GR angle 0 deg

Beam current 3.5 nA

C.I. range 6 nA

Target

☒ ²⁰Ne inela or elast

☒ ³⁶Ar inela or elast

☐ CO₂ inela or elast

☐ Empty inela or elast

☐ ²⁸Si 2.22 (1.86) mg/cm²

☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp 17.8 deg Press 1.16 atm thickness 0.97 mg/cm²

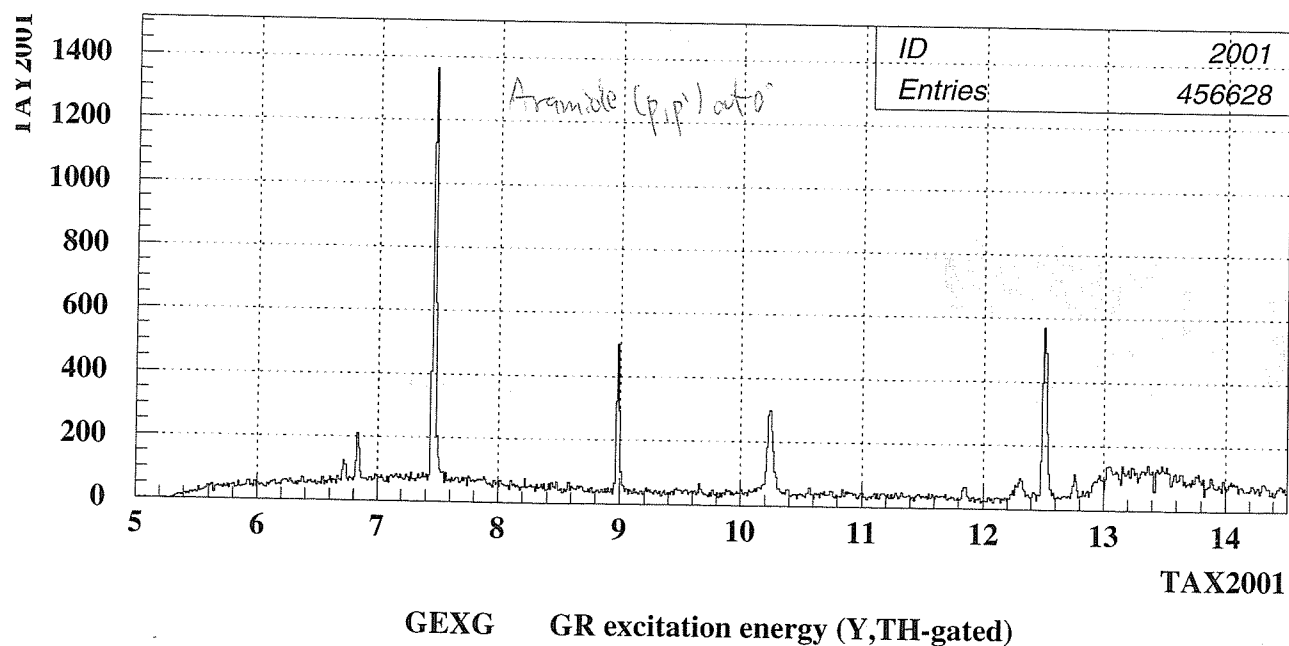
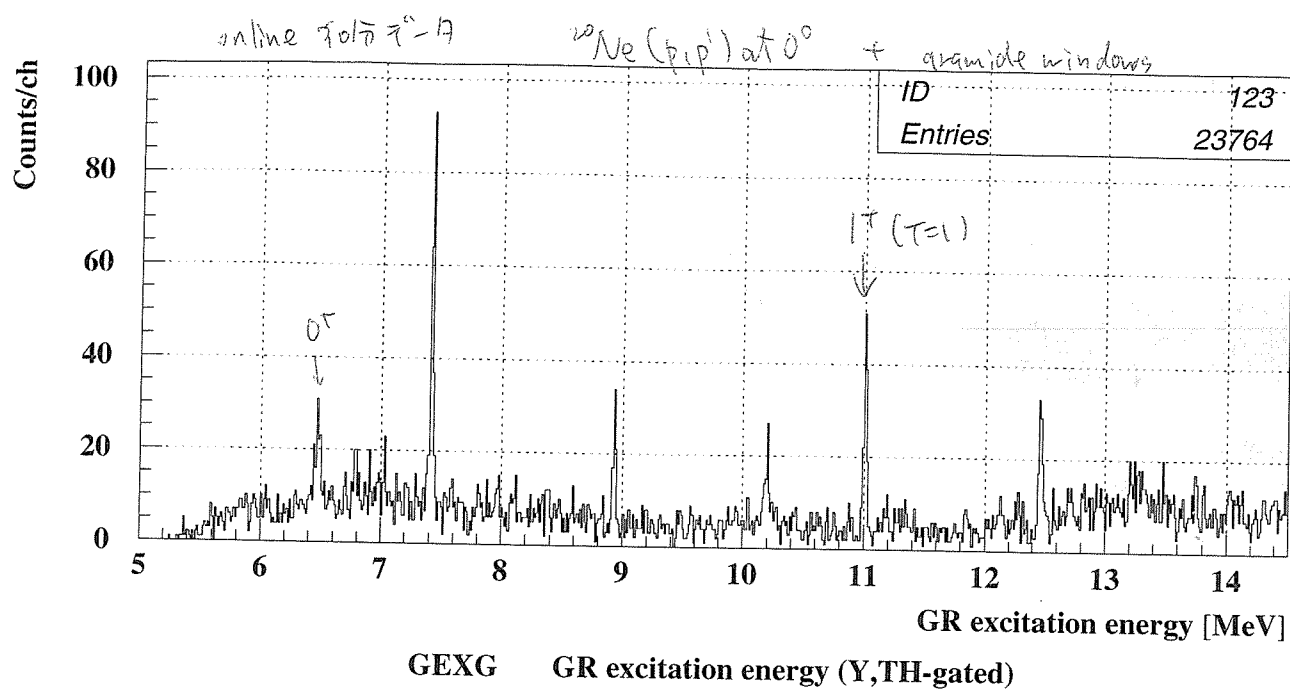
Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1			rate3		
0	Beam Intensity	3.798 nA	0	BLP CLK req :	9.753 kcps
1	GR event request	1.861 kcps	1	BLP CLK live :	9.754 kcps
2	GR event live	1.759 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.056 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.056 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	10.215 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.675 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.759 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.759 kcps	8	Beam Monitor1 :	1.841 kcps
9	LAS Single	0.056 kcps	9	Beam Monitor2 :	1.742 kcps
10	LAS SingleSample	0.004 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.166 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	1.815 kcps	12	GR scinti.2 :	12.548 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	1.815 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 94.565 percent
 Trig.(LAS) live : 100.000 percent
 Clock live : 94.714 percent

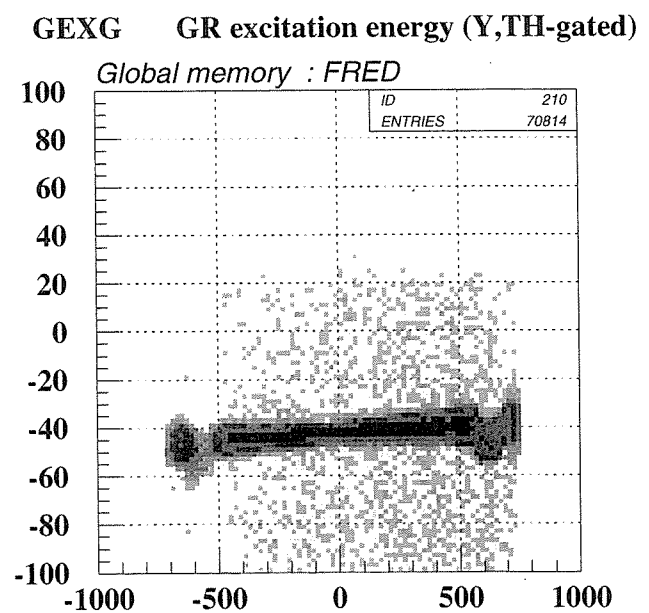
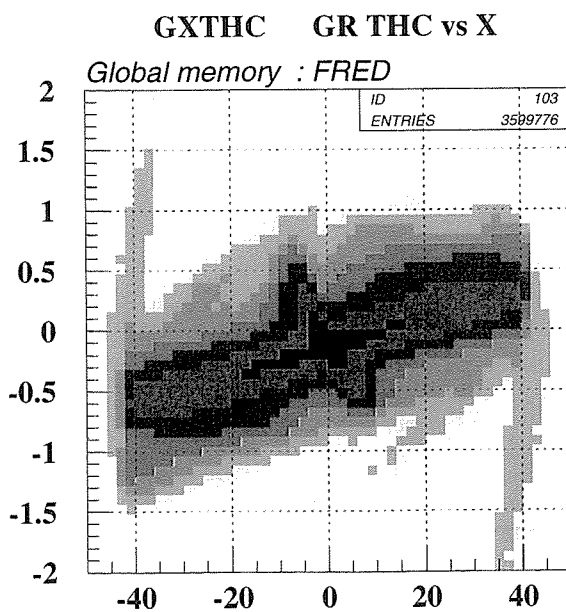
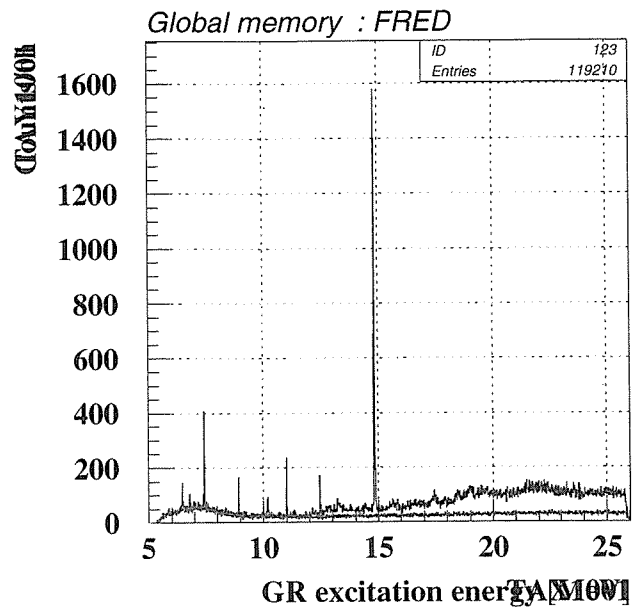
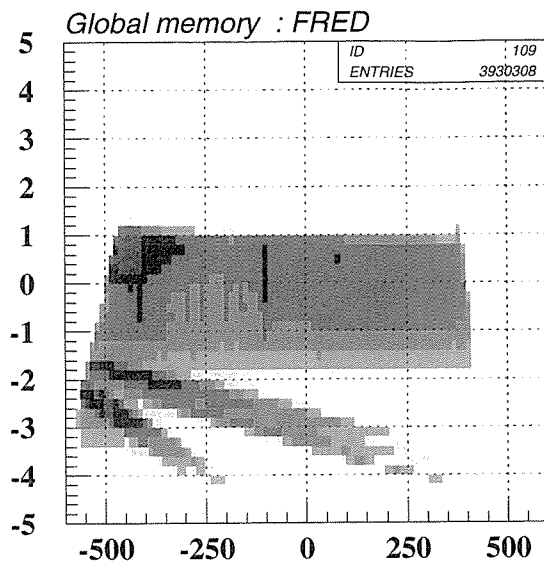
RUN NUM 2107 B.I. Range 6 nA
 RUN START 2007-Dec-01 00:35:04
 NOW 2007-Dec-01 00:43:33
 scaler 0 ch Scal

2007/12/01 01.08



2007/12/01 02:35

A2107



GYPH GR Phi vs Y

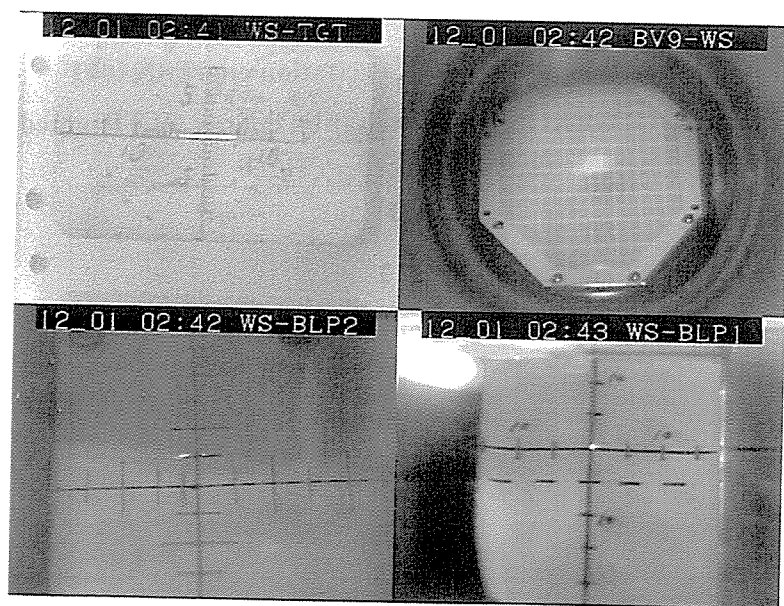
LXY LAS Y vs X

Run# 2108 Comment ^{20}Ne @ 0deg disp. #2

Date 12 / 1
 Start 2 : 47
 Stop 4 : 49
 GR angle 0 deg
 Beam current 4.6 nA
 C.I. range 6 nA

Target
☒ ^{20}Ne inela or elast
☐ ^{36}Ar inela or elast
☐ CO_2 inela or elast
☐ Empty inela or elast
☐ ^{28}Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V
 Gas cell Temp 21.2 deg Press 1.16 atm thickness 0.86 mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table



Run 2108 前 a Beam tuning 後

AVF a D voltage が不安定 3.11

↑
 5 時間 2108 = 9 時 42 分

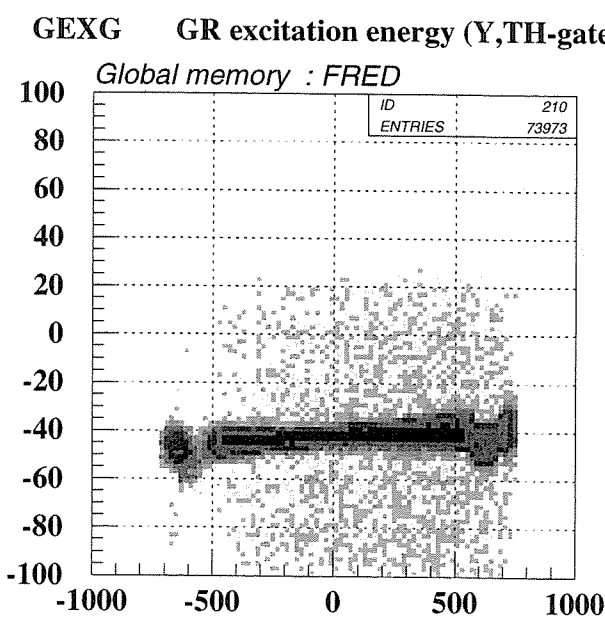
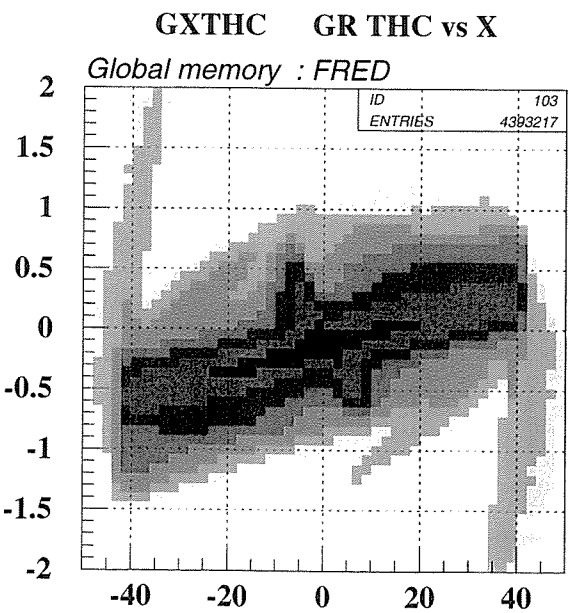
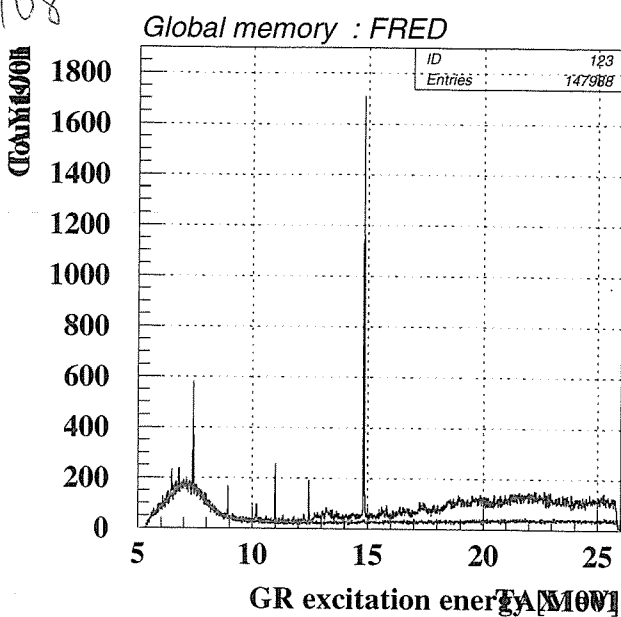
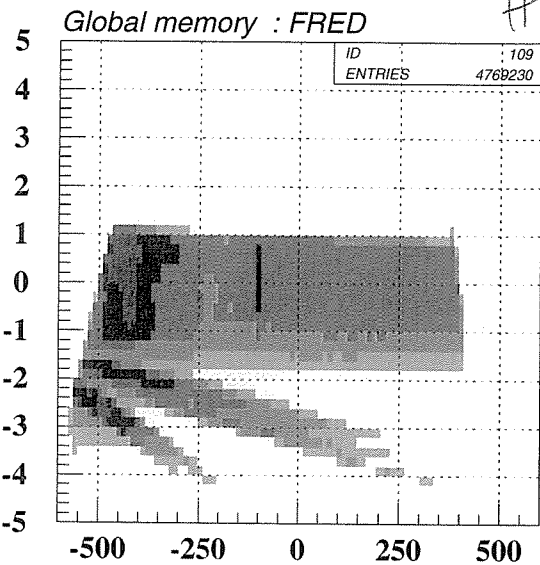
rate1			rate3		
0	Beam Intensity	4.588 nA	0	BLP CLK req	9.904 kcps
1	GR event request	2.372 kcps	1	BLP CLK live	9.905 kcps
2	GR event live	2.174 kcps	2	BLP Trig req	0.000 kcps
3	LAS eventRequest	0.072 kcps	3	BLP Trig live	0.000 kcps
4	LAS event live	0.067 kcps	4	Akimune UP	0.000 kcps
5	GR clock request	9.904 kcps	5	Akimune Down	0.000 kcps
6	GR clock live	9.236 kcps	6	Akimune Left	0.000 kcps
7	GR Single	2.174 kcps	7	Akimune Right	0.000 kcps
8	GR Single Sample	2.174 kcps	8	Beam Monitor1	2.372 kcps
9	LAS Single	0.067 kcps	9	Beam Monitor2	2.174 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3	0.000 kcps
11	GR & LAS COIN	0.234 kcps	11	GR scinti.1	0.000 kcps
12	ALL accept Event	2.241 kcps	12	GR scinti.2	15.592 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	0.000 kcps
14	GR3377stop(TEND)	2.241 kcps	14		0.000 kcps
15	LAS-reject	0.000 kcps	15		0.000 kcps

Trig.(GR) live : 91.653 percent
 Trig.(LAS) live : 93.151 percent
 Clock live : 93.259 percent

RUN NUM 2108 B.I. Range 6 nA
 RUN START 2007-Dec-01 02:47:55
 NOW 2007-Dec-01 02:51:29
 scaler 0 ch Scal

① 11:46
 4:43 時は C-4 の L-1 が
 G-4 は 非常 = 4.1.2 = 3.82 ± 0.1
 注意

2108



GYPH GR Phi vs Y

LXY LAS Y vs X

Run# 2109 Comment ^{20}Ne 0deg. disp #3

Date 12 / 1
 Start 4 : 51
 Stop 6 : 15
 GR angle 0 deg
 Beam current 4.1 nA
 C.I. range 6 nA

Target
☒ ^{20}Ne inela or elast
☐ ^{36}Ar inela or elast
☐ CO_2 inela or elast
☐ Empty inela or elast
☐ ^{28}Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V
 Gas cell Temp 23.3 deg Press 1.159 atm thickness 0.95 mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1			rate3		
0	Beam Intensity	4.033 nA	0	BLP CLK req :	10.197 kcps
1	GR event request	2.973 kcps	1	BLP CLK live :	10.197 kcps
2	GR event live	2.668 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.075 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.069 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	10.197 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.383 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	2.668 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	2.668 kcps	8	Beam Monitor1 :	2.973 kcps
9	LAS Single	0.069 kcps	9	Beam Monitor2 :	2.668 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.335 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	2.736 kcps	12	GR scinti.2 :	14.578 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	2.736 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

rig.(GR) live :	89.715 percent
rig.(LAS) live :	91.892 percent
lock live :	92.012 percent

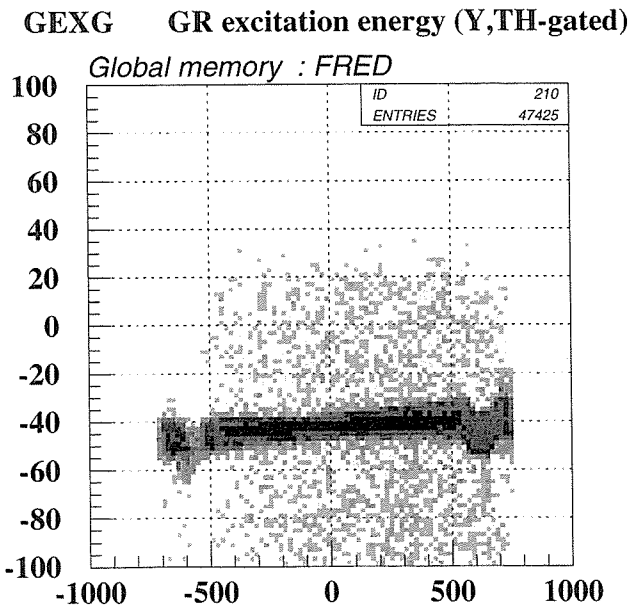
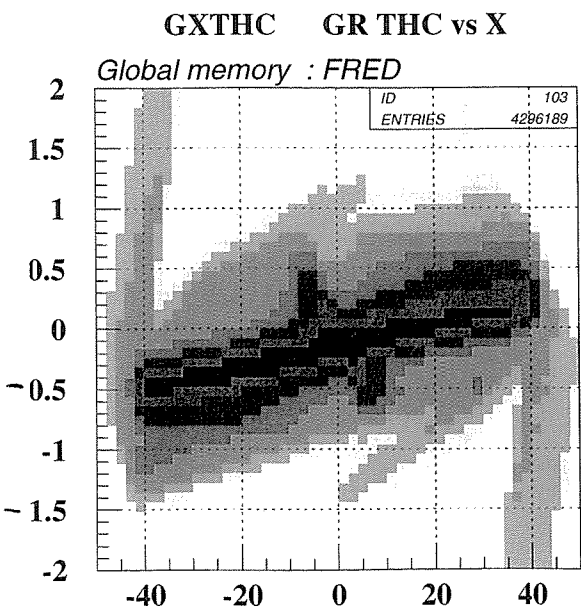
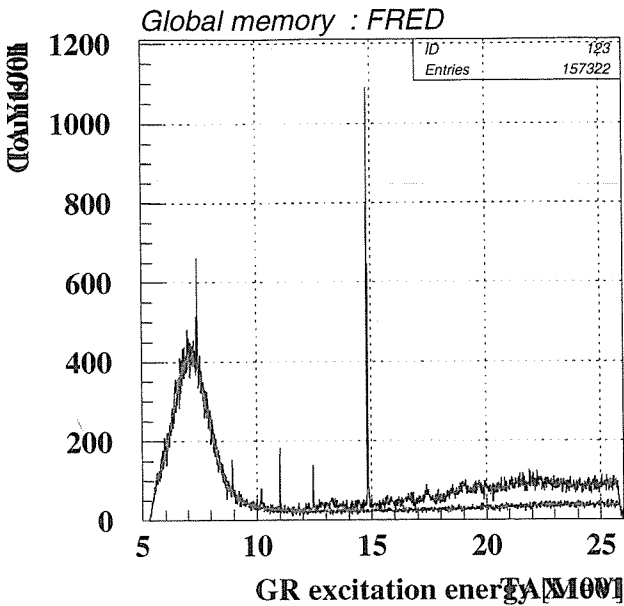
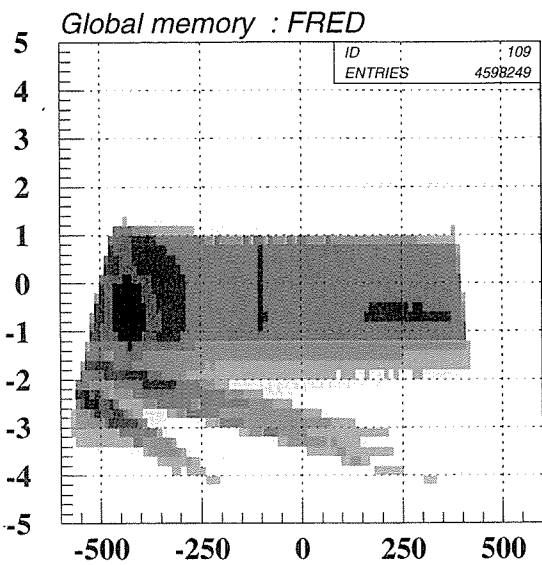
RUN NUM	2109	B.I. Range	6 nA
RUN START	2007-Dec-01	04:51:00	
NOW	2007-Dec-01	04:52:02	
scaler	1	ch	Scal

6:15

back ground 増えたの? run 中断.
 beam の確認.

run 2109

2007/12/01 06.14



GYPH GR Phi vs Y

LXY LAS Y vs X

Beam tuning Kap
target 上で Beam 像の明暗が不安定？

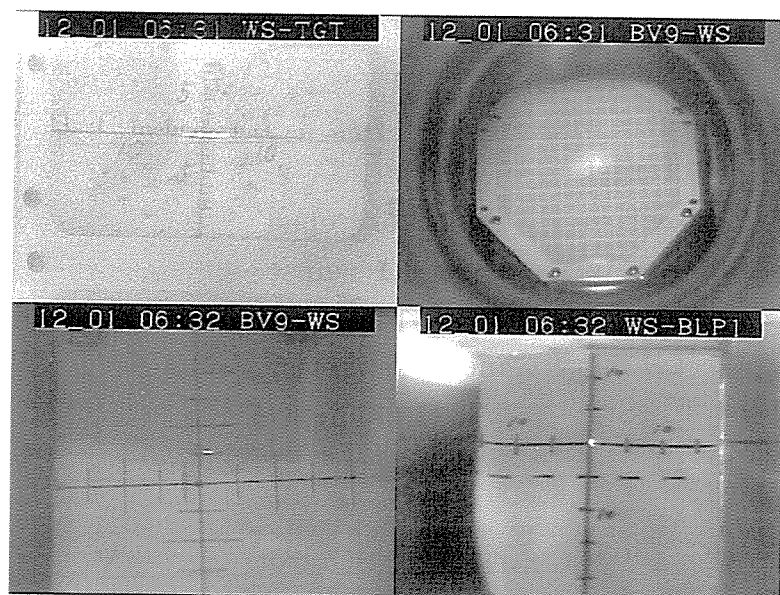
BE/BM2 → BLP1 で中心が左に偏ったことを中央へ

BM6 → BLP2/BV7 左

BM7 → BV9 右

上下のズレはほとんどなし、左右も微調整でいい。

(AVF の D voltage が 75 2112112 ので手動で直して 75 2112112)
Run 2108 あたりから？



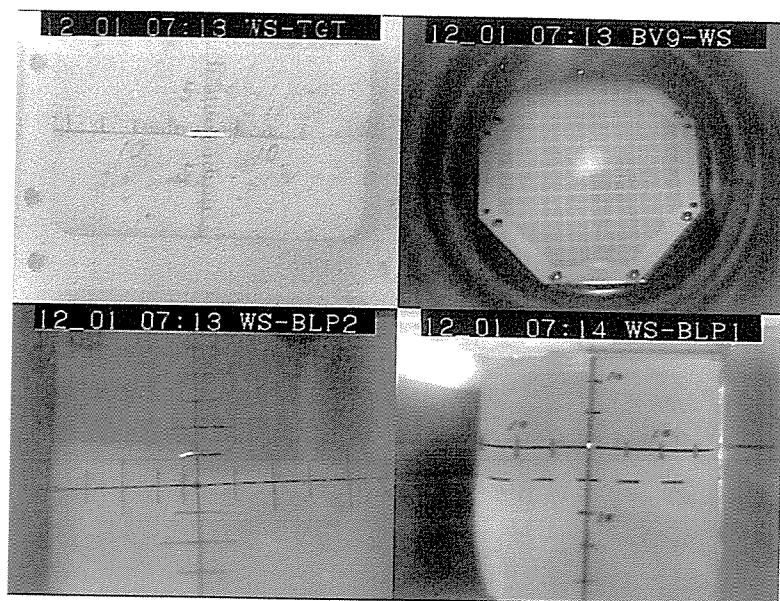
Blank target 2 BG 42.7 → BG 72.1 ~ 44A 2. ^{GR} event request > 3 kcps

BG tuning (後藤 さん 丸投げ)

↓

主に AVF D voltage、位相 slit の調整で PLL 程度に回復。

Beam alignment → Run start



Run# 2110 Comment ^{20}Ne @ 0deg Disp. #4

Date 12 / 1

Start 7 : 19

Stop 9 : 52

GR angle 0 deg

Beam current ~4 nA

C.I. range 6 nA

Target

☒ ^{20}Ne inela or elast

☐ ^{36}Ar inela or elast

☐ CO_2 inela or elast

☐ Empty inela or elast

☐ ^{28}Si 2.22 (1.86) mg/cm^2

☐ mg/cm^2

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp 24.8 deg Press 1.16 atm thickness 0.95 mg/cm^2

Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1			rate3		
0	Beam Intensity	4.352 nA	0	BLP CLK req :	9.904 kcps
1	GR event request	2.380 kcps	1	BLP CLK live :	9.904 kcps
2	GR event live	2.196 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.069 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.066 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.904 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.230 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	2.196 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	2.196 kcps	8	Beam Monitor1 :	2.380 kcps
9	LAS Single	0.066 kcps	9	Beam Monitor2 :	2.196 kcps
10	LAS SingleSample	0.002 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.171 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	2.261 kcps	12	GR scinti.2 :	14.730 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	2.261 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

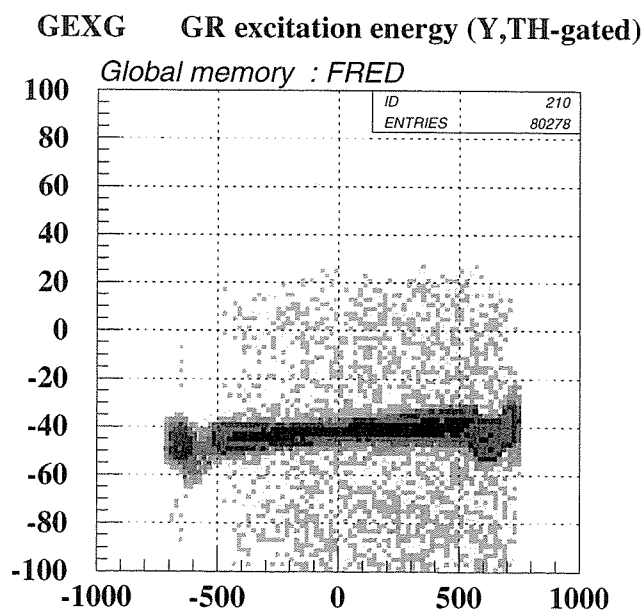
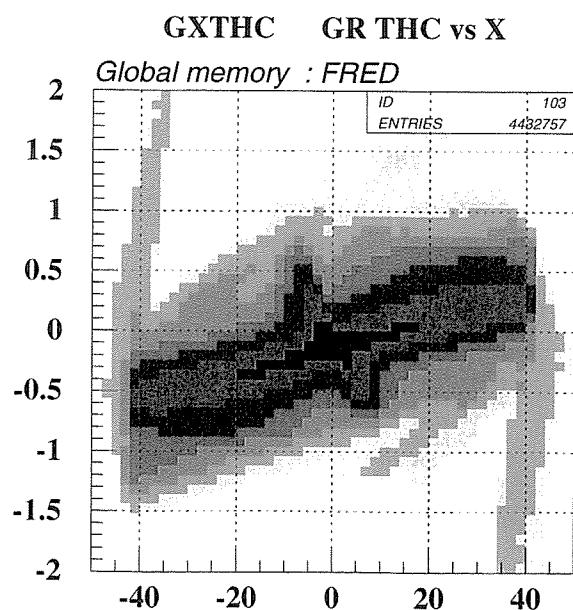
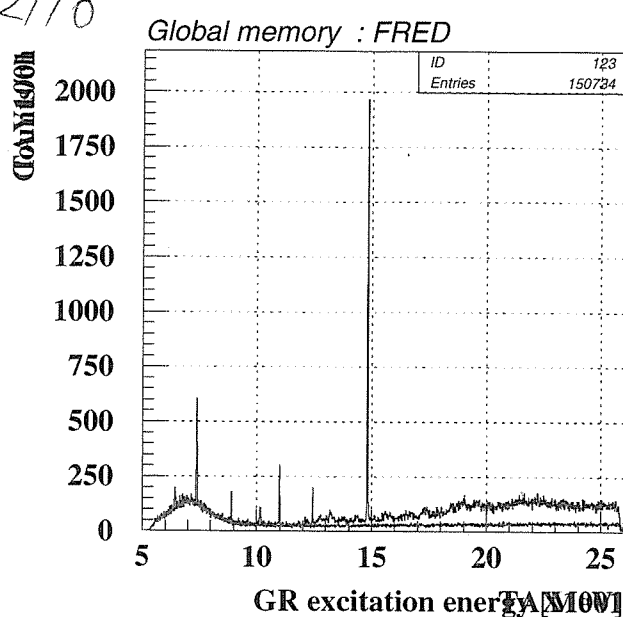
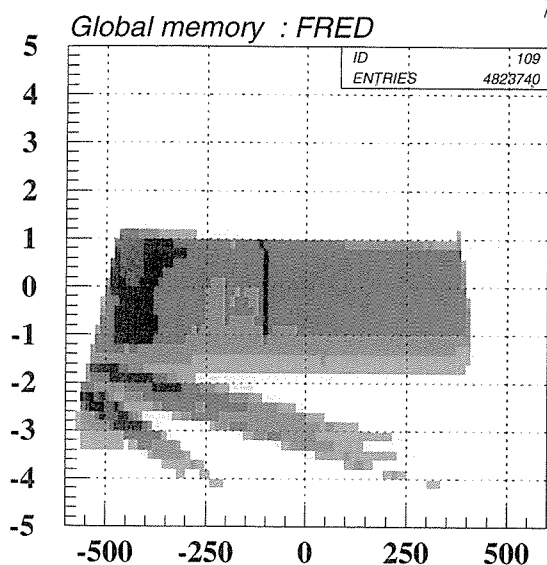
Trig.(GR) live :	92.257 percent
Trig.(LAS) live :	95.714 percent
Clock live :	93.200 percent

RUN NUM	2110	B.I. Range	6 nA
RUN START	2007-Dec-01	07:19:51	
NOW	2007-Dec-01	07:21:26	
scaler	0	ch	Sca1

White board には 2時間 2" run を 切り替えるように あったが、
 前の run (2109) 2" 30分 早く 中断された。 この分 30分 長く 測定した。

2007/12/01 09.49

#2110



GYPH GR Phi vs Y

LXY LAS Y vs X

Run# 2111 Comment ^{20}Ne @ 0 deg disp #5

Date 12 / 1 Target

Start 9 : 53 ☒ ^{20}Ne inela or elast

Stop 11 : 53 ☐ ^{36}Ar inela or elast

GR angle 0 deg ☐ CO_2 inela or elast

Beam current 4 nA ☐ Empty inela or elast

C.I. range 6 nA ☐ ^{28}Si 2.22 (1.86) mg/cm²

☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp 25.7 deg Press 1.16 atm thickness 0.94 mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1			rate3		
0	Beam Intensity	3.758 nA	0	BLP CLK req :	9.903 kcps
1	GR event request	2.017 kcps	1	BLP CLK live :	9.903 kcps
2	GR event live	1.869 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.076 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.074 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.903 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.323 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.869 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.869 kcps	8	Beam Monitor1 :	2.017 kcps
9	LAS Single	0.074 kcps	9	Beam Monitor2 :	1.869 kcps
10	LAS SingleSample	0.002 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.164 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	1.943 kcps	12	GR scinti.2 :	12.477 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	1.943 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live : 92.663 percent
 Trig.(LAS) live : 96.154 percent
 Clock live : 94.150 percent

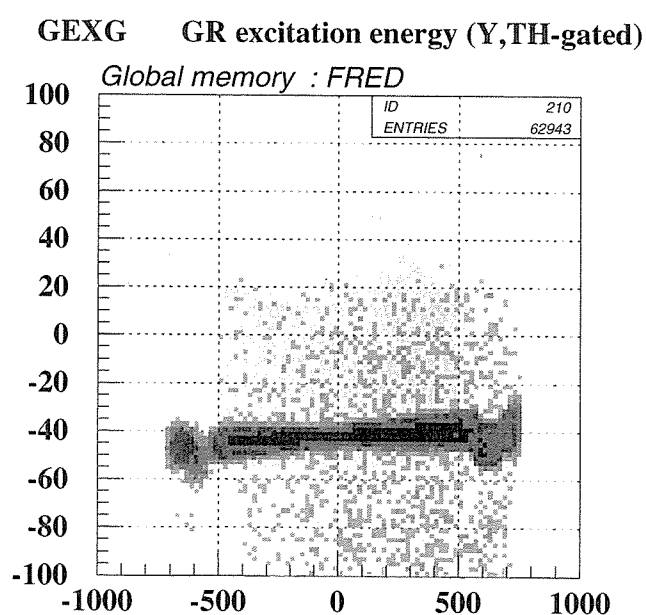
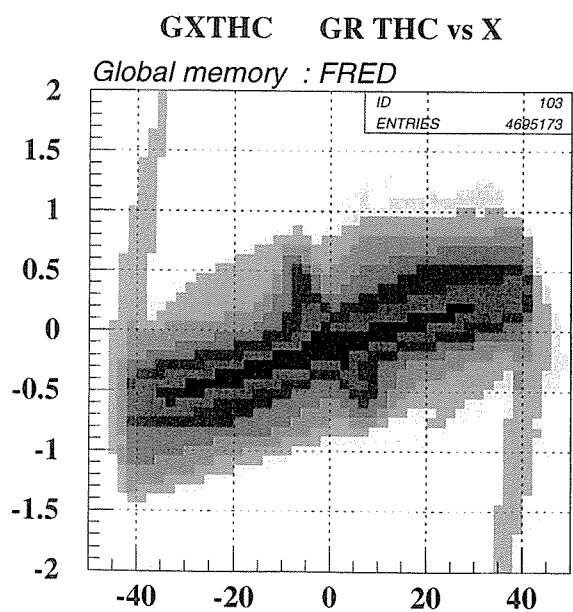
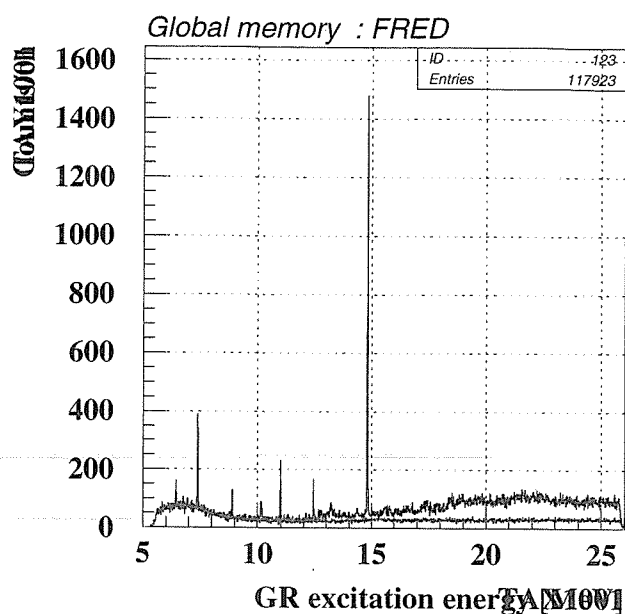
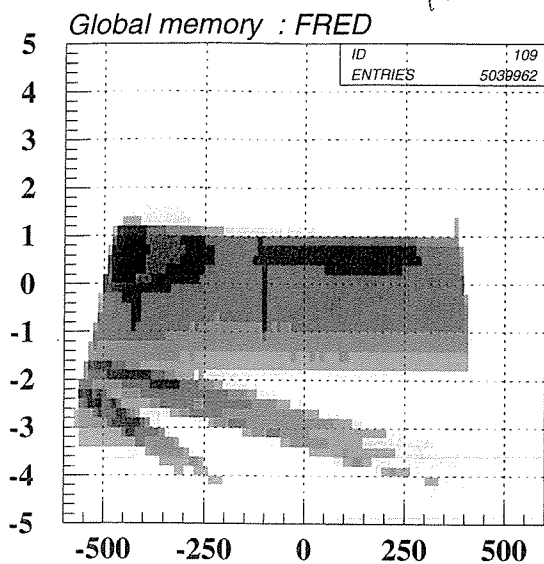
RUN NUM 2111 B.I. Range 6 nA
 RUN START 2007-Dec-01 09:52:58
 NOW 2007-Dec-01 09:56:05
 scaler 0 ch Scal

10:10

3E AUF $\propto$ D voltage 75 71123211

2007/12/01 11:51

#2111



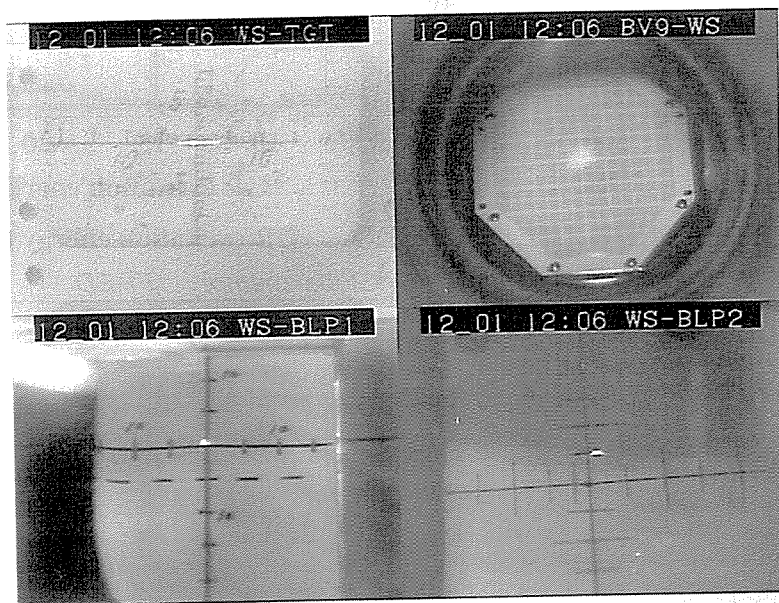
GYPH GR Phi vs Y

12:00 Beam 調整

Beam tuning --

Target と BV9 の調整が済んだ
右 右

LF は Steering, 左右は BM7 (K600 の D2) の合わせ



3LP の ZL は
調整はいいか?

Run# 2112 Comment ²⁰Ne @ 0deg Disp #6

Date 12 / 1

Start 12 : 14

Stop 13 : 02

GR angle 0 deg

Beam current ~3.7 nA

C.I. range 6 nA

Target

☒ ²⁰Ne inela or elast

☐ ³⁶Ar inela or elast

☐ CO2 inela or elast

☐ Empty inela or elast

☐ ²⁸Si 2.22 (1.86) mg/cm²

☐ mg/cm²

VDC ☒ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V

Gas cell Temp 26.22 deg Press 1/16 atm thickness 0.943 mg/cm²

Print out? ☐ histograms ☐ rate table ☐ magnet table

rate1			rate3		
0	Beam Intensity	3.618 nA	0	BLP CLK req :	9.807 kcps
1	GR event request	1.957 kcps	1	BLP CLK live :	9.807 kcps
2	GR event live	1.826 kcps	2	BLP Trig req :	0.000 kcps
3	LAS eventRequest	0.048 kcps	3	BLP Trig live :	0.000 kcps
4	LAS event live	0.044 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.808 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	9.249 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	1.826 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	1.826 kcps	8	Beam Monitor1 :	1.957 kcps
9	LAS Single	0.044 kcps	9	Beam Monitor2 :	1.826 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.234 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	1.870 kcps	12	GR scinti.2 :	12.520 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	1.870 kcps	14	:	0.000 kcps
15	LAS-reject	0.000 kcps	15	:	0.000 kcps

Trig.(GR) live :	93.304 percent
Trig.(LAS) live :	91.837 percent
Clock live :	94.307 percent

RUN NUM	2112	B.I. Range	6 nA
RUN START	2007-Dec-01	12:14:56	
NOW	2007-Dec-01	12:16:51	
scaler	1 ch	Scal	

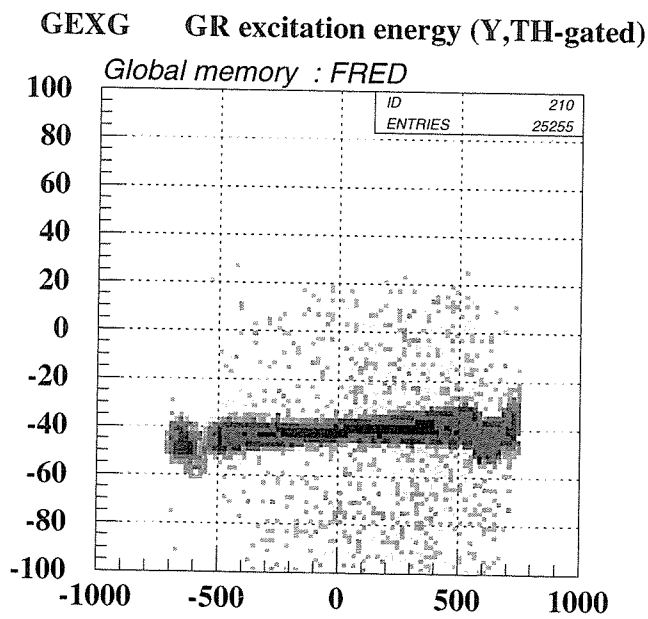
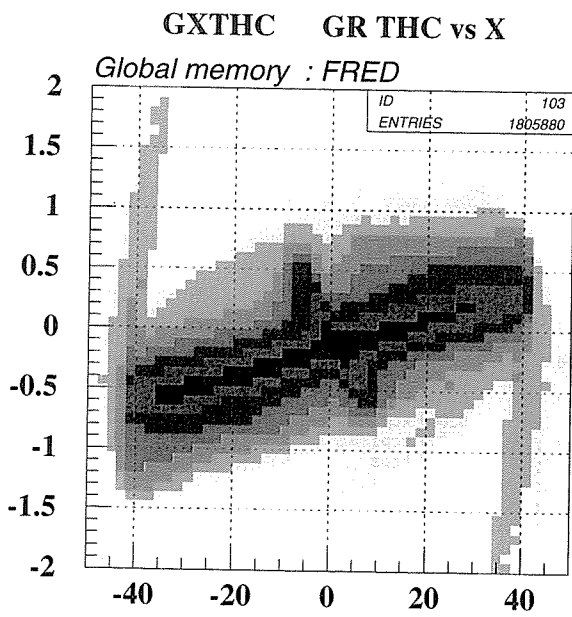
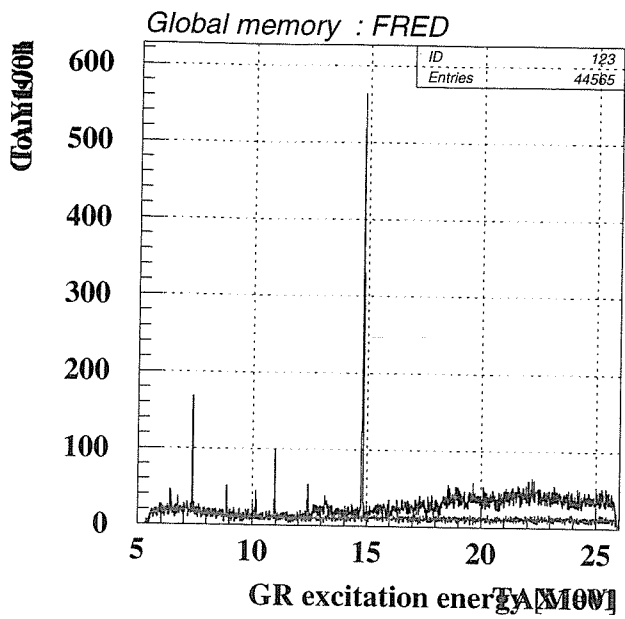
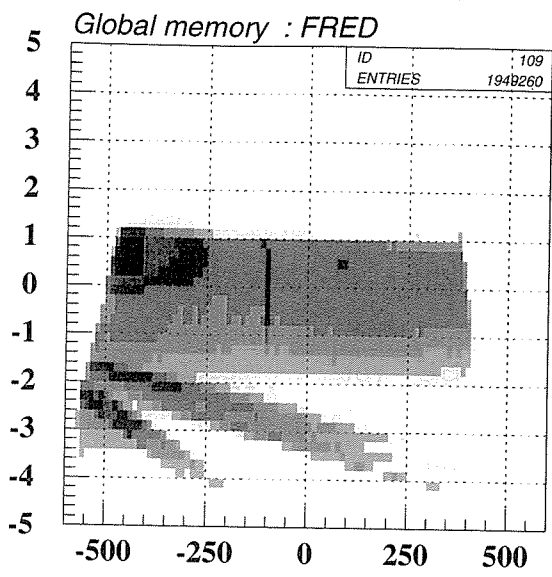
13:02

Current 上げてみるために中止。

BG, Beam current 共に安定したのが Event request ~ 2k
と、よく似た感じのぞ。

2112

2007/12/01 13.02



GYPH GR Phi vs Y

LXY LAS Y vs X

CI Range $\approx 20 \mu A = 1.6 \times 10^{-5}$
 SVS 8 112 $\sim 6 \mu A$ 112 115 115

Run# 2113 Comment ^{20}Ne @ 0 deg. Disp. #7
 Date 12 / 1 Target
 Start 13 : 08 ☒ ^{20}Ne inela or elast
 Stop : ☐ ^{36}Ar inela or elast
 GR angle 0 deg ☐ CO2 inela or elast
 Beam current 6 nA ☐ Empty inela or elast
 C.I. range 20 nA ☐ ^{28}Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V
 Gas cell Temp 26.4 deg Press 1.16 atm thickness 0.94 mg/cm²
 Print out? ☐ histograms ☐ rate table ☐ magnet table

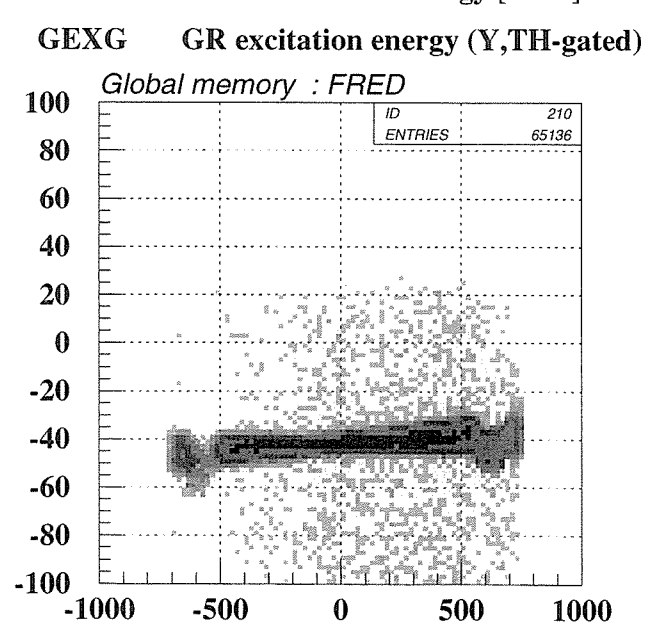
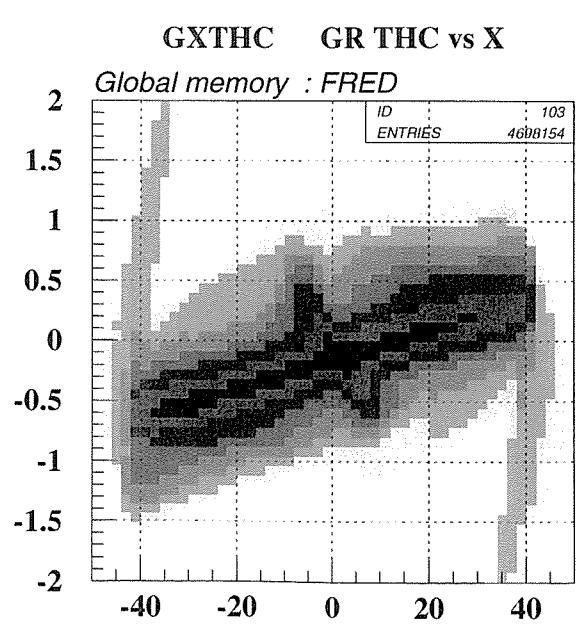
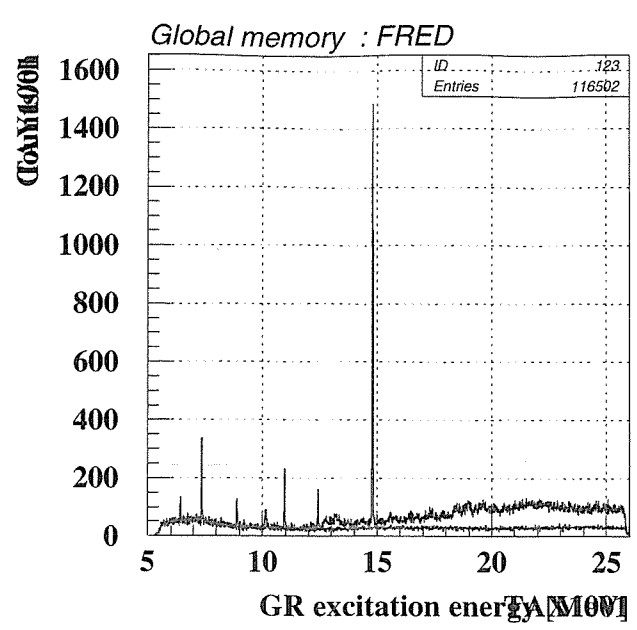
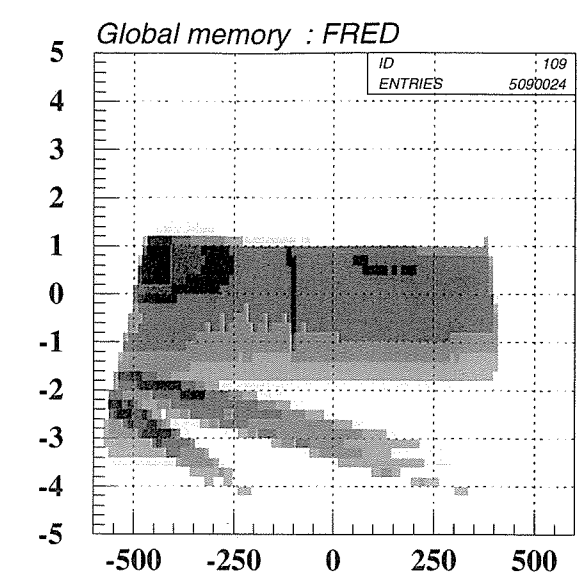
rate1	rate8
0 Beam Intensity 6.377 nA	0 BLP CLK req : 9.791 kcps
1 GR event request 3.768 kcps	1 BLP CLK live : 9.791 kcps
2 GR event live 3.350 kcps	2 BLP Trig req : 0.000 kcps
3 LAS eventRequest 0.103 kcps	3 BLP Trig live : 0.000 kcps
4 LAS event live 0.095 kcps	4 Akimune UP : 0.000 kcps
5 GR clock request 9.790 kcps	5 Akimune Down : 0.000 kcps
6 GR clock live 8.763 kcps	6 Akimune Left : 0.000 kcps
7 GR Single 3.350 kcps	7 Akimune Right : 0.000 kcps
8 GR Single Sample 3.350 kcps	8 Beam Monitor1 : 3.768 kcps
9 LAS Single 0.095 kcps	9 Beam Monitor2 : 3.350 kcps
10 LAS SingleSample 0.006 kcps	10 Beam Monitor3 : 0.000 kcps
11 GR & LAS COIN 0.382 kcps	11 GR scinti.1 : 0.000 kcps
12 ALL accept Event 3.445 kcps	12 GR scinti.2 : 22.017 kcps
13 Reject event 0.000 kcps	13 GR X-hodo : 0.000 kcps
14 GR3377stop(TEND) 3.445 kcps	14 : 0.000 kcps
15 LAS-reject 0.000 kcps	15 : 0.000 kcps

Trig.(GR) live : 88.915 percent	
Trig.(LAS) live : 92.453 percent	
Clock live : 89.507 percent	

RUN NUM	2113	B.I. Range	20 nA
RUN START	2007-Dec-01	13:08:09	
NOW	2007-Dec-01	13:10:53	
scaler	0	ch	Scal

112113

2007/12/01 14.30



GYPH GR Phi vs Y

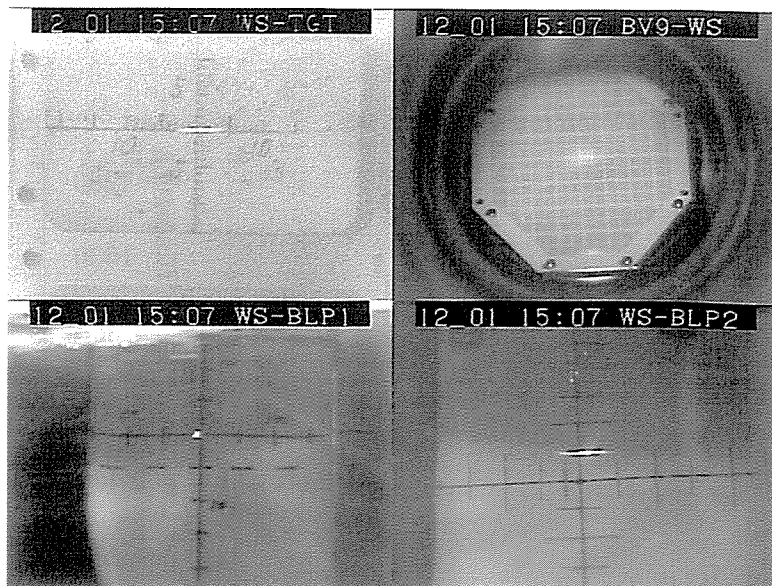
LXY LAS Y vs X

14:30 西入室

1. $^{20}\text{Ne} \rightarrow \text{CO}_2$ 交換

15:00 退室

テスト check.
K600 magnet 上端のネジを止めて
BLPの位置を調節して



Run# 2114 Comment CO₂ at 0° Ne 使用済 #1

Date 12/01 Target
Start 15:10 ☐ ²⁰Ne inela or elast
Stop 15:58 ☐ ³⁶Ar inela or elast
GR angle 0 deg ☒ CO₂ inela or elast
Beam current 5.4 nA ☐ Empty inela or elast
C.I. range 20 nA ☐ ²⁸Si 2.22 (1.86) mg/cm²
☐ mg/cm²

VDC ☐ OK ☐ Tripped F.C. ☒ 0deg ☐ Q1 ☐ SC rot. V
Gas cell Temp 27 deg Press 1.05 atm thickness 1.87 mg/cm²
Print out? ☐ histograms ☐ rate table ☐ magnet table

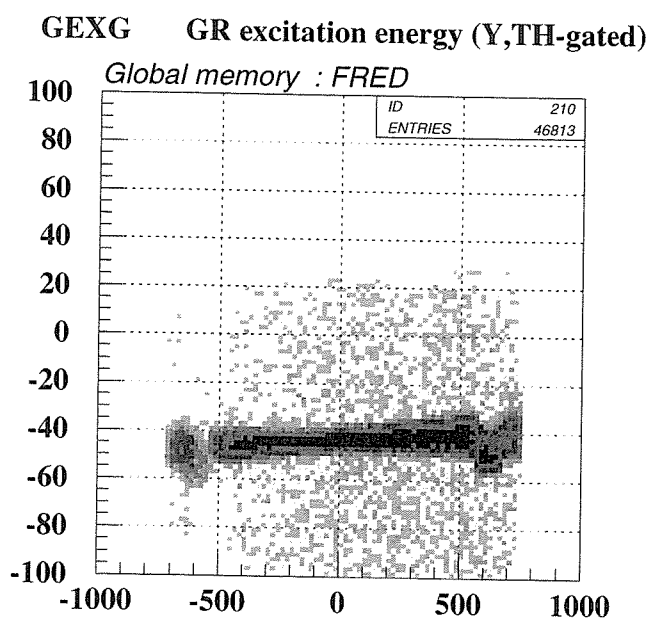
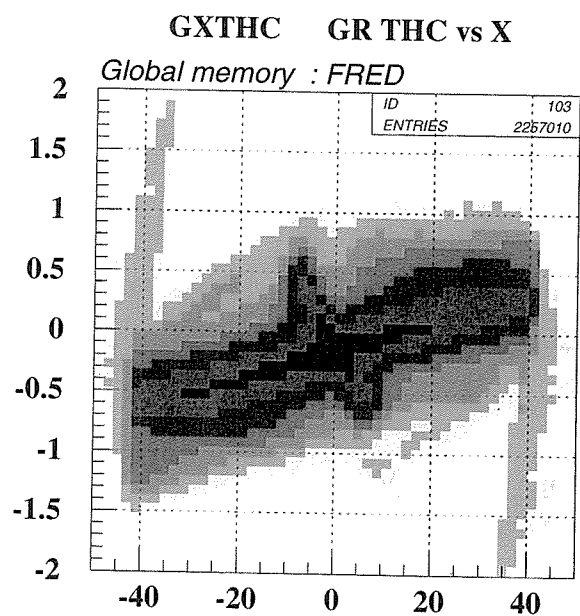
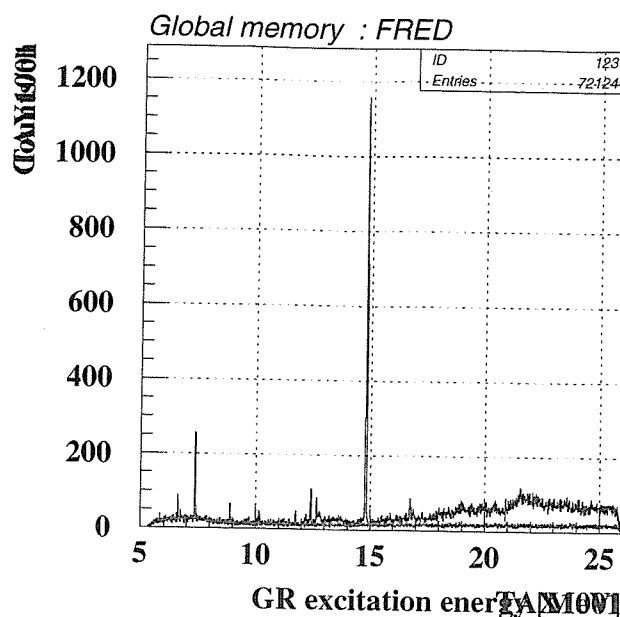
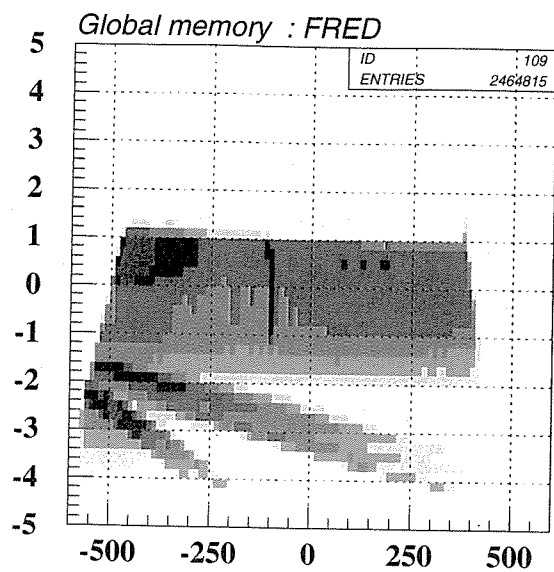
rate1			rate3		
0	Beam Intensity	5.430 nA	0	BLP CLK req	9.902 kcps
1	GR event request	4.260 kcps	1	BLP CLK live	9.902 kcps
2	GR event live	3.753 kcps	2	BLP Trig req	0.000 kcps
3	LAS eventRequest	0.121 kcps	3	BLP Trig live	0.000 kcps
4	LAS event live	0.108 kcps	4	Akimune UP	0.000 kcps
5	GR clock request	9.902 kcps	5	Akimune Down	0.000 kcps
6	GR clock live	8.751 kcps	6	Akimune Left	0.000 kcps
7	GR Single	3.753 kcps	7	Akimune Right	0.000 kcps
8	GR Single Sample	3.753 kcps	8	Beam Monitor1	4.260 kcps
9	LAS Single	0.108 kcps	9	Beam Monitor2	3.753 kcps
10	LAS SingleSample	0.002 kcps	10	Beam Monitor3	0.000 kcps
11	GR & LAS COIN	0.235 kcps	11	GR scinti.1	0.000 kcps
12	ALL accept Event	3.861 kcps	12	GR scinti.2	20.014 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	0.000 kcps
14	GR3377stop(TEND)	3.861 kcps	14		0.000 kcps
15	LAS-reject	0.000 kcps	15		0.000 kcps

Trig.(GR) live	: 88.104 percent
Trig.(LAS) live	: 89.431 percent
Clock live	: 88.370 percent

RUN NUM	2114	B.I.	Range	20 nA
RUN START	2007-Dec-01		15:12:01	
NOW	2007-Dec-01		15:15:03	
scaler	0 ch		Scal	

#2119.

2007/12/01 15.55



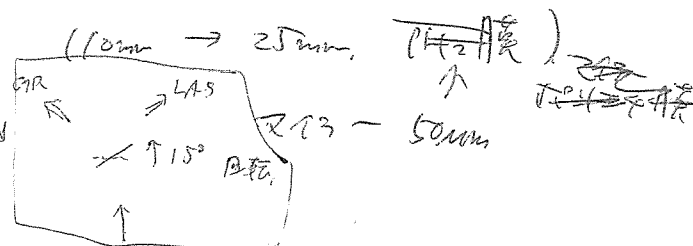
GYPH GR Phi vs Y

LXY LAS Y vs X

16:00 西八室

dispersive → automatic mode に変更

- GR 0 deg → 15 deg に移動
- 3 段 3" の empty → 58 Ni 100 mg/cm² に変更
- BLP = target granule → CH₂ 1.4 mg/cm² に交換 (50 mm)
- gas cell を elastic 用に交換 (10 mm → 25 mm, ~~112 膜~~ ↑ ~~112 膜~~ → ~~112 膜~~)
- sieve - slit 投入



WS Magnet Controller

07/12/01 16:06

WS/PIS

Magnet	Field(Preset/Actual)	Current(Preset/Actual)	Status	PS	NMR	FB
GR Q1	mT	90.20 A				
GR SX	mT	18.10 A				
GR Q2	mT	8.50 A				
GR MQ	mT	0.00 A				
GR MS	mT	0.00 A				
GR D1	869.821 mT	230.78 A				
GR D2	869.883 mT	434.13 A				
GR DSR	110.473 mT	12.41 A				
LAS Q	mT	217.70 A				
LAS D	-747.990 mT	280.30 A				
GR DQ1	mT	50.00 A				
GR DQ2	mT	65.10 A				

二枚目11701

前12 13.54

227 = 74

前12 13.54

Update

update Cycle 10 sec.

Hcopy

Queue acc3626

exit

19220 退磁

GR DSR 電流値変更後 (新規に測定したの磁場を使用)

WS Magnet Controller

07/12/01 17:39

WS/PIS

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1		mT		90.30 A				
GR SX		mT		18.10 A				
GR Q2		mT		8.50 A				
GR MQ		mT		0.00 A				
GR MS		mT		0.00 A				
GR D1		869.827 mT		230.78 A				
GR D2		869.887 mT		434.13 A				
GR DSR		120.702 mT	13.54	13.59 A				
LAS Q		mT		217.70 A				
LAS D		-747.986 mT		280.30 A				
GR DQ1		mT		0.00 A				
GR DQ2		mT		0.00 A				

Update

update Cycle 10 sec.

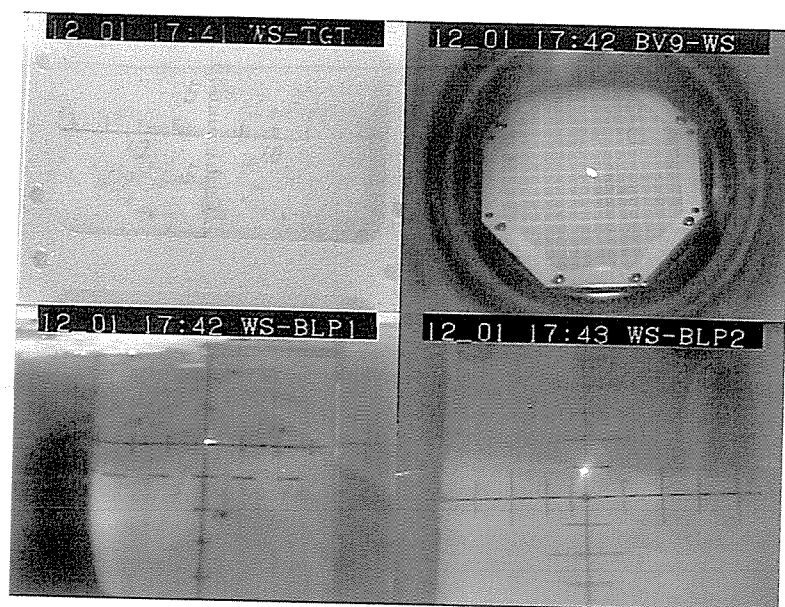
Hcopy

Queue acc3626

exit

Siebe - cft 10 a 磁場

	standard	1.00%	1.80%	2.60%	3.40%	4.20%
Q1[A]	90.2	91.102	91.8236	92.5452	93.2668	93.9884
SX [A]	18.1	18.281	18.4258	18.5706	18.7154	18.8602
Q2 [A]	8.5	8.585	8.653	8.721	8.789	8.857
GR D1[mT]	869.821	878.51921	885.477778	892.436346	899.394914	906.353482
GR D2[mT]	869.883	878.58183	885.540894	892.499958	899.459022	906.418086
R DSR [mT]	120.44	121.6444	122.60792	123.57144	124.53496	125.49848



ターゲット - (STO 10) と BLP.

target 7" $\begin{cases} +5mm & +1.83A & (+0.366A/mm) \\ -5mm & -2.10A & -1.88A & (-0.376A/mm) \end{cases}$

平均 7" $\pm 0.37A/mm$ と BLP

STO 10 = 0

LA 8a yg 7" - 41.16mm (1/2 17" 17" は -44.842mm #20P/10)

+0.37A 7" - 48.15mm

-0.37A 7" - 33.23mm

target $\pm 1^\circ$ + lum $\rightarrow$ $\sigma_{10} = +0.37A$
 $-1mm \rightarrow -0.37A$
 $\pm 0mm \rightarrow 0.0A$

Steele ggt calib.

target 17 $50 \text{ Ni } 100.1 \text{ mg/oz GR at } 15^\circ$

	min max	STUDIO	OK
# 2115	standard	0 mm 0 mm	2 mm 開 46 後 B2 10mA
# 2116	"	+ 1mm	—
# 2117	"	- 1mm	—
# 2118	+ 1.0%	0 mm	
# 2119	"	+ 1 mm	
# 2120	"	- 1 mm	
# 2121	+ 1.8%	0 mm	
# 2121	+ 1.8%	0 mm	
# 2122	"	+ 1 mm	
# 2123	"	- 1 mm	
# 2124	+ 2.6%	0 mm	
# 2125	"	+ 1 mm	
# 2126	"	- 1 mm	
# 2127	+ 3.4%	0 mm	
# 2128		+ 1 mm	
# 2129		- 1 mm	
# 2130	+ 4.2%	0 mm	
# 2131	"	+ 1 mm	
# 2132	"	- 1 mm	

Magnet Controller

'07/12/01 18:38

$\sqrt{PIS}$ $\frac{1}{0.441} = \text{Standard}$ #2115 前

gnet	Field(Preset Actual)	Current(Preset Actual)	Status	PS	NMR	FB
R Q1		mT 90.20 A				
R SX		mT 18.10 A				
R Q2		mT 8.50 A				
R MQ		mT 0.00 A				
R MS		mT 0.00 A				
R D1	869.821 869.832 mT	230.87001 230.64 A				
R D2	869.883 869.883 mT	434.5266 434.13 A				
R DSR	120.44 120.447 mT	13.50929 13.54 A				
IS Q		mT 217.70 A				
IS D	-747.986 mT	280.30 A				
R DQ1		mT 0.00 A				
R DQ2		mT 0.00 A				

WS Magnet Controller

'07/12/01 19:02

$\sqrt{WS/PIS}$ $\pm 1.0\%$ $\frac{0.441}{1} = \text{Standard}$ #2118 前

Magnet	Field(Preset Actual)	Current(Preset Actual)	Status	PS	NMR	FB
GR Q1		mT 91.102 91.20 A				
GR SX		mT 18.281 18.20 A				
GR Q2		mT 8.585 8.60 A				
GR MQ		mT 0.00 A				
GR MS		mT 0.00 A				
GR D1	878.51 878.501 mT	233.3727 233.15 A				
GR D2	878.58 878.216 mT	439.1469 438.66 A				
GR DSR	121.6444 121.652 mT	13.65835 13.70 A				
LAS Q		mT 217.70 A				
LAS D	-747.987 mT	280.30 A				
GR DQ1		mT 0.00 A				
GR DQ2		mT 0.00 A				

WS Magnet Controller

'07/12/01 19:11

WS/PIS

+1.0% (-1mm 開始前)
#2120

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1			mT	91.102	91.10 A			
GR SX			mT	18.281	18.20 A			
GR Q2			mT	8.585	8.60 A			
GR MQ			mT		0.00 A			
GR MS			mT		0.00 A			
GR D1	878.51	878.502	mT	233.3716	233.15 A			
GR D2	878.58	878.473	mT	439.1469	438.66 A			
GR DSR	121.6444	121.653	mT	13.65823	13.70 A			
LAS Q			mT		217.70 A			
LAS D		-747.987	mT		280.30 A			
GR DQ1			mT		0.00 A			
GR DQ2			mT		0.00 A			

Update

update Cycle 10 sec.

Hcopy

Queue acc3626

exit

WS Magnet Controller

'07/12/01 19:16

WS/PIS

+1.0% (-1mm 終了後)
#2120

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1			mT	91.102	91.10 A			
GR SX			mT	18.281	18.20 A			
GR Q2			mT	8.585	8.60 A			
GR MQ			mT		0.00 A			
GR MS			mT		0.00 A			
GR D1	878.51	878.501	mT	233.3694	233.15 A			
GR D2	878.58	878.475	mT	439.1469	438.41 A			
GR DSR	121.6444	121.632	mT	13.660037	13.70 A			
LAS Q			mT		217.70 A			
LAS D		-747.988	mT		280.30 A			
GR DQ1			mT		0.00 A			
GR DQ2			mT		0.00 A			

WS Magnet Controller

+1.8% 2/2/ Start 時

'07/12/01 19:24

WS/PIS

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1		mT	91.8236	91.90 A				
GR SX		mT	18.4258	18.30 A				
GR Q2		mT	8.653	8.60 A				
GR MQ		mT		0.00 A				
GR MS		mT		0.00 A				
GR D1	885.477	885.478 mT	235.2891	235.10 A				
GR D2	885.540	885.547 mT	442.90651	442.43 A				
GR DSR	122.60792	122.604 mT	13.77569	13.81 A				
LAS Q		mT		217.70 A				
LAS D		-747.988 mT		280.30 A				

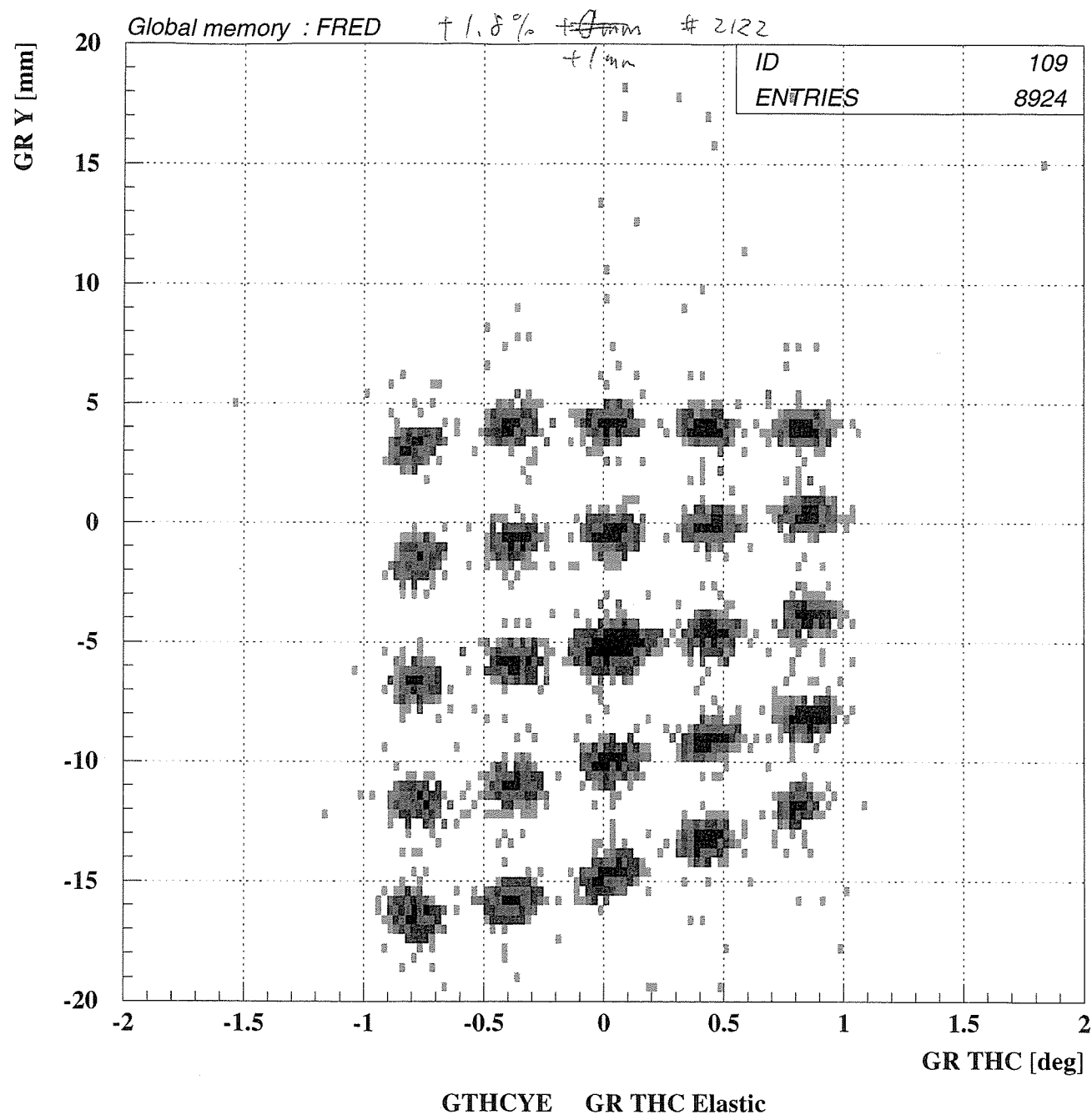
WS Magnet Controller

+2.6% start 時

'07/12/01 19:44

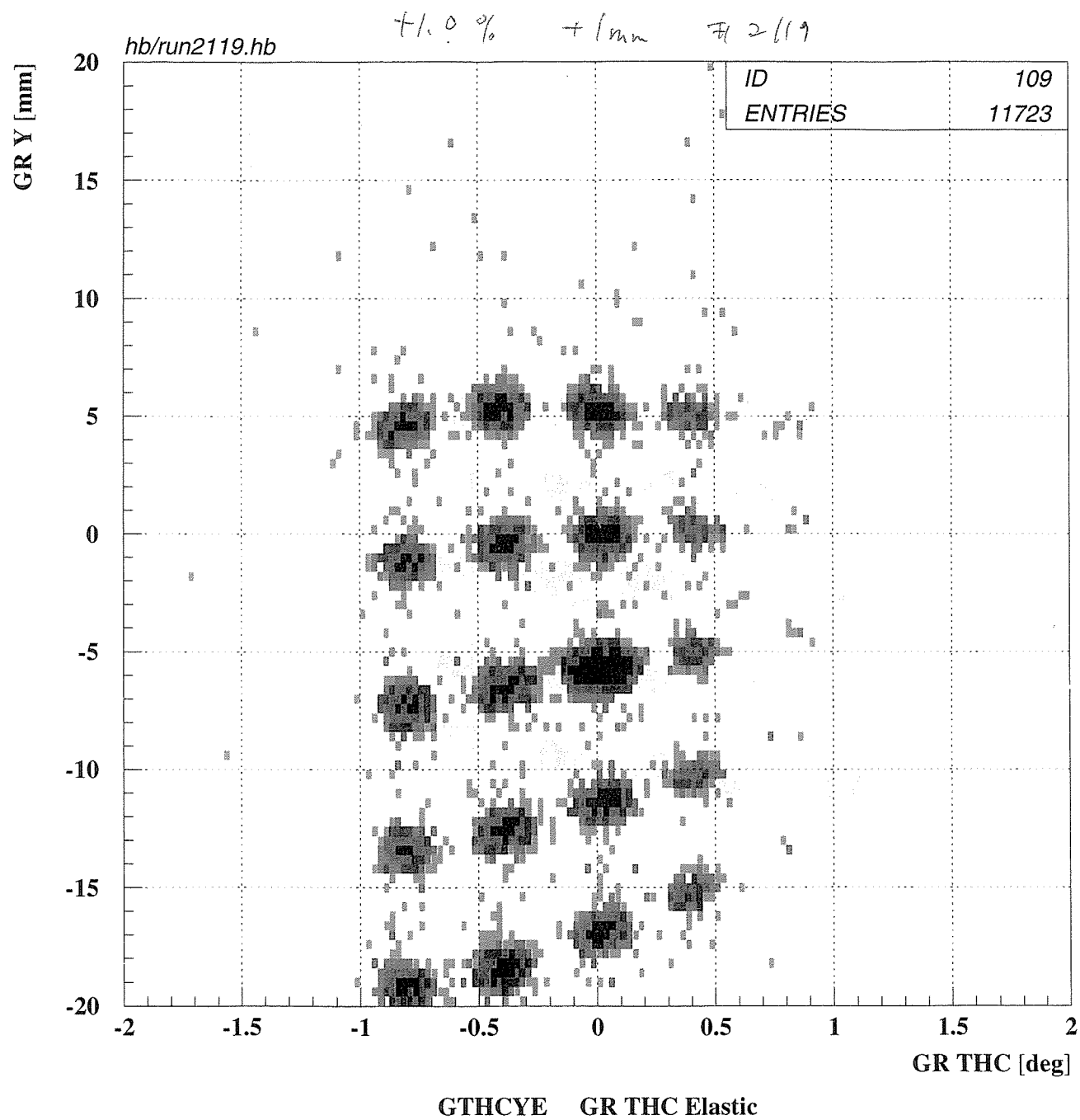
WS/PIS

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1		mT	92.5452	92.60 A				
GR SX		mT	18.5706	18.30 A				
GR Q2		mT	8.721	8.70 A				
GR MQ		mT		0.00 A				
GR MS		mT		0.00 A				
GR D1	892.436	892.453 mT	237.2554	237.05 A				
GR D2	892.499	892.503 mT	446.5294	445.96 A				
GR DSR	123.57144	123.570 mT	13.88827	13.91 A				
LAS Q		mT		217.70 A				
LAS D		-747.989 mT		280.30 A				



↑
52913 $\alpha \sim 1.2 \sim 3$

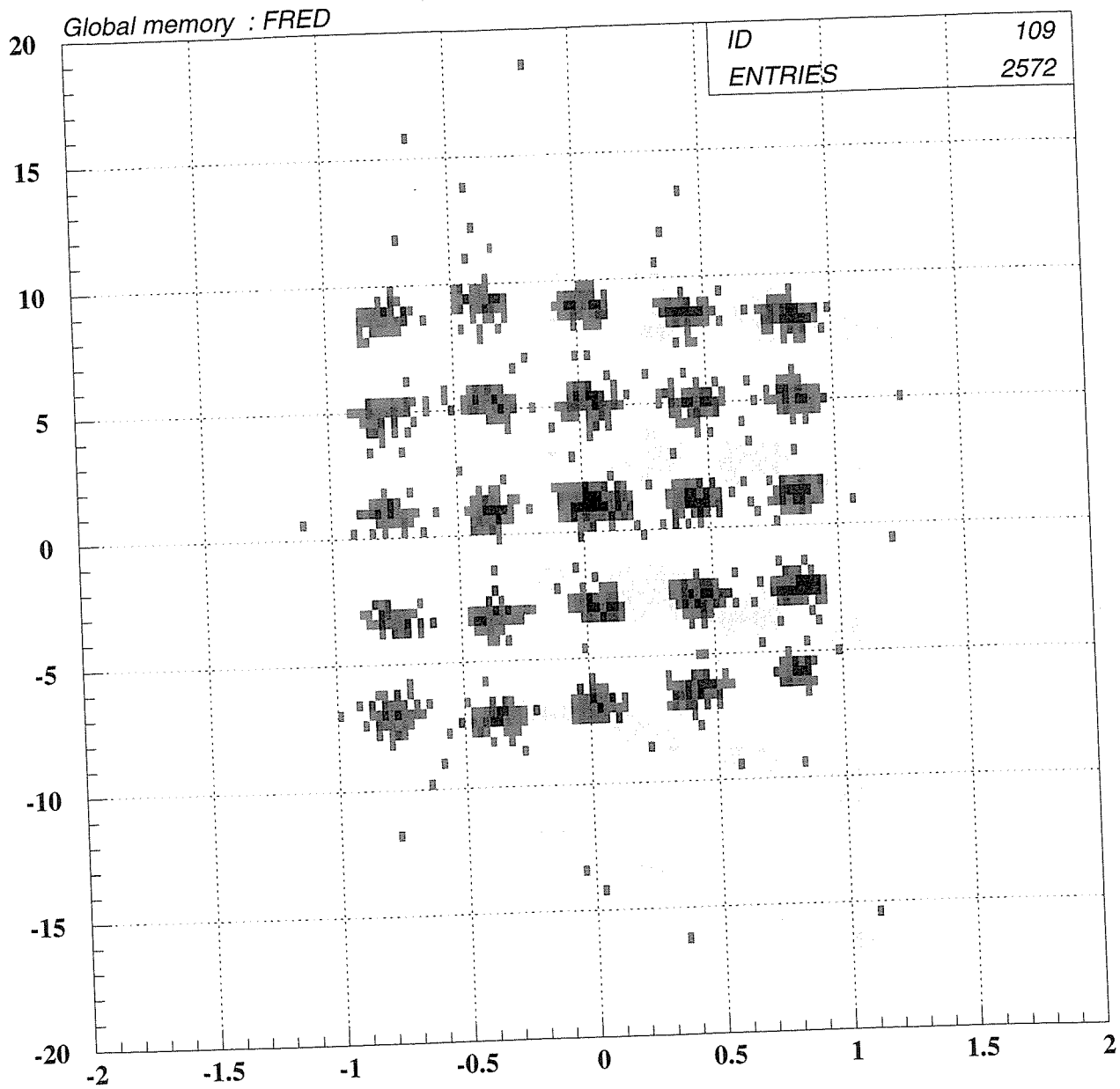
2007/12/01 19.39



↑
 S 27 月 が 7 月 24 日 -
 理由は、 g 弓 弾 性 帯 域 に ケー ト 在
 介 入 した ため、 黒 点 面 で $\text{THC} \geq 0.5^\circ$ が
 入 っ て いる ため、

2007/12/01 19.55

#2124 +2,6% 0mm



GTHCYE GR THC Elastic

WS Magnet Controller

'07/12/01 20:09

WS/PIS

Run 2127 17:07 8.4%
+3.4% 0mm

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1		mT	93.26	93.30 A				
GR SX		mT	18.7154	18.60 A				
GR Q2		mT	8.789	8.80 A				
GR MQ		mT		0.00 A				
GR MS		mT		0.00 A				
GR D1	899.394	899.402 mT	239.07122	238.86 A				
GR D2	899.459	899.435 mT	450.09305	449.48 A				
GR DSR	124.53	124.516 mT	14.000785	14.02 A				
LAS Q		mT		217.70 A				
LAS D		-747.988 mT		280.30 A				
GR DQ1		mT		0.00 A				
GR DQ2		mT		0.00 A				

WS Magnet Controller

'07/12/01 20:30

WS/PIS

+4.2%

Magnet	Field(Preset Actual)		Current(Preset Actual)		Status	PS	NMR	FB
GR Q1		mT	93.99	94.00 A				
GR SX		mT	18.86	18.80 A				
GR Q2		mT	8.857	8.90 A				
GR MQ		mT		0.00 A				
GR MS		mT		0.00 A				
GR D1	906.353	906.364 mT	240.96845	240.81 A				
GR D2	906.418	906.418 mT	453.58261	453.00 A				
GR DSR	125.498	125.478 mT	14.113025	14.13 A				
LAS Q		mT		217.70 A				
LAS D		-747.987 mT		280.30 A				
GR DQ1		mT		0.00 A				
GR DQ2		mT		0.00 A				

Update

update Cycle 10 sec.

Hcopy

Queue acc3626

exit

no=45 sieve-split 終了

Neomaxos → HIPIS A 交換 (SASに依頼)

シフト → $\pm 10\text{mV} \times \pm 20\text{mV}$ 24bit

計数値、コンタクト、付添いの connection

10分実験の1と2を check.

(何も触らなくても okの状態で観望可能)

WS Magnet Controller

07/12/01 21:55

WS/VIS

elastic 中 調整

Magnet	Field(Preset Actual)	Current(Preset Actual)	Status	PS	NMR	FB
GR Q1	mT	97.13 97.20 A				
GR SX	mT	18.79 18.70 A				
GR Q2	mT	8.776 8.80 A				
GR MQ	mT	0.00 A				
GR MS	mT	0.00 A				
GR D1	890.2 890.203 mT	236.4155 236.21 A				
GR D2	890.2 890.203 mT	444.77681 444.45 A				
GR DSR	0 18.708 mT	0.0 0.05 A				
LAS Q	mT	217.70 A				
LAS D	-747.988 mT	280.30 A				
GR DQ1	mT	0.00 A				
GR DQ2	mT	0.00 A				

Update

update Cycle 10 sec.

Hcopy

Queue acc3626

exit

BLP1 → アラート (50mm)

BLP2 → CH2 (0.4mg/cm²)

利用し電圧を調整

22:30.1 トランスポート あり

22:45 西へ電圧を上げ

22:50 電圧を下げ

11月 27-28

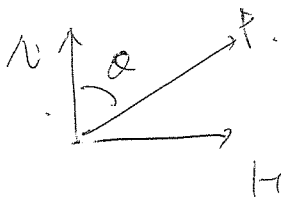
pol-us e299

normal sample
→ /pol-us-e299 300 0.4 0.1

Horizontal は 測りやすい

vertical は 簡単に計算している

電圧の 立ち上がり 立ち下がり. Normal check.



$$\tan \alpha = \frac{H}{N}$$

2.5 から 電圧を上げる → ~~possible~~ polarization 垂直

P → 最大, H → 最小, つまり N → 最大

File Window Temp 07/12/01 23:13

/Main/Change Set/Check state/Change pol

Spin UP/DOWN(1<T<999) 50 50 x0.1 sec Refresh

Veto Time(>10) 1000 msec Refresh

AUTO HATA IN/OUT/NUE 10 99 20 Refresh

(+をセにしよう)

入射軸を調整しよう。

	Q P → 大	Q H → 小	phi	theta
initial. →	0.571	0.4251	-26.	
	0.571	0.4251	-26.	
	0.558	0.262	-23	
	0.558	0.330		
	0.561	0.446		
	0.556	0.360	-21	130
	0.621	0.422		
	0.518	0.127	86	
	0.571	0.237		
	0.566	0.234		
	0.588	0.185		
	0.567	0.033		

BLP1 UP L 4990 R 3651
 BLP1 DOWN L 3521 R 6065
 BLP1 UP U 2319 D 4675
 BLP1 DOWN U 2348 D 5140
 BLP2 UP L 21609 R 14258
 BLP2 DOWN L 14724 R 23539
 BLP2 UP U 17250 D 17275
 BLP2 DOWN U 18772 D 17931

Beam energy 300.000 MeV
 pol pp scattering Ay 0.400 +- DAY 0.100

VERTICAL
 BLP1 UP 0.387 DOWN -0.663 Norm 0.527
 +- 0.100 +- 0.168 +- 0.133
 BLP2 UP 0.512 DOWN -0.576 Norm 0.544
 +- 0.129 +- 0.145 +- 0.136
 HORIZONTAL
 BLP1 UP -0.842 DOWN -0.932 Norm 0.051
 +- 0.212 +- 0.235 +- 0.026
 BLP2 UP -0.002 DOWN 0.057 Norm -0.030
 +- 0.013 +- 0.019 +- 0.012

N 0.544 +- 0.136
 L -0.031 +- 0.012
 S 0.051 +- 0.026

H 0.060 +- 0.023 phi -58.559
 P 0.548 +- 0.136 theta 173.673

'07/12/02 (Sun) 00:00:29

← 入射軸調整後

PLS search strong

actual	UP	down
2.31	0.515 ± 0.019	-0.545 ± 0.019
2.28	0.560 ± 0.020	-0.496 ± 0.019
2.281	0.538 ± 0.024	-0.404 ± 0.021
2.306	0.480 ± 0.020	-0.519 ± 0.021
2.41	0.522 ± 0.022	-0.260 ± 0.015
@ 2.33	0.532 ± 0.022	-0.569 ± 0.023

2.41 = 決定 = strong, weak = 0.15A

weak actual

0.27A	0.515 ± 0.021	-0.529 ± 0.021
0.17A	0.530 ± 0.022	-0.577 ± 0.023
0.11A	0.529 ± 0.020	-0.587 ± 0.021

5<4か 5<4か 5<4か

WS Magnet Controller

'07/12/02 00:41

WS/PIS

Magnet	Field(Preset Actual)	Current(Preset Actual)	Status	PS	NMR	FB
RF Weak #1	mT	0.00 A				
RF Weak #2	mT	0.04 0.11 A				
RF Strong	mT	2.32 2.33 A				

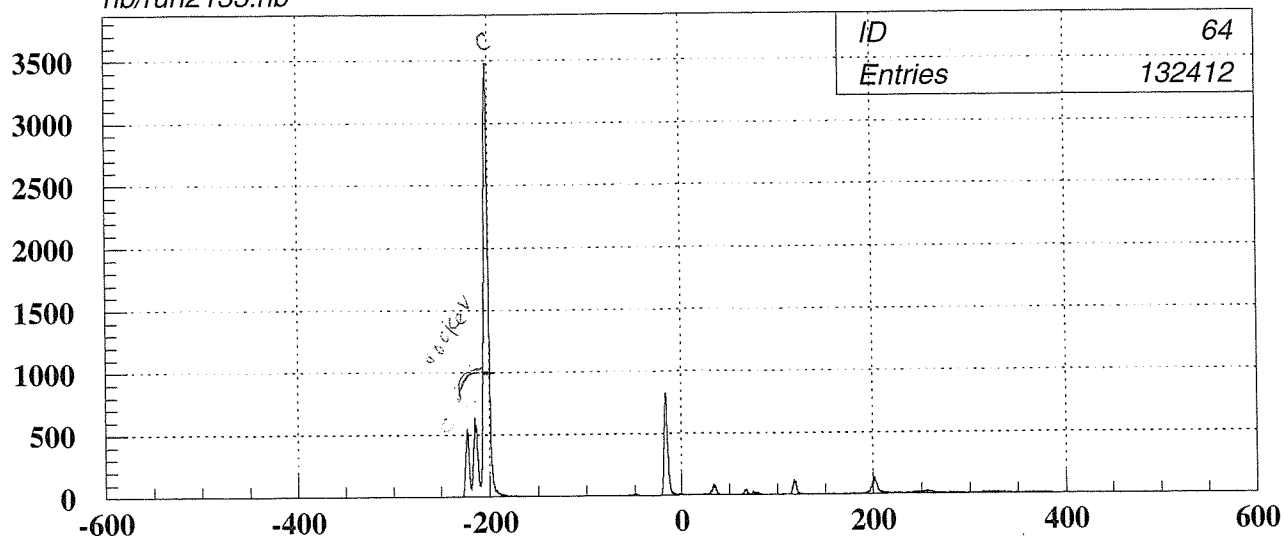
11

最终结果

fl 2133 granide 50mm. 15 deg 1018.

2007/12/02 02:19

hb/run2133.hb

aramide. ($^{12}\text{C} + ^{14}\text{N} + ^{16}\text{O} + \alpha + \text{H}$)

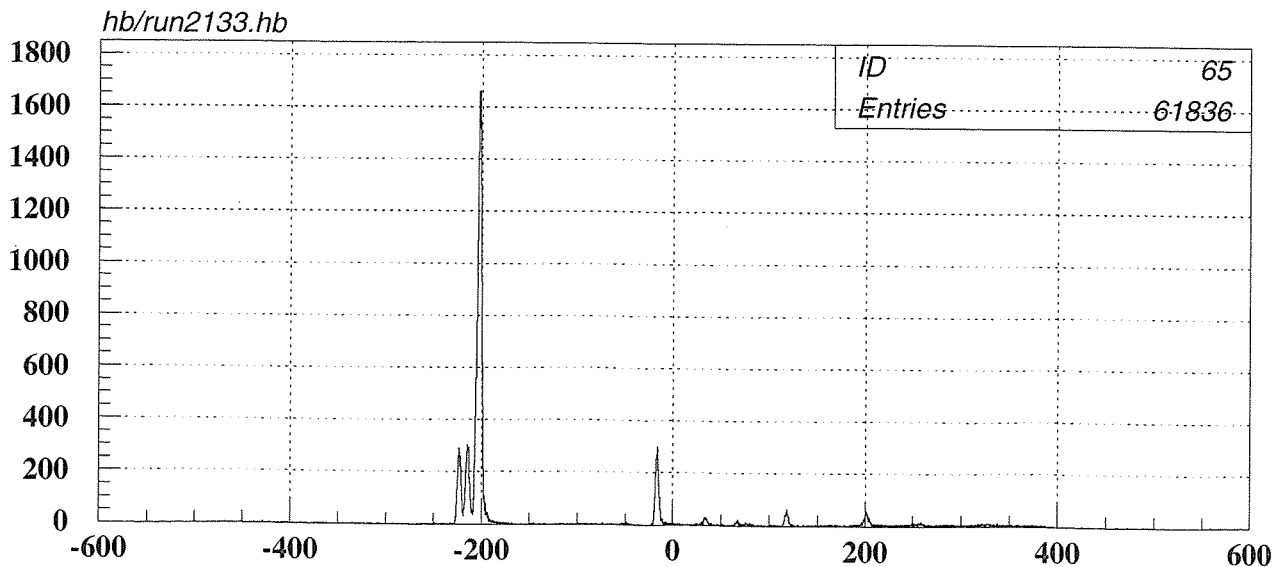
プログラマーの設定変更

弾性散乱用 (1ハットが入っていても解析可能)

コメントを外す
コメントを付する
に直す

File	Analyzer	List
Definition of Parameters ...		
Analysis Parameters		
Analyzing System		
-	Blocks (ANA_BLK_START <= BLOCK_N <= ANA_BLK_END)	
	def ANA_BLK_START = 1	
-	def ANA_BLK_END = 1000	
	def ANA_BLK_END = 79000	
GR		
-	def ANALYZE_GR = 1	
-	def ANALYZE_GR = IBLP2_IN	
-	def ANALYZE_GR = EVENT_GR_COIN	
-	def ANALYZE_GR_VDC = TRUE	
-	def ANALYZE_GR_VDC = GR_PI	
-	def ANALYZE_GR_MATRIX = TRUE	
Cluster Analysis ...		
LAS ...		
-	Scaler Output ...	
-	DST Output ...	
Detector Configurations ...		
Projection Plane {z,theta,phi} ...		
GR Trace-Back Matrix ...		
LAS Trace-Back Matrix ...		
Reaction		
Run Dependent Default Value ...		
Common		
Projectile Kinetic Energy [MeV]		
-	def T1 = 300.22+0.86-0.37	
Projectile Mass [MeV/c2]		
-	def M1 = M_p	
-	Target Mass [MeV/c2]	
-	def M2 = M_p	
Scattered Particle Mass [MeV/c2]		

GXU GR X



GXD GR X

cella 13511

9 < ¹⁶9
15 < ¹²15
21 < ¹⁸21
29 < ²⁴29

11
/

12/2 1240 ³⁶Ar elastic 用 充 7h.

2134 ³⁶Ar at 15deg.

2135 ³⁶Ar at 12deg

) target 12 150

~~2136 ³⁶Ar at 9deg.~~ cell at 90 7" 充 211 充 7h

~~cell at 90~~

2136 ³⁶Ar at 18deg (cell at 15deg).

cell 20deg 1-

2137 ³⁶Ar at 21deg cell at 20deg.

2138 ³⁶Ar at 24deg (")

2139 ³⁶Ar at 27deg (")

= 910 15deg 5h
充 7h

cell 15deg 1-

SC.F.C. 8deg 21deg 17deg 15deg 11deg 6deg 17deg 1-

~~# 2140 ³⁶Ar~~
2140 ³⁶Ar

1.657 (4h) 12deg 5
1.732 1-

LAS sampling 1/1 → 1/10 1-

beam 9h → 4h 15deg 21deg LAS
LAS request 11deg 17deg 15deg 11deg 6deg 17deg 1-

cell 0°) # 2140 ³⁶Ar at 9deg cell at 15deg ⇒ (LAS 1/1 2" 則 充 7h)

#2140 BZ ~ 4 nA

rate1			rate3		
0	Beam Intensity	3.650 nA	0	BLP CLK req :	9.951 kcps
1	GR event request	3.360 kcps	1	BLP CLK live :	9.924 kcps
2	GR event live	2.961 kcps	2	BLP Trig req :	0.087 kcps
3	LAS eventRequest	1.022 kcps	3	BLP Trig live :	0.087 kcps
4	LAS event live	0.904 kcps	4	Akimune UP :	0.000 kcps
5	GR clock request	9.951 kcps	5	Akimune Down :	0.000 kcps
6	GR clock live	8.774 kcps	6	Akimune Left :	0.000 kcps
7	GR Single	2.960 kcps	7	Akimune Right :	0.000 kcps
8	GR Single Sample	2.960 kcps	8	Beam Monitor1 :	3.360 kcps
9	LAS Single	0.903 kcps	9	Beam Monitor2 :	2.961 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3 :	0.000 kcps
11	GR & LAS COIN	0.001 kcps	11	GR scinti.1 :	0.000 kcps
12	ALL accept Event	3.864 kcps	12	GR scinti.2 :	44.654 kcps
13	Reject event	0.000 kcps	13	GR X-hodo :	0.000 kcps
14	GR3377stop(TEND)	3.864 kcps	14		0.000 kcps
15	LAS-reject	0.000 kcps	15		0.000 kcps

Trig.(GR) live :	88.120 percent
Trig.(LAS) live :	88.423 percent
Clock live :	88.173 percent

SCA			
RUN NUM	2140	B.I. Range	20 nA
START	2007-Dec-02	05:03:12	
RUN STOP	2007-Dec-02	05:10:26	
NOW	2007-Dec-02	05:10:32	
Scaler	1 ch	Scal	

```

BLP1 DOWN L 5964 R 10065
BLP1 UP U 4351 D 8457
BLP1 DOWN U 4194 D 8566

BLP2 UP L 36528 R 24470
BLP2 DOWN L 23807 R 36925
BLP2 UP U 29335 D 29524
BLP2 DOWN U 29589 D 29150

```

```

Beam energy 300.000 MeV
pol pp scattering Ay 0.400 +- DAy 0.010
VERTICAL
BLP1 UP 0.376 DOWN -0.640 Norm 0.509
+- 0.022 +- 0.025 +- 0.019
BLP2 UP 0.494 DOWN -0.540 Norm 0.517
+- 0.016 +- 0.017 +- 0.015
HORIZONTAL
BLP1 UP -0.801 DOWN -0.857 Norm 0.031
+- 0.029 +- 0.030 +- 0.017
BLP2 UP -0.008 DOWN 0.019 Norm -0.013
+- 0.010 +- 0.010 +- 0.007

```

```

N 0.517 +- 0.015
L -0.015 +- 0.007
S 0.031 +- 0.017

```

```

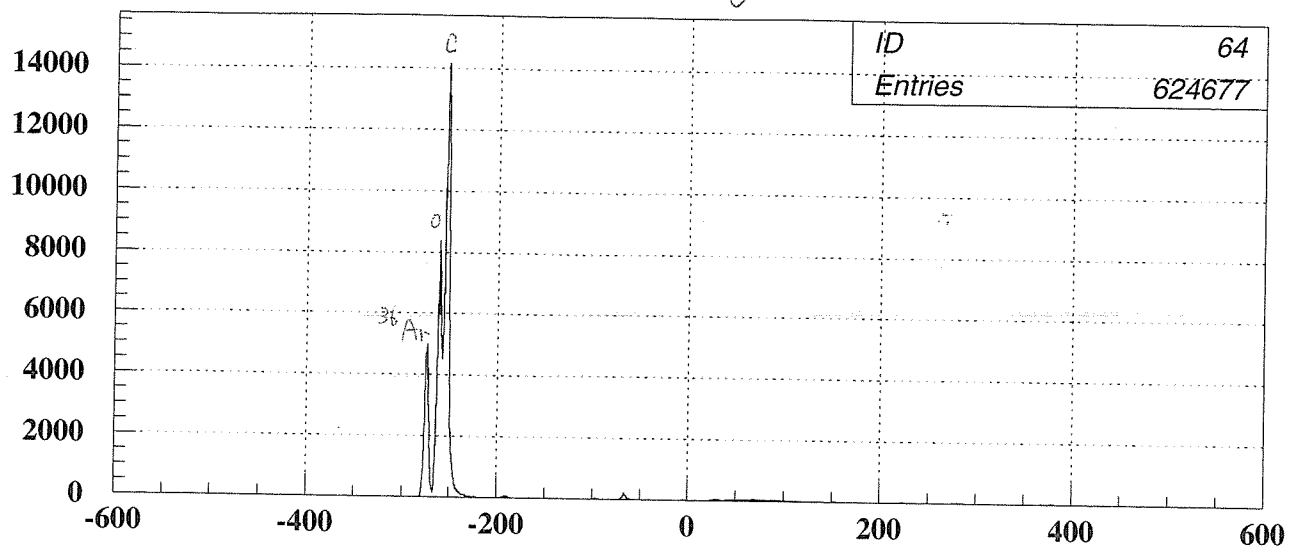
H 0.034 +- 0.015 phi -64.892
P 0.518 +- 0.015 theta 176.216

```

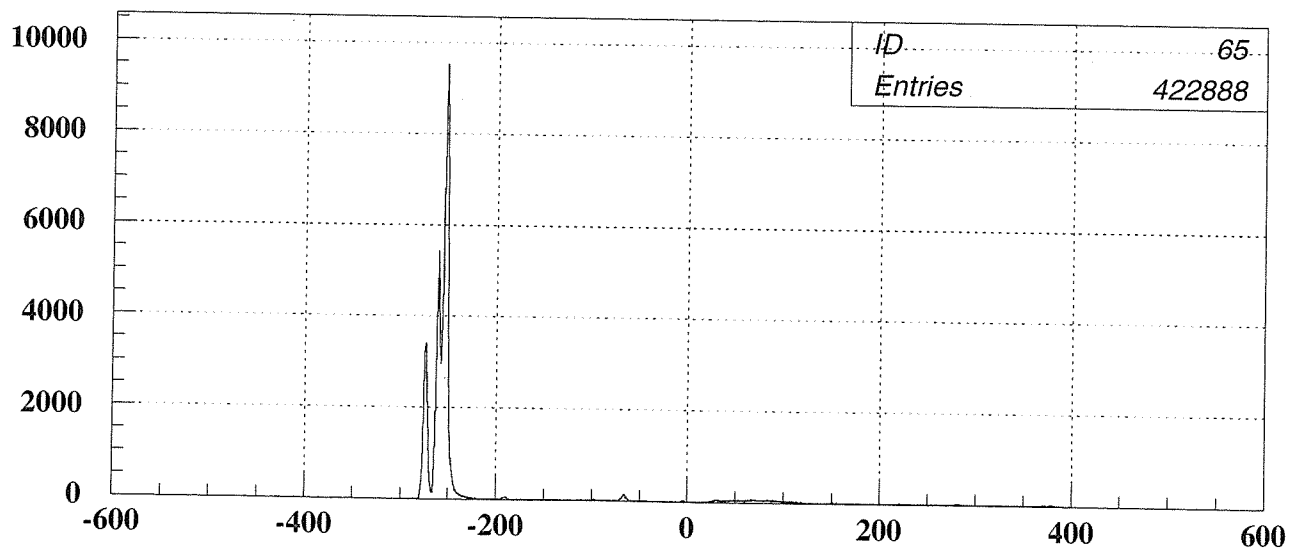
'07/12/02 (Sun) 05:14:18

#2140 ^{36}Ar .9 deg (cell 0deg)

2007/12/02 05.17



GXU GR X

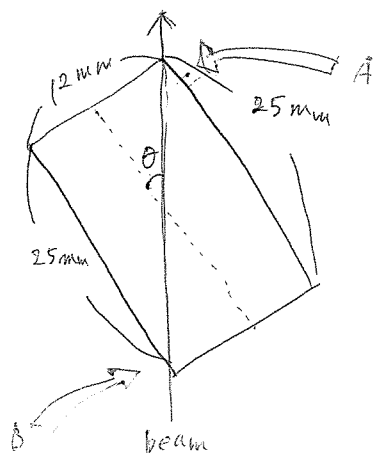
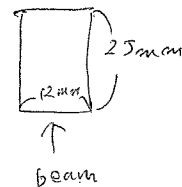


GXD GR X

弾性散乱セルについての考察

- ① セルを散乱角度と同じ角度傾けた時の測定できる最大角度 (須田リミット)

セルの大きさ



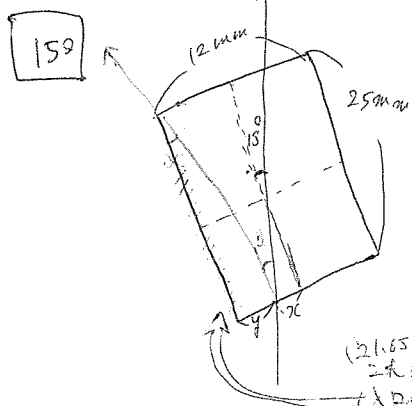
$$\theta = \arctan\left(\frac{12}{25}\right) = 25.6^\circ$$

須田リミット = 25.6

これ以上傾けると入射時B、Cに入る前にAにぶつかってしまう。

- ② セルを 15° 、 20° 傾けた時の

標的厚一定で測れる限界



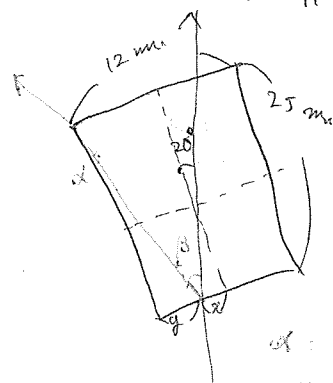
$$\begin{aligned} x &= (25/2) \times \tan 15^\circ \\ &= 3.35 \text{ mm} \\ y &= 2.65 \text{ mm} \end{aligned}$$

$$\alpha = \arctan \frac{y}{x} = \arctan \frac{2.65}{3.35} = 38.7^\circ$$

$$\beta = 15^\circ + \alpha = 21.65^\circ$$

(21.65°) これはGRを回すと入射直線で散乱したものがこの角度に当たる。
⇒ 実際の標的厚が短くなる。

20°



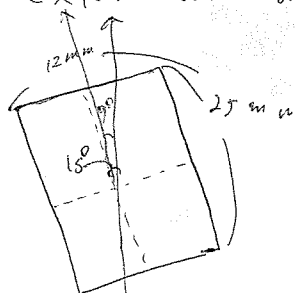
$$\begin{aligned} x &= (25/2) \times \tan 20^\circ \\ &= 4.55 \\ y &= 1.45 \end{aligned}$$

$$\alpha = \arctan \frac{1.45}{4.55} = 17.32^\circ$$

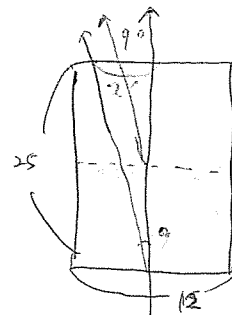
$$\beta = 20^\circ + 17.32^\circ = 37.32^\circ$$

$$\underline{\underline{37.32^\circ}}$$

- ③ GR 90° の時、ヒストグラムがなかなか見えなかったか...

セル 15° 

余光で「見えるはず」なのに「なぜ」見えなかった？

セル 0° 

$$\begin{aligned} x &= 25 \times \tan 90^\circ \\ &= 295 \\ A &= 6 \text{ mm} \end{aligned}$$

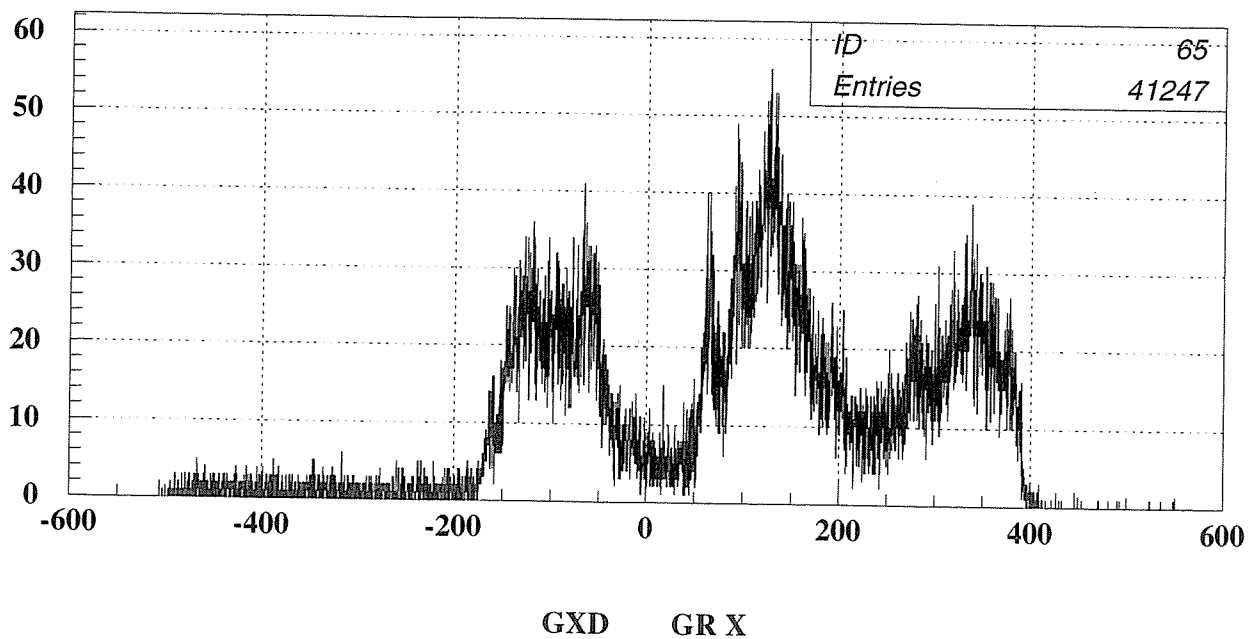
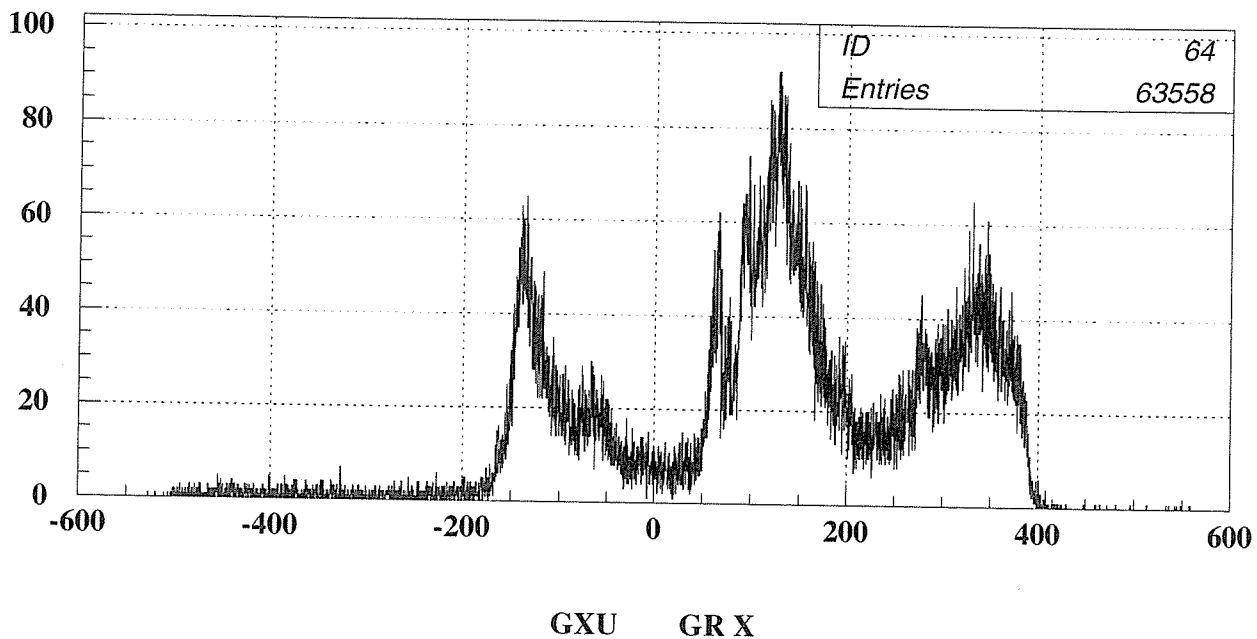
⇒ 見える。実際最大は e (radius 140)

FCE中心に
受けた
(1655V) → #2141 CO₂ at 9deg (セルは0deg)
#2142 CO₂ at 15deg (セルは15deg)
#2143 CO₂ at 21deg (セルは20deg)

~~セルのwindupに当たって~~ 散乱粒子がセルのどこかに当たってエネルギーが
(713?)

#2143. まともなスペクトルではない。

2007/12/02 05.59



スポット確認 OK

5.0 ELAS 1 211 に 30 カカれた (1.732 V) 105 #211 $\frac{1}{10}$ に.

#2144 ^{20}Ne at 9deg (ELAS 0deg) #1

└ 119 カ入, 211 カカれた. とり直し

#2145 ^{20}Ne at 9deg (ELAS 0deg) #2

5.0 ELAS 1 211 に 30 カカれた (1.657 V)

5.0 ELAS 1 211 に 30 カカれた (1.657 V)

#2146 ^{20}Ne at 12deg (ELAS 15deg)

#2147 ^{20}Ne at 15deg (ELAS 15deg)

#2148 ^{20}Ne at 18deg (ELAS 15deg)

#2149 ^{20}Ne at 21deg (ELAS 15deg)

#2150 ^{20}Ne at 24deg (ELAS 15deg)

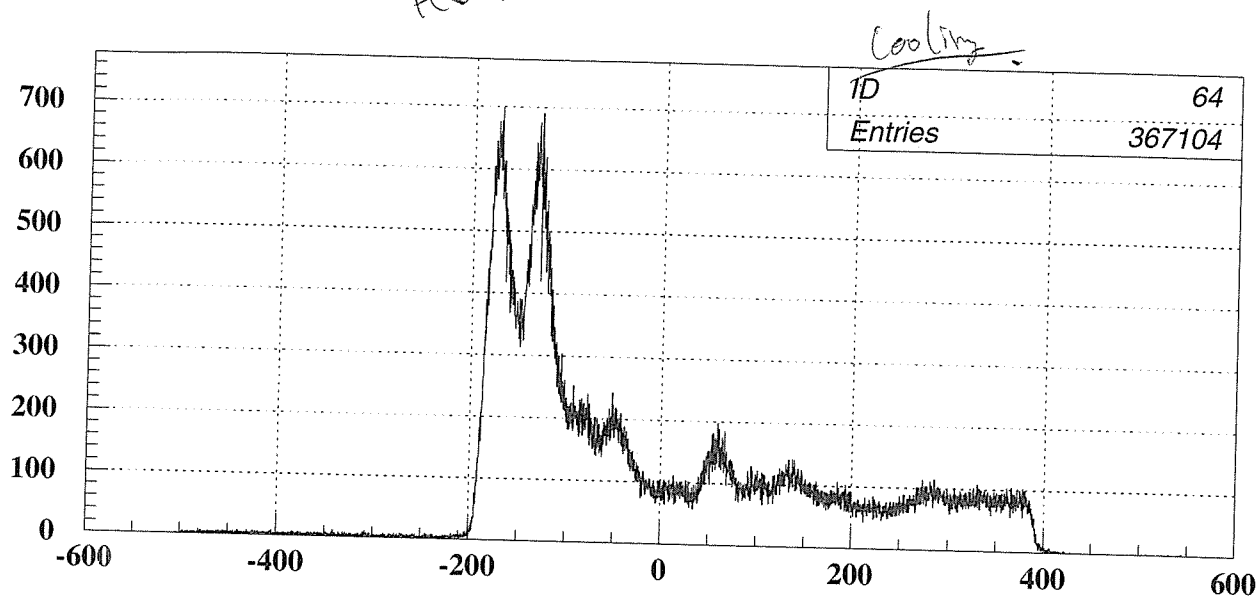
#2151 ^{20}Ne at 27deg (ELAS 15deg)

#2152 ^{20}Ne at 30deg (ELAS 15deg)

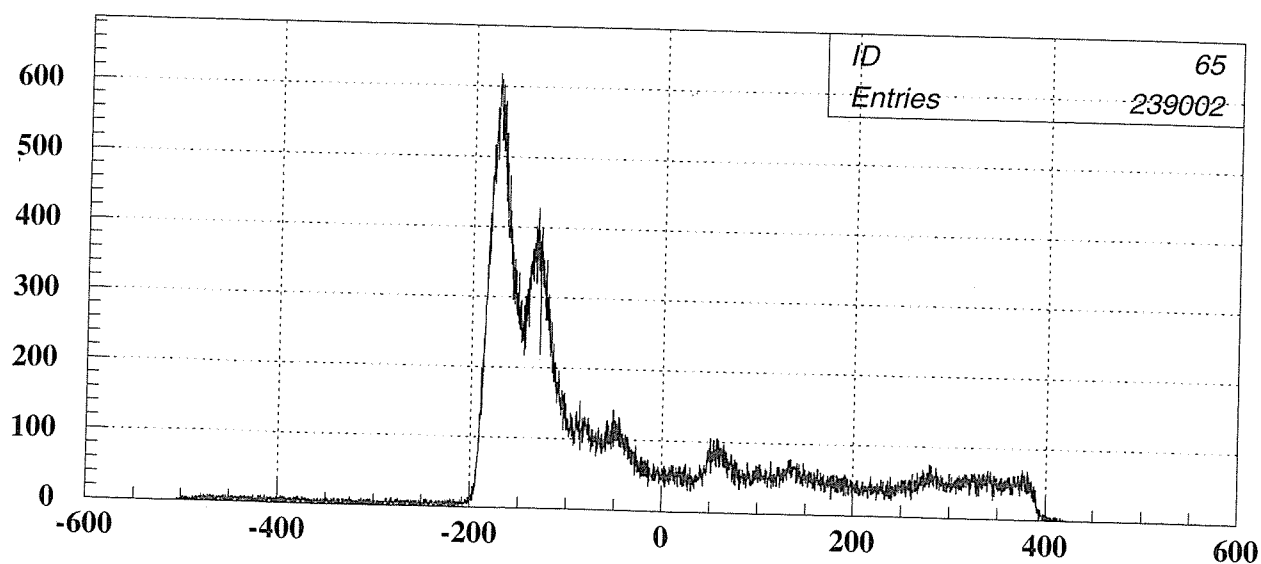
#2153 ^{20}Ne at 15deg conv. 1.7 ! !

Feb 2(53) at 15 20No

2007/12/02 09.09



GXU GR X



GXD GR X

GR 9° に 変更
 靶 0° "
 SC.FC. 1.732 V に (6° 測定用)

#2154 ^{20}Ne at 9° (target at 0°) couling

#2155 ^{20}Ne at 12° (target at 15°) couling.

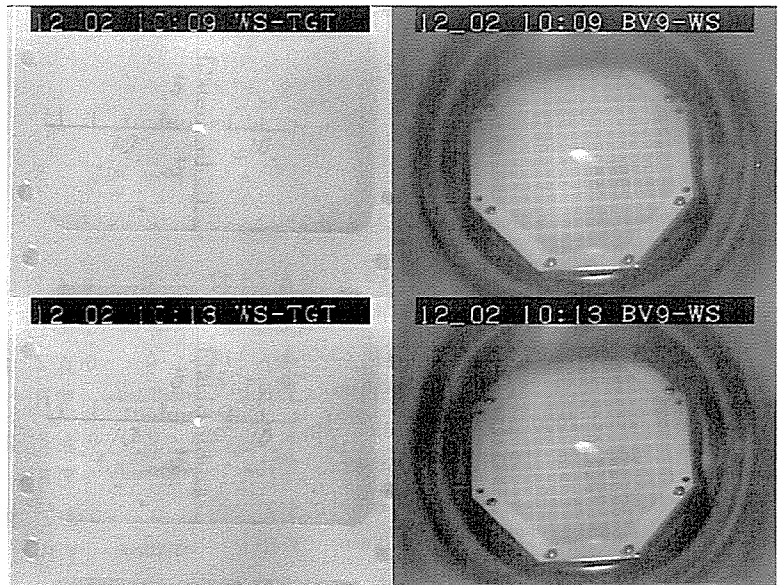
spectrum が 悪い ので stop → Beam stop check

~~#2156~~

on target 少し 掘り戻す (2-3mm) ので 絞った
 軸も 2mm ほど ずれた (BV9 と target) ~1mm 程度

調整前

調整後



これ以後 LAS の gate 15% 閉

rate1			rate3		
0	Beam Intensity	0.672 nA	0	BLP CLK req	9.948 kcps
1	GR event request	5.131 kcps	1	BLP CLK live	9.945 kcps
2	GR event live	0.316 kcps	2	BLP Trig req	0.011 kcps
3	LAS eventRequest	0.711 kcps	3	BLP Trig live	0.011 kcps
4	LAS event live	0.044 kcps	4	Akimune UP	0.000 kcps
5	GR clock request	9.948 kcps	5	Akimune Down	0.000 kcps
6	GR clock live	9.441 kcps	6	Akimune Left	0.000 kcps
7	GR Single	0.316 kcps	7	Akimune Right	0.000 kcps
8	GR Single Sample	0.316 kcps	8	Beam Monitor1	5.131 kcps
9	LAS Single	0.044 kcps	9	Beam Monitor2	0.316 kcps
10	LAS SingleSample	0.000 kcps	10	Beam Monitor3	0.000 kcps
11	GR & LAS COIN	0.001 kcps	11	GR scinti.1	0.000 kcps
12	ALL accept Event	0.360 kcps	12	GR scinti.2	11.204 kcps
13	Reject event	0.000 kcps	13	GR X-hodo	0.000 kcps
14	GR3377stop(TEND)	0.360 kcps	14		0.000 kcps
15	LAS-reject	0.000 kcps	15		0.000 kcps

Trig.(GR) live	: 6.168 percent
Trig.(LAS) live	: 6.206 percent
Clock live	: 94.908 percent

RUN NUM	2155	B.I.	Range	20 nA
START	2007-Dec-02		10:05:01	
RUN STOP	2007-Dec-02		10:06:13	
NOW	2007-Dec-02		10:17:07	
scaler	1	ch	Scal	

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.

H 2156. No at 12° cell at 5deg. cooling.

LASA trigger button at
LASA Hodo

Frame 0

Channel: Preset & True Voltage (Z=zero, R=restore)

| | | | |
|------------------|-------------------|----------------|----------------|
| 1: 0 0 ▲ Z | 9: 2270 2270 ▲ Z | 17: 0 0 ▲ Z | 25: 0 0 ▲ Z |
| <untitled> ▼ R | <untitled> ▼ R | <untitled> ▼ R | <untitled> ▼ R |
| 2: 57 57 ▲ Z | 10: 2300 2300 ▲ Z | 18: 0 0 ▲ Z | 26: 0 0 ▲ Z |
| <untitled> ▼ R | <untitled> ▼ R | <untitled> ▼ R | <untitled> ▼ R |
| 3: 2000 2000 ▲ Z | 11: 69 69 ▲ Z | 19: 0 0 ▲ Z | 27: 0 0 ▲ Z |
| <untitled> ▼ R | <untitled> ▼ R | <untitled> ▼ R | <untitled> ▼ R |
| 4: 2070 2070 ▲ Z | 12: 0 0 ▲ Z | 20: 0 0 ▲ Z | 28: 0 0 ▲ Z |
| <untitled> ▼ R | <untitled> ▼ R | <untitled> ▼ R | <untitled> ▼ R |

HV ON HV OFF Set All Update Set Common 0

HV All ON HV All OFF Read File Write File Update All Hcopy Queue acc3626 exit

以後 2156 角度は 5 度 に 固定

#2156

| rate1 | | | rate3 | | |
|-------|------------------|-------------|-------|-----------------|--------------|
| 0 | Beam Intensity | 9.763 nA | 0 | BLP CLK req : | 10.004 kcps |
| 1 | GR event request | 5.221 kcps | 1 | BLP CLK live : | 9.930 kcps |
| 2 | GR event live | 4.482 kcps | 2 | BLP Trig req : | 0.242 kcps |
| 3 | LAS eventRequest | 0.000 kcps | 3 | BLP Trig live : | 0.242 kcps |
| 4 | LAS event live | 0.000 kcps | 4 | Akimune UP : | 0.000 kcps |
| 5 | GR clock request | 10.004 kcps | 5 | Akimune Down : | 0.000 kcps |
| 6 | GR clock live | 8.611 kcps | 6 | Akimune Left : | 0.000 kcps |
| 7 | GR Single | 4.482 kcps | 7 | Akimune Right : | 0.000 kcps |
| 8 | GR Single Sample | 4.482 kcps | 8 | Beam Monitor1 : | 5.221 kcps |
| 9 | LAS Single | 0.000 kcps | 9 | Beam Monitor2 : | 4.482 kcps |
| 10 | LAS SingleSample | 0.001 kcps | 10 | Beam Monitor3 : | 0.000 kcps |
| 11 | GR & LAS COIN | 0.002 kcps | 11 | GR scinti.1 : | 0.000 kcps |
| 12 | ALL accept Event | 4.482 kcps | 12 | GR scinti.2 : | 116.121 kcps |
| 13 | Reject event | 0.000 kcps | 13 | GR X-hodo : | 0.000 kcps |
| 14 | GR3377stop(TEND) | 4.482 kcps | 14 | : | 0.000 kcps |
| 15 | LAS-reject | 0.000 kcps | 15 | : | 0.000 kcps |

| | |
|-------------------|----------------|
| Trig.(GR) live : | 85.848 percent |
| Trig.(LAS) live : | NaN percent |
| Clock live : | 86.071 percent |

| | |
|----------|-----------------------|
| SCA | |
| RUN NUM | 2156 B.I. Range 20 nA |
| START | 2007-Dec-02 10:57:34 |
| RUN STOP | 2007-Dec-02 11:08:00 |
| NOW | 2007-Dec-02 11:08:24 |
| scaler | 0 ch Scal |

#2157 ^{20}Ne at 15° cell at 5 deg cooling

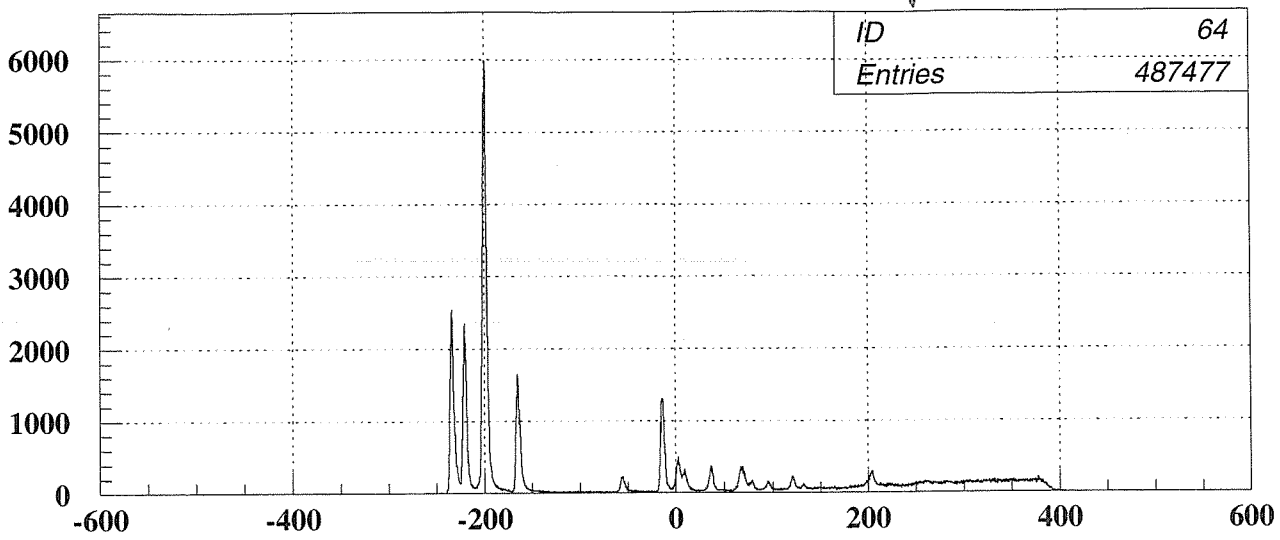
| rate1 | | | rate3 | | |
|-------|------------------|------------|-------|-----------------|--------------|
| 0 | Beam Intensity | 9.660 nA | 0 | BLP CLK req : | 9.980 kcps |
| 1 | GR event request | 3.415 kcps | 1 | BLP CLK live : | 9.908 kcps |
| 2 | GR event live | 3.086 kcps | 2 | BLP Trig req : | 0.233 kcps |
| 3 | LAS eventRequest | 0.000 kcps | 3 | BLP Trig live : | 0.233 kcps |
| 4 | LAS event live | 0.000 kcps | 4 | Akimune UP : | 0.000 kcps |
| 5 | GR clock request | 9.980 kcps | 5 | Akimune Down : | 0.000 kcps |
| 6 | GR clock live | 9.042 kcps | 6 | Akimune Left : | 0.000 kcps |
| 7 | GR Single | 3.086 kcps | 7 | Akimune Right : | 0.000 kcps |
| 8 | GR Single Sample | 3.086 kcps | 8 | Beam Monitor1 : | 3.415 kcps |
| 9 | LAS Single | 0.000 kcps | 9 | Beam Monitor2 : | 3.086 kcps |
| 10 | LAS SingleSample | 0.003 kcps | 10 | Beam Monitor3 : | 0.000 kcps |
| 11 | GR & LAS COIN | 0.002 kcps | 11 | GR scinti.1 : | 0.000 kcps |
| 12 | ALL accept Event | 3.086 kcps | 12 | GR scinti.2 : | 111.404 kcps |
| 13 | Reject event | 0.000 kcps | 13 | GR X-hodo : | 0.000 kcps |
| 14 | GR3377stop(TEND) | 3.086 kcps | 14 | : | 0.000 kcps |
| 15 | LAS-reject | 0.000 kcps | 15 | : | 0.000 kcps |

| | |
|-------------------|----------------|
| Trig.(GR) live : | 90.371 percent |
| Trig.(LAS) live : | NaN percent |
| Clock live : | 90.598 percent |

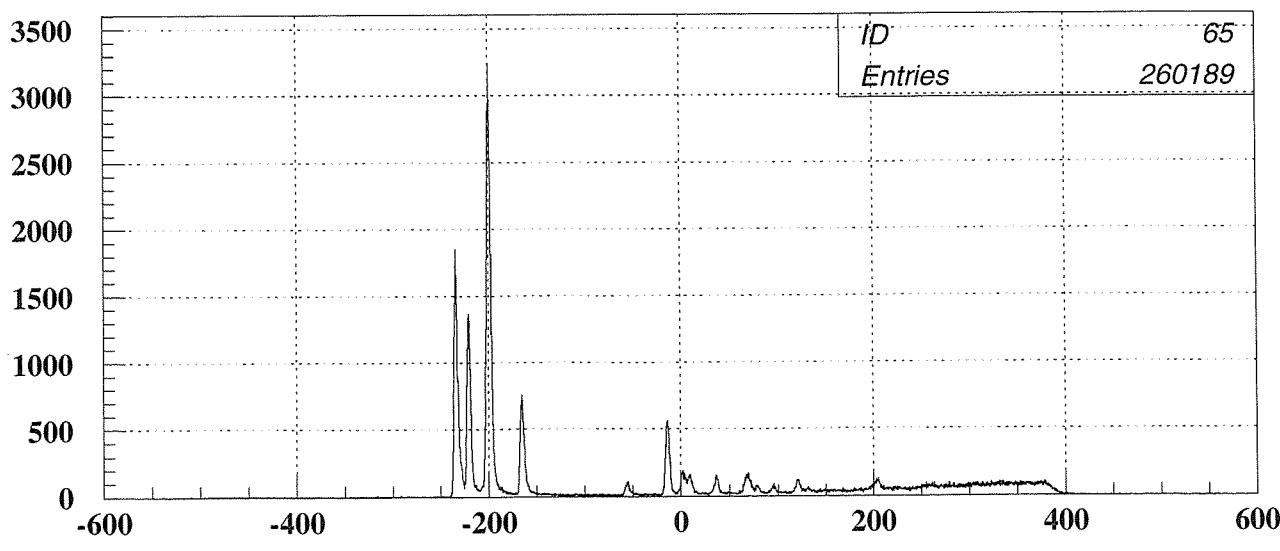
| | |
|-------------|-----------------------|
| SCA | |
| scaler down | |
| RUN NUM | 2157 B.I. Range 20 nA |
| RUN START | 2007-Dec-02 11:14:25 |
| NOW | 2007-Dec-02 11:15:02 |
| scaler | 0 ch Scal |

2007/12/02 11.24

#2157 ²⁰Ne @ 15° cell 5deg



GXU GR X



GXD GR X

#2158 ^{20}Ne @ 18° cell 5° cooling.

| rate1 | | | rate3 | | |
|-------|------------------|------------|-------|-----------------|--------------|
| 0 | Beam Intensity | 9.280 nA | 0 | BLP CLK req : | 9.983 kcps |
| 1 | GR event request | 1.672 kcps | 1 | BLP CLK live : | 9.914 kcps |
| 2 | GR event live | 1.589 kcps | 2 | BLP Trig req : | 0.222 kcps |
| 3 | LAS eventRequest | 0.000 kcps | 3 | BLP Trig live : | 0.222 kcps |
| 4 | LAS event live | 0.000 kcps | 4 | Akimune UP : | 0.000 kcps |
| 5 | GR clock request | 9.983 kcps | 5 | Akimune Down : | 0.000 kcps |
| 6 | GR clock live | 9.503 kcps | 6 | Akimune Left : | 0.000 kcps |
| 7 | GR Single | 1.589 kcps | 7 | Akimune Right : | 0.000 kcps |
| 8 | GR Single Sample | 1.589 kcps | 8 | Beam Monitor1 : | 1.672 kcps |
| 9 | LAS Single | 0.000 kcps | 9 | Beam Monitor2 : | 1.589 kcps |
| 10 | LAS SingleSample | 0.001 kcps | 10 | Beam Monitor3 : | 0.000 kcps |
| 11 | GR & LAS COIN | 0.001 kcps | 11 | GR scinti.1 : | 0.000 kcps |
| 12 | ALL accept Event | 1.589 kcps | 12 | GR scinti.2 : | 104.804 kcps |
| 13 | Reject event | 0.000 kcps | 13 | GR X-hodo : | 0.000 kcps |
| 14 | GR377stop(TEND) | 1.589 kcps | 14 | | 0.000 kcps |
| 15 | LAS-reject | 0.000 kcps | 15 | | 0.000 kcps |

| | |
|-------------------|----------------|
| Trig.(GR) live : | 95.030 percent |
| Trig.(LAS) live : | NaN percent |
| Clock live : | 95.192 percent |

| | |
|-------------|-----------------------|
| scaler down | |
| RUN NUM | 2158 B.I. Range 20 nA |
| RUN START | 2007-Dec-02 11:31:59 |
| NOW | 2007-Dec-02 11:32:41 |
| scaler | 0 ch Scal |

Date: Wed, 12 Mar 2003 18:54:58 +0900

民井様、久保木様、

相良です。

3日間ご苦労様でした。

4ミクロン膜のターゲットが出来たので、私も一安心しました。

いい実験を期待します。

aramide foil (Torey MICTRON) の組成は、
mass ratio, atomic number ratioであらわすと以下だそうです。

C 57, 49

O 11, 7

N 9, 7

Cl 21, 6

H 3, 31

これは東レ>RCNP藤原さん>郡さん経由で聞いた値です。

現在使用しているアラミドはRCNPのストックから貰ったものですが、

Torey MICTRONかどうか確かめていません。ただ東レから買った、
とRCNPの誰かから聞いたような気がします。

相良建至 Sagara, kenshi

九州大学 大学院理学研究院 物理学部門

812-8581 福岡市東区箱崎6-10-1

phone & fax 092-642-2546

e-mail: sagara@kutl.kyushu-u.ac.jp

$^{12}_2$ 11:55:00 #2159 ^{20}Ne $t_{GR} = 21^\circ$ cell = 5° cooling

| rate1 | | | rate3 | | |
|-------|------------------|------------|-------|-----------------|--------------|
| 0 | Beam Intensity | 9.332 nA | 0 | BLP CLK req : | 9.994 kcps |
| 1 | GR event request | 1.342 kcps | 1 | BLP CLK live : | 9.925 kcps |
| 2 | GR event live | 1.291 kcps | 2 | BLP Trig req : | 0.225 kcps |
| 3 | LAS eventRequest | 0.000 kcps | 3 | BLP Trig live : | 0.225 kcps |
| 4 | LAS event live | 0.000 kcps | 4 | Akimune UP : | 0.000 kcps |
| 5 | GR clock request | 9.994 kcps | 5 | Akimune Down : | 0.000 kcps |
| 6 | GR clock live | 9.605 kcps | 6 | Akimune Left : | 0.000 kcps |
| 7 | GR Single | 1.291 kcps | 7 | Akimune Right : | 0.000 kcps |
| 8 | GR Single Sample | 1.291 kcps | 8 | Beam Monitor1 : | 1.342 kcps |
| 9 | LAS Single | 0.000 kcps | 9 | Beam Monitor2 : | 1.291 kcps |
| 10 | LAS SingleSample | 0.002 kcps | 10 | Beam Monitor3 : | 0.000 kcps |
| 11 | GR & LAS COIN | 0.000 kcps | 11 | GR scinti.1 : | 0.000 kcps |
| 12 | ALL accept Event | 1.291 kcps | 12 | GR scinti.2 : | 104.272 kcps |
| 13 | Reject event | 0.000 kcps | 13 | GR X-hodo : | 0.000 kcps |
| 14 | GR3377stop(TEND) | 1.291 kcps | 14 | | 0.000 kcps |
| 15 | LAS-reject | 0.000 kcps | 15 | | 0.000 kcps |

| | |
|-------------------|----------------|
| Trig.(GR) live : | 96.194 percent |
| Trig.(LAS) live : | NaN percent |
| Clock live : | 96.110 percent |

| | |
|-------------|-----------------------|
| scaler down | |
| RUN NUM | 2159 B.I. Range 20 nA |
| RUN START | 2007-Dec-02 11:49:09 |
| NOW | 2007-Dec-02 11:49:33 |
| scaler | 0 ch Scal |

#2160 ^{20}Ne $t_{GR} = 24^\circ$, cell = 5° cooling

| rate1 | | | rate3 | | |
|-------|------------------|------------|-------|-----------------|--------------|
| 0 | Beam Intensity | 9.568 nA | 0 | BLP CLK req : | 9.978 kcps |
| 1 | GR event request | 1.201 kcps | 1 | BLP CLK live : | 9.908 kcps |
| 2 | GR event live | 1.160 kcps | 2 | BLP Trig req : | 0.226 kcps |
| 3 | LAS eventRequest | 0.000 kcps | 3 | BLP Trig live : | 0.226 kcps |
| 4 | LAS event live | 0.000 kcps | 4 | Akimune UP : | 0.000 kcps |
| 5 | GR clock request | 9.978 kcps | 5 | Akimune Down : | 0.000 kcps |
| 6 | GR clock live | 9.630 kcps | 6 | Akimune Left : | 0.000 kcps |
| 7 | GR Single | 1.160 kcps | 7 | Akimune Right : | 0.000 kcps |
| 8 | GR Single Sample | 1.160 kcps | 8 | Beam Monitor1 : | 1.201 kcps |
| 9 | LAS Single | 0.000 kcps | 9 | Beam Monitor2 : | 1.160 kcps |
| 10 | LAS SingleSample | 0.001 kcps | 10 | Beam Monitor3 : | 0.000 kcps |
| 11 | GR & LAS COIN | 0.002 kcps | 11 | GR scinti.1 : | 0.000 kcps |
| 12 | ALL accept Event | 1.160 kcps | 12 | GR scinti.2 : | 106.228 kcps |
| 13 | Reject event | 0.000 kcps | 13 | GR X-hodo : | 0.000 kcps |
| 14 | GR3377stop(TEND) | 1.160 kcps | 14 | | 0.000 kcps |
| 15 | LAS-reject | 0.000 kcps | 15 | | 0.000 kcps |

| | |
|-------------------|----------------|
| Trig.(GR) live : | 96.583 percent |
| Trig.(LAS) live : | 0.000 percent |
| Clock live : | 96.507 percent |

| | |
|-------------|-----------------------|
| scaler down | |
| RUN NUM | 2160 B.I. Range 20 nA |
| RUN START | 2007-Dec-02 12:06:24 |
| NOW | 2007-Dec-02 12:06:48 |
| scaler | 0 ch Scal |

#261 - ^{26}Ne $\theta_{GR} = 27^\circ$ cell = 5° cooling

| rate1 | | | rate3 | | |
|-------|------------------|------------|-------|-----------------|-------------|
| 0 | Beam Intensity | 8.521 nA | 0 | BLP CLK req : | 9.980 kcps |
| 1 | GR event request | 0.926 kcps | 1 | BLP CLK live : | 9.919 kcps |
| 2 | GR event live | 0.900 kcps | 2 | BLP Trig req : | 0.199 kcps |
| 3 | LAS eventRequest | 0.000 kcps | 3 | BLP Trig live : | 0.199 kcps |
| 4 | LAS event live | 0.000 kcps | 4 | Akimune UP : | 0.000 kcps |
| 5 | GR clock request | 9.980 kcps | 5 | Akimune Down : | 0.000 kcps |
| 6 | GR clock live | 9.711 kcps | 6 | Akimune Left : | 0.000 kcps |
| 7 | GR Single | 0.900 kcps | 7 | Akimune Right : | 0.000 kcps |
| 8 | GR Single Sample | 0.900 kcps | 8 | Beam Monitor1 : | 0.926 kcps |
| 9 | LAS Single | 0.000 kcps | 9 | Beam Monitor2 : | 0.900 kcps |
| 10 | LAS SingleSample | 0.001 kcps | 10 | Beam Monitor3 : | 0.000 kcps |
| 11 | GR & LAS COIN | 0.000 kcps | 11 | GR scinti.1 : | 0.000 kcps |
| 12 | ALL accept Event | 0.900 kcps | 12 | GR scinti.2 : | 94.404 kcps |
| 13 | Reject event | 0.000 kcps | 13 | GR X-hodo : | 0.000 kcps |
| 14 | GR3377stop(TEND) | 0.900 kcps | 14 | : | 0.000 kcps |
| 15 | LAS-reject | 0.000 kcps | 15 | : | 0.000 kcps |

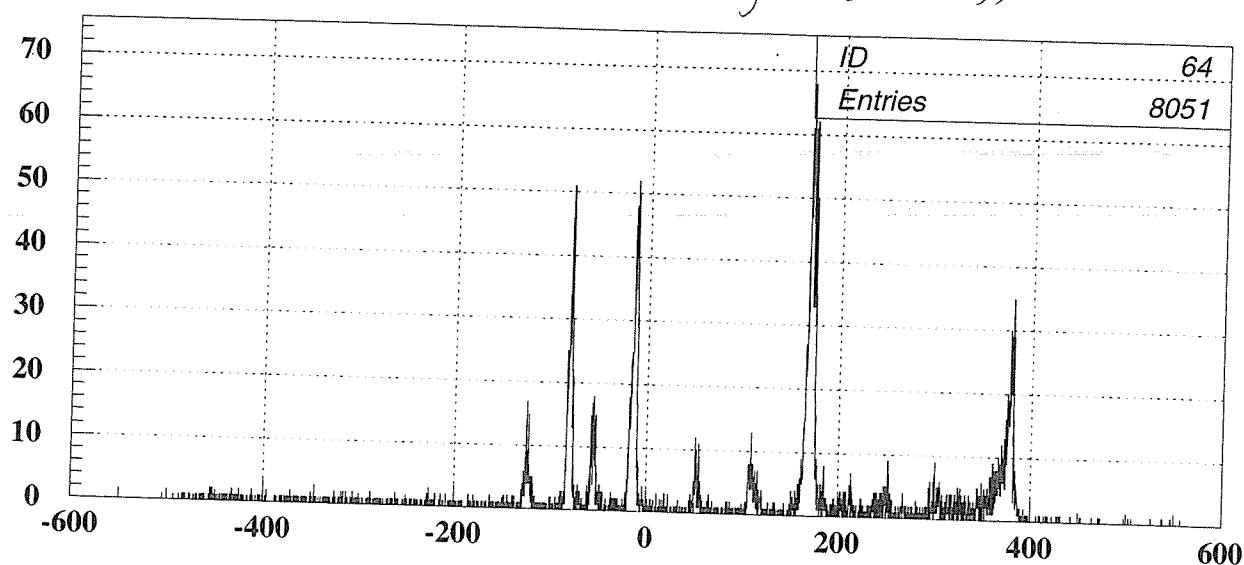
| | |
|-------------------|----------------|
| Trig.(GR) live : | 97.182 percent |
| Trig.(LAS) live : | NaN percent |
| Clock live : | 97.300 percent |

| | | |
|-------------|-------------|------------------|
| sca | | |
| scaler down | | |
| RUN NUM | 2161 | B.I. Range 20 nA |
| RUN START | 2007-Dec-02 | 12:23:22 |
| NOW | 2007-Dec-02 | 12:28:29 |
| scaler | 0 ch | Scal |

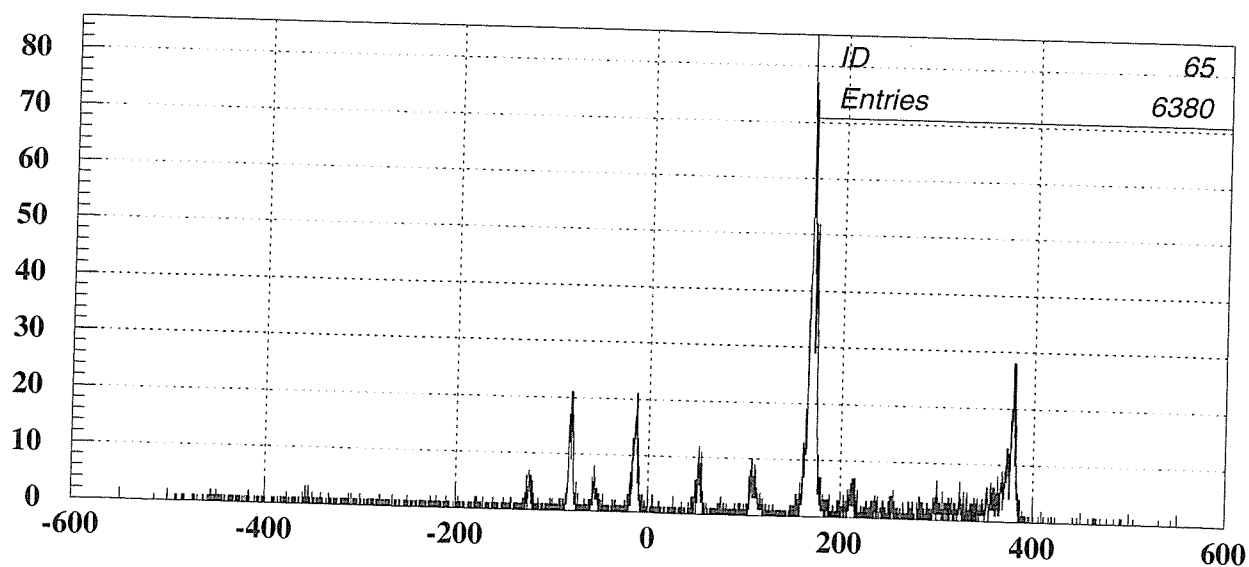
Not cooling

#2151 ^{20}Ne at $30 \pm 27^\circ\text{deg}$ (PRL 15 deg)

2007/12/02 07:51



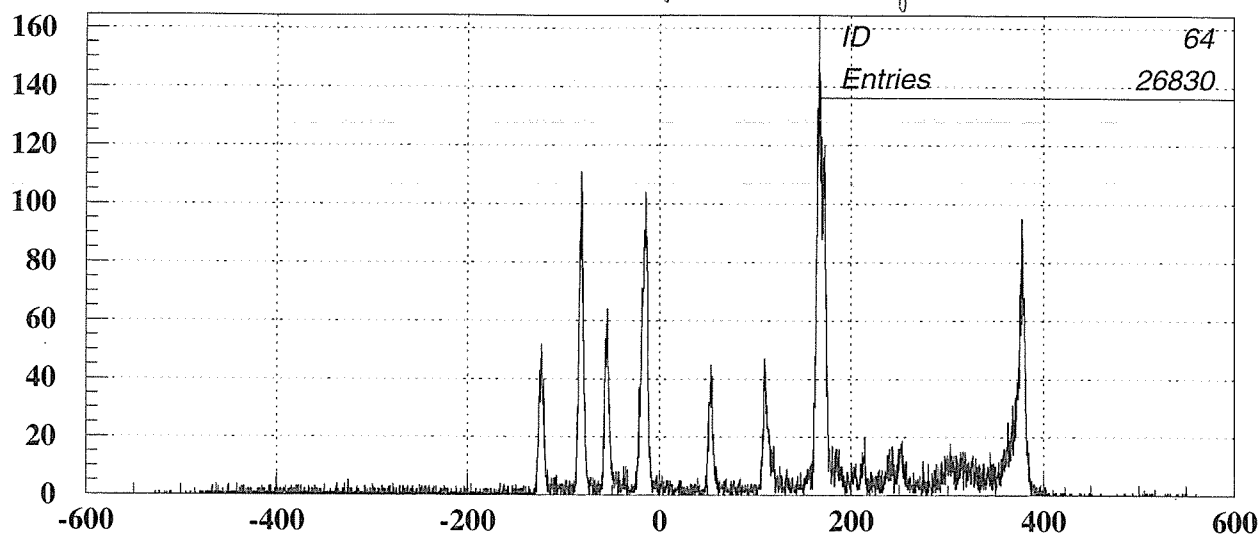
GXU GRX



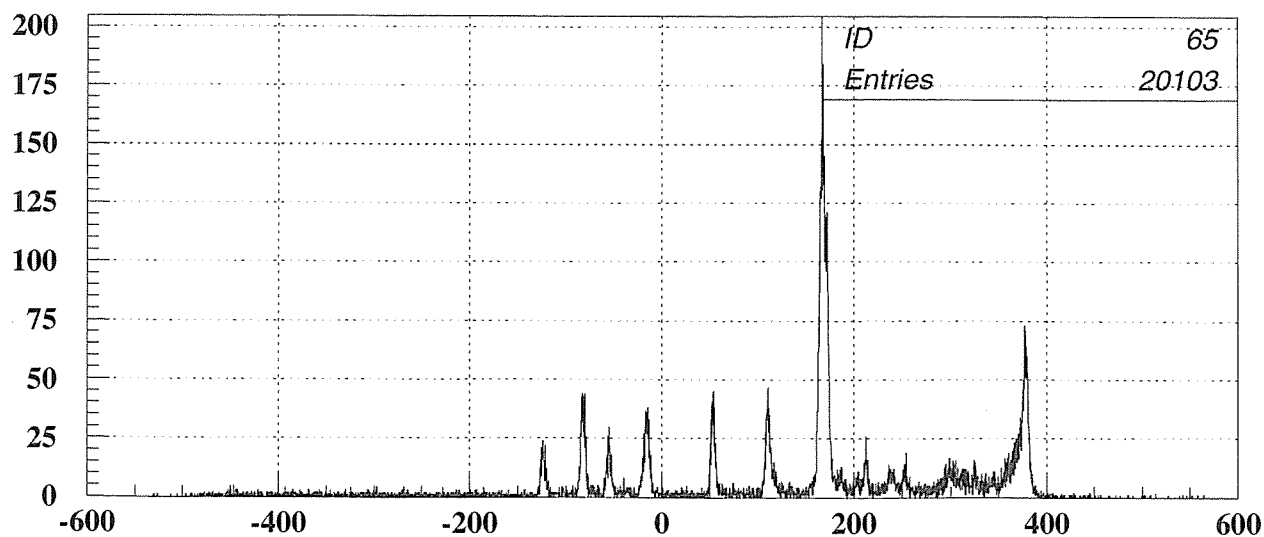
GXD GRX

Cooling

2007/12/02 12.33

#21641 ^{20}Ne @ 27 deg Cell 5 deg 2229

GXU GR X



GXD GR X

2162 ^{20}Ne $\theta_{\text{GR}} = 9^\circ$, cell = 5° cooling, $\text{ScFc} = 1732\text{V}$, 22nA

| rate1 | | | rate3 | | |
|-------|------------------|------------|-------|-----------------|-------------|
| 0 | Beam Intensity | 1.856 nA | 0 | BLP CLK req : | 9.980 kcps |
| 1 | GR event request | 4.302 kcps | 1 | BLP CLK live : | 9.966 kcps |
| 2 | GR event live | 3.784 kcps | 2 | BLP Trig req : | 0.043 kcps |
| 3 | LAS eventRequest | 0.000 kcps | 3 | BLP Trig live : | 0.043 kcps |
| 4 | LAS event live | 0.000 kcps | 4 | Akimune UP : | 0.000 kcps |
| 5 | GR clock request | 9.980 kcps | 5 | Akimune Down : | 0.000 kcps |
| 6 | GR clock live | 8.827 kcps | 6 | Akimune Left : | 0.000 kcps |
| 7 | GR Single | 3.784 kcps | 7 | Akimune Right : | 0.000 kcps |
| 8 | GR Single Sample | 3.784 kcps | 8 | Beam Monitor1 : | 4.302 kcps |
| 9 | LAS Single | 0.000 kcps | 9 | Beam Monitor2 : | 3.784 kcps |
| 10 | LAS SingleSample | 0.000 kcps | 10 | Beam Monitor3 : | 0.000 kcps |
| 11 | GR & LAS COIN | 0.001 kcps | 11 | GR scinti,1 : | 0.000 kcps |
| 12 | ALL accept Event | 3.784 kcps | 12 | GR scinti,2 : | 25.356 kcps |
| 13 | Reject event | 0.000 kcps | 13 | GR X-hodo : | 0.000 kcps |
| 14 | GR3377stop(TEND) | 3.783 kcps | 14 | : | 0.000 kcps |
| 15 | LAS-reject | 0.000 kcps | 15 | : | 0.000 kcps |

| | |
|------------------|----------------|
| ~ig.(GR) live : | 87.945 percent |
| ~ig.(LAS) live : | 0.000 percent |
| lock live : | 88.453 percent |

| SCA | | |
|-------------|-------------|------------------|
| scaler down | | |
| RUN NUM | 2162 | B.I. Range 20 nA |
| RUN START | 2007-Dec-02 | 12:46:45 |
| NOW | 2007-Dec-02 | 12:48:09 |
| scaler | 0 | ch Sca1 |

WS Device Controller

'07/12/02 13:05

WS\CHAMBER\GR\LAS\

Device: Preset & Actual Values (Manual Operation Buttons)

| | | | | | | | | |
|-----------------|---|-------|---------|------|---|---|---|-----|
| Target Position | ◆ | 3.285 | 3.312 V | DOWN | ◀ | ■ | ▶ | UP |
| Target Rotation | ◆ | 3.381 | 3.384 V | CW | ◀ | ■ | ▶ | CCW |
| FC Position | ◆ | 1.000 | 4.332 V | DOWN | ◀ | ■ | ▶ | UP |
| FC Rotation | ◆ | 1.657 | 1.657 V | CCW | ◀ | ■ | ▶ | CW |
| FC Tilt | ◆ | | 2.875 V | CCW | ◀ | ■ | ▶ | CW |
| Table Rotation | ◆ | | 1.389 V | CCW | ◀ | ■ | ▶ | CW |

Update

Cycle 5 sec.

Hcopy

Queue acc3626

eXit

WS Magnet Controller

'07/12/02 13:05

WS\PIS\

| Magnet | | Field(Preset Actual) | | | Current(Preset Actual) | | Status | PS | NMR | FB |
|--------|---|----------------------|----------|------|------------------------|----------|--------|----|-----|----|
| GR Q1 | ◆ | | | mT ◆ | 97.13 | 97.20 A | ■ | ■ | ■ | ■ |
| GR SX | ◆ | | | mT ◆ | 18.79 | 18.70 A | ■ | ■ | ■ | ■ |
| GR Q2 | ◆ | | | mT ◆ | 8.776 | 8.80 A | ■ | ■ | ■ | ■ |
| GR MQ | ◆ | | | mT ◆ | | 0.00 A | ■ | ■ | ■ | ■ |
| GR MS | ◆ | | | mT ◆ | | 0.00 A | ■ | ■ | ■ | ■ |
| GR D1 | ◆ | 890.2 | 890.198 | mT ◆ | 236.41067 | 236.21 A | ■ | ■ | ■ | ■ |
| GR D2 | ◆ | 890.2 | 890.202 | mT ◆ | 444.83225 | 444.45 A | ■ | ■ | ■ | ■ |
| GR DSR | ◆ | 0.0 | 18.708 | mT ◆ | 0.0 | 0.05 A | ■ | ■ | ■ | ■ |
| LAS Q | ◆ | | | mT ◆ | | 217.70 A | ■ | ■ | ■ | ■ |
| LAS D | ◆ | | -747.992 | mT ◆ | | 280.30 A | ■ | ■ | ■ | ■ |
| GR DQ1 | ◆ | | | mT ◆ | | 0.00 A | ■ | ■ | ■ | ■ |
| GR DQ2 | ◆ | | | mT ◆ | | 0.00 A | ■ | ■ | ■ | ■ |

Update

update Cycle 5 sec.

Hcopy

Queue acc3626

eXit

RPH32010 Controller for BLP

Frame 0

Channel: Preset & True Voltage (Z=zero, R=restore)

| | | | |
|------------------------------------|-------------------------------------|-------------------------------|-------------------------------|
| 1: 1350 1350 ▲ Z
<untitled> ▼ R | 9: 1420 1420 ▲ Z
<untitled> ▼ R | 17: 0 0 ▲ Z
<untitled> ▼ R | 25: 0 0 ▲ Z
<untitled> ▼ R |
| 2: 1080 1080 ▲ Z
<untitled> ▼ R | 10: 1090 1090 ▲ Z
<untitled> ▼ R | 18: 0 0 ▲ Z
<untitled> ▼ R | 26: 0 0 ▲ Z
<untitled> ▼ R |
| 3: 1470 1470 ▲ Z
<untitled> ▼ R | 11: 1420 1420 ▲ Z
<untitled> ▼ R | 19: 0 0 ▲ Z
<untitled> ▼ R | 27: 0 0 ▲ Z
<untitled> ▼ R |
| 4: 1080 1080 ▲ Z
<untitled> ▼ R | 12: 1090 1090 ▲ Z
<untitled> ▼ R | 20: 0 0 ▲ Z
<untitled> ▼ R | 28: 0 0 ▲ Z
<untitled> ▼ R |
| 5: 1250 1250 ▲ Z
<untitled> ▼ R | 13: 1330 1330 ▲ Z
<untitled> ▼ R | 21: 0 0 ▲ Z
<untitled> ▼ R | 29: 0 0 ▲ Z
<untitled> ▼ R |
| 6: 1200 1200 ▲ Z
<untitled> ▼ R | 14: 1110 1110 ▲ Z
<untitled> ▼ R | 22: 0 0 ▲ Z
<untitled> ▼ R | 30: 0 0 ▲ Z
<untitled> ▼ R |
| 7: 1300 1300 ▲ Z
<untitled> ▼ R | 15: 1205 1205 ▲ Z
<untitled> ▼ R | 23: 0 0 ▲ Z
<untitled> ▼ R | 31: 0 0 ▲ Z
<untitled> ▼ R |
| 8: 1220 1220 ▲ Z
<untitled> ▼ R | 16: 1140 1140 ▲ Z
<untitled> ▼ R | 24: 0 0 ▲ Z
<untitled> ▼ R | 32: 0 0 ▲ Z
<untitled> ▼ R |

HV ON

HV OFF

Set All

Update

Set Common

0

HV All
ONHV All
OFFRead
FileWrite
FileUpdate
All

Hcopy

Queue

acc3626

—

eXit

Frame 0 Frame 1

Channel: Preset & True Voltage (Z=zero, R=restore)

| | | | |
|------------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 1: 1650 1650 ▲ Z
<untitled> ▼ R | 9: 0 0 ▲ Z
<untitled> ▼ R | 17: 0 0 ▲ Z
<untitled> ▼ R | 25: 0 0 ▲ Z
<untitled> ▼ R |
| 2: 1700 1700 ▲ Z
<untitled> ▼ R | 10: 0 0 ▲ Z
<untitled> ▼ R | 18: 0 0 ▲ Z
<untitled> ▼ R | 26: 0 0 ▲ Z
<untitled> ▼ R |
| 3: 1830 1830 ▲ Z
<untitled> ▼ R | 11: 0 0 ▲ Z
<untitled> ▼ R | 19: 0 0 ▲ Z
<untitled> ▼ R | 27: 0 0 ▲ Z
<untitled> ▼ R |
| 4: 1870 1870 ▲ Z
<untitled> ▼ R | 12: 0 0 ▲ Z
<untitled> ▼ R | 20: 0 0 ▲ Z
<untitled> ▼ R | 28: 0 0 ▲ Z
<untitled> ▼ R |

HV ON

HV OFF

Set All

Update

Set Common

0

HV All
ONHV All
OFFRead
FileWrite
FileUpdate
All

Hcopy

Queue

acc3626

—

eXit

| | | | | |
|---------------------------------|------------|---------------|-----------------|---------------|
| File | Hcopy | Queue | '07/12/02 13:06 | |
| Reaction | | | | |
| <input type="text" value="20"/> | Ne | (1 | H | - 1 H) 20 Ne |
| Incident energy | | | 295 MeV | |
| Excitation energy | | | 0 MeV | |
| ▼ Angle (lab.) ◆ Energy | | | 295.00 MeV | |
| Figure | Text | GR | LAS | |
| Magnetic Field | | | | |
| Particle | | 1 H | | |
| Momentum | | 800.378 MeV/c | | |
| Rho | | 300 cm | | |
| Raito | | 100 % | | |
| Rho (DSR) | | ◆ 0 ▼ + ▼ - | | |
| Q1 | 0 % | 97.130 | A | |
| SX | | 18.792 | A | |
| Q2 | | 8.776 | A | |
| D1 | 890.200 mT | 236.793 | A | |
| D2 | 890.200 mT | 444.210 | A | |
| MQ | | 0.000 | A | |
| MS | | 0.000 | A | |
| DSR | 0.000 mT | 0.000 | A | |

WS Device Controller

'07/12/02 13:07

WS CHAMBER GR LAS

Device: Preset & Actual Values (Manual Operation Buttons)

| | | | | | | | | |
|---------------------|---|-------|----------|-----|---|---|---|-----|
| Q1 FC | ◆ | 3.902 | 3.905 V | IN | ◀ | ■ | ▶ | OUT |
| Yamagoshi Left | ◆ | | 32.388 V | OUT | ◀ | ■ | ▶ | IN |
| Yamagoshi Right | ◆ | | 32.389 V | OUT | ◀ | ■ | ▶ | IN |
| Yamagoshi Up | ◆ | | 32.388 V | OUT | ◀ | ■ | ▶ | IN |
| Yamagoshi Down | ◆ | | 32.389 V | OUT | ◀ | ■ | ▶ | IN |
| FP Stopper Position | ◆ | | 0.360 V | OUT | ◀ | ■ | ▶ | IN |
| FP Stopper Rotation | ◆ | | 0.000 V | CCW | ◀ | ■ | ▶ | CW |

Update

Cycle 5 sec.

Hcopy

Queue acc3626

exit

WS Magnet Controller

'07/12/02 13:06

WS PIS

| Magnet | Field(Preset Actual) | Current(Preset Actual) | Status | PS | NMR | FB |
|------------|----------------------|------------------------|--------|----|-----|----|
| RF Weak #1 | ◆ | mT ◆ | 0.00 A | ■ | ■ | ■ |
| RF Weak #2 | ◆ | mT ◆ 0.04 | 0.11 A | ■ | ■ | ■ |
| RF Strong | ◆ | mT ◆ 2.32 | 2.33 A | ■ | ■ | ■ |

Update

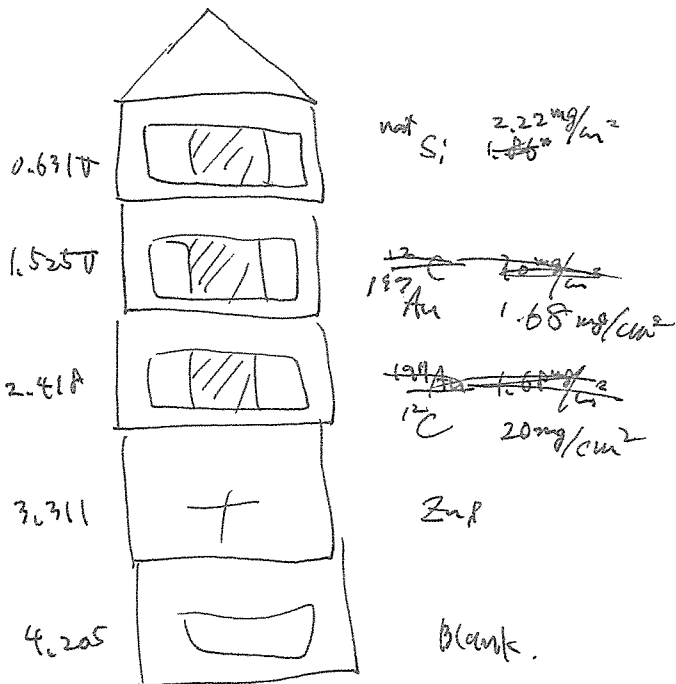
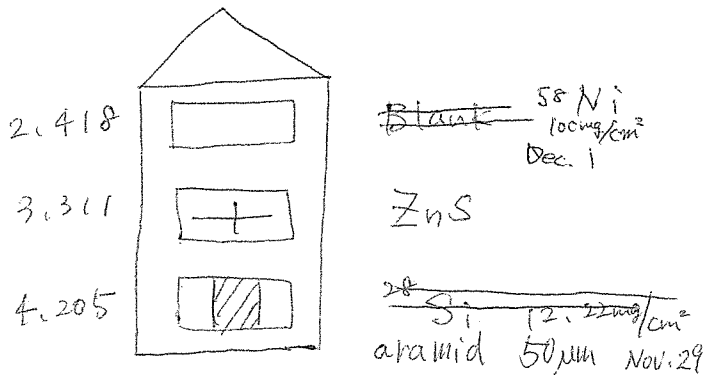
update Cycle 5 sec.

Hcopy

Queue acc3626

exit

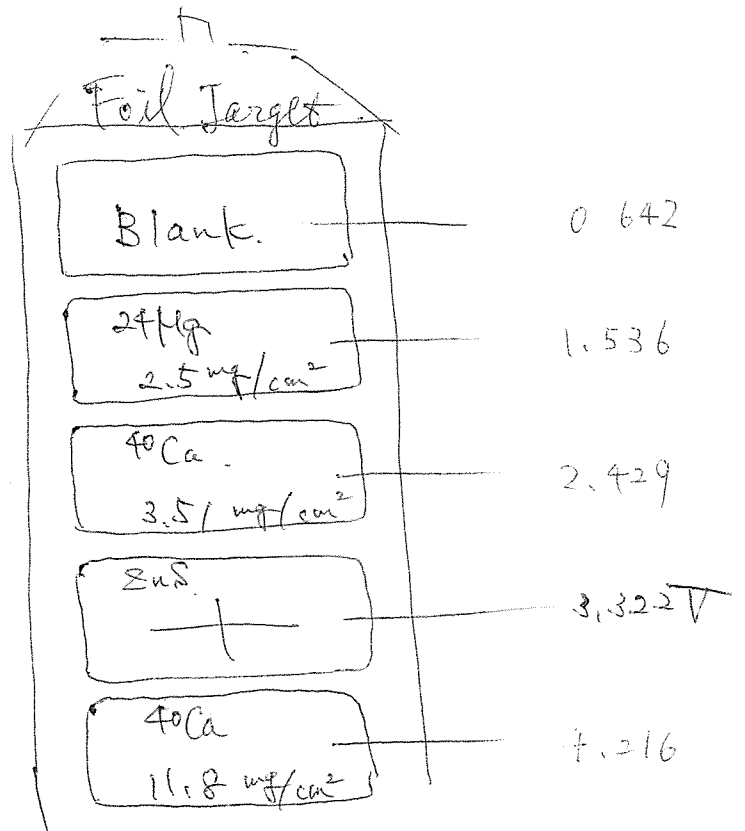
2007. 11. 24 18:00
29 5:10
target



SC.F.C. μm 0° 1.657V → 2.0 LAP側
rot = 1.5 GR側.

Posi center = 4.399V.

F.P.A Beam 0.15 2.561
to C OUT



Q1FC

④ 4, 50

3.900 V

gas cell 18
2.353

Q1FC
④
2.50
↓
2.643
最終
2.361

★ 封は target EOT になる。 標的をあわせる時には二回順番

ガス 標的の使い道. (telnet ntsrw 7003)

3段階で標的の位置を ~~調整~~ EOT

0 > h+ (下向き移動)

0 > mc (移動開始)

リミットのコメント

0 > h- (上向き移動)

0 > d ステップ数 (step数 = 2(50) ← 標準

0 > mi (移動開始)
(セルからターゲットまで±1.0)

ガス標的 → 標準標的に変更の手順

0 > h- (上向き移動)

0 > ~~mc~~ mc (移動開始)

software limit ← コメント

wsdev 1 操作する

PC -- 255

ガス標的的操作は 116 というマシン

ws gas

Clock live : 91.130 percent

| | | |
|----|------------------|------------|
| 0 | Beam Intensity | 8.566 nA |
| 1 | GR event request | 1.685 kcps |
| 2 | GR event live | 1.535 kcps |
| 3 | LAS eventRequest | 1.427 kcps |
| 4 | LAS event live | 1.298 kcps |
| 5 | GR clock request | 9.901 kcps |
| 6 | GR clock live | 9.023 kcps |
| 7 | GR Single | 1.535 kcps |
| 8 | GR Single Sample | 1.535 kcps |
| 9 | LAS Single | 1.298 kcps |
| 10 | LAS SingleSample | 0.004 kcps |
| 11 | GR & LAS COIN | 0.007 kcps |
| 12 | ALL accept Event | 2.833 kcps |
| 13 | Reject event | 0.000 kcps |
| 14 | GR3377stop(TEND) | 2.833 kcps |
| 15 | LAS-reject | 0.000 kcps |

Beam Loss Monitor

#1 GR ~~FP~~ F.P.

#2 TAMIQ 前

Trig.(GR) live : 91.099 percent
Trig.(LAS) live : 90.934 percent
Clock live : 91.130 percent

300 $\mu\text{R}/\text{h}$ 散乱槽上 10cm

10-30 $\mu\text{R}/\text{h}$ 0° Dump 同図

60 $\mu\text{R}/\text{h}$ Q1 FC 上

測定時

- ① Trig line (GR/LAS) > 80% を確認
 (ただし hatao" 入っている時は ~10% にするのを注意)
- ② hatao" auto に ~~入~~ 入っていることを確認
 hatao" IN, OUT をくり返し Trend を定期的に Trigg request に入力を変化させる
 → hatao" auto に入っていない場合は
 free 6% hatao" auto
- ③ TAMU viewer" OUT に入っていることを確認
 TAMU viewer は run control の BLP10" OUT に入っているかを確認 (入っていない)
- ④ Beam Intensity が大幅に減少しているか、
 大幅に変動している場合は オペレーターに。

BLP1 target IN $\rightarrow$ TAMIR viewer IN
BLP2 target IN $\rightarrow$ BLP1, BLP2 IN
(Dump viewer (2 x) (2 x))

2007. 11. 24. 23:30