21/July

Subject: Cryocooler test at PSI (very preliminary) by T.H.
Time: 4-17 July 2004
Installation & test operation: T. Haruyama, K. Kasami, MEG members in PSI
Events in sequence:

4 July (Sun)	Kasami arrived at PSI
5 July (Mon)	New Pulse tube cooler (PC150) was delivered to PSI
6 July (Tue)	Confirm items in the package / Start PT installation in the area πE-5
7 July (Wed)	Complete PT installation
8 July (Thu)	Tom arrived at PSI
9 July (Fri)	Short meeting / inspection of KEK PT. Not fixed leakage point
10 July (Sat)	Off
11 July (Sun)	Off
12 July (Mon)	Waiting for cooling water setup / Pt sensor installation on cold head Meet with Mr. Gloor of Cryogenic Group
13 July (Tue)	Preliminary operation of PC150 without cooling water but air cooling Ultimate temp at cold head was 64 C. Confirm cooling power at 100 K as identical to that of Iwatani's result
14 July (Wed)	Cooling water setup. Following cooling performance was obtained:

Temp.	Cooling power	Cold head temp.
68.4K	0	26.1 C
100K	60W	27.5 C
120K	101W	29.1 C
150K	158W	30.8 C

18:43 Xe gas charge (0.097MPa) for pre-cooling

18:44 PT compressor started:

	Time	Tcold	Thead	Tholdup	Plp
	18:54	171K	32.4C	?C	0.182MPa
15 July (Thu)	09:00	168	30.8	6.3	0.177
	12:00	167	30.2	2.5	0.165
	15:00	167	30.9	-2.3	0.162
	16:00	167	31.0	-3.8	0.161
	16:00 +LN2 precooling started				
	18:00	165	30.8	-26.3	0.142
16 July (Fri)	09:00	161	29.5	-67.5	0.12

11:30 Liquefaction phase started with GXe flow 13L/min at first
12:20 Flow rate reduced to 10.3 L/min due to pressure increase
12:48 Flow rate reduced to 5L/min
until 16:00, several times LN on, after 16:00 no LN activated
17:47 Pressure stable, temperature gradually decreasing!

Time	Tcold	Thead	Tholdup	Tminco	Plp	GXe flow
17:47	169K	32.3C	-74.7C	-98.8C	0.178MP	5.6L/min

Liquefaction rate of 5.6L/min GXe corresponds to ~0.67L/h.
Leave this PT liquefaction mode during weekend and next week.

17 July (Sat)

21/July

7/17 8:30 現在. Ryu さんへ. 寿心

① 現在、液化中(冷凍機のみ)。

- 冷凍機ヘッド温度 165K T_{HOLD}
- Pchi (LPA) 0.137 MPa. P_{LP}
- 液化ガス流量 ~7 L/min.

- 冷凍機ヘッド温度コントロールは T_{set} = 162K で ON/OFF となっている。
- 液体窒素 ON-OFF は 0.180 - 0.178 MPa 設定。

次第では、冷凍機の能力が ~~液化流量~~ 上がると、温度 (T_{COLD}) が下がってきます。

21/July

5:10 liquefaction stop level meter up 75 %
2.87 nF

5:20 HV on

Try to give HV to disabled channels

L24	800V ok → 900V ok → 1000V ok (69.6μA)
L4	~~800V ok~~ no response
BT8	800V ok (134.5μA)
BT9	800V ok (97.4μA)
BT19	800V ok (106.2μA)
BT29	800V error → disabled
R22	800V ok → 900V ok → 1000V ok (73.4μA)
F8	800V (103.4μA)

↓

save as "210704_1.hv"

21/July/2004

6:49 #7196 pedestal

BT22 HV error 1050V → 800V OK → 900V OK → 1050V OK
(65.7μA) (76.3μA)

L24 HV error 1000 → 900 V

7:21 #7197 pedestal ~~LED 387 10dB att~~

7:24 #7198 LED 387 10 dB att

10:38.

Refrigerator set point	Flow	Circ. pump outlet P
0.110 MPa	6.6 l/min	2.35 atm
0.120 MPa	7.4 l/min	2.47 atm (= maximum value)

~~16:00~~

16:25 #7199 pedestal

ADC	
64	broad
97	〃
193	〃
212	〃

16:27 #7200 LED
16:38 #7201 pedestal
16:41 #7202 pedestal
} failed

ADC	δ
64	5.2 ch
120	6.8 ch
193	11.3 ch
212	7.8 ch

16:47 #7203 LED

17:17 #7204 LED (92.94.96.98.100.102)

18:41 #7205 pedestal

LED setting.

21:30 #7205 pedestal

21:50 #7206 LED (1 ~ 5) 10 dB Att. {100~112}

22:00 #7207 〃 {102~114}

BT9	low gain.	(current strange)
F18	〃	(〃)
BT0	〃	
BT10	〃	
L4	HV off.	
L14	high gain (overflow)	1020V → ~~990V~~ 〃
BT17	low gain	
F130	no signal (HV on)	
F12	low gain	
BT19	〃	(current strange)
BT30	no signal (HV on)	
BT29	low gain	
BT29	* HV off	
BK30	low gain	
BK10	(low?)	

210904_2.hv

22:30 #7208 LED

at. #7206, #7207. m logger was not running.

→ ****.mid file was not created.

22:40 #7208. LED {100. 104. 106. 110. 112. 114}

23:00 #7209 Pedestal

22/July/2004

7:00 Lab VIEW was stopped and restarted.

Things to be checked / done before DAQ

- Online histogram monitoring. online.C works?
  TREE is not filled in online analyzer How?
- Online/offline gain calibration. Ready?
- HV matching procedure. Does it work?
- Alpha RUN / offline analysis to evaluate labs
- Cosmic TRIGGER RUN / offline analysis

11:05 SM.

11:00 πE5 area is closed for beam study.

- Hardware Installation
  Discrimenators / TDC for ~~TDC~~ unread channels, Cables?
- Prepare PCs and displays in the "new" barrak
  (will be done by Matias)

These one in Peter's ~~work~~ cabinet.

23/July/2004

7:00 #7216 pedestal

7:30 #7217 LED. → many channels & show strange results in the offline analysis.
→ need to be checked. (calibra_7217.ps etc...)

? → SCPE found to be dead

10?45 ⇆ Cosmic-Ray TRIGGER COUNTERS

ARE NOW IN TRIGGER.
- Discriminator threshold. −50mV for each
- ADC ready (timing to be checked!)
- TDC not yet. (100 nsec or 200 nsec delay?)

/Equipment/HV/Devices/LRS1458/DD/Polarity [15]

changed "1" → "−1"

for negative power supplying

"TC1" seems to trip when −2700V applied. Try to apply 1000V for check. −1000V, −1100V OK... −1200V trips

Keep it at −1000V.

TRY AGAIN Pedestal & LED RUNS

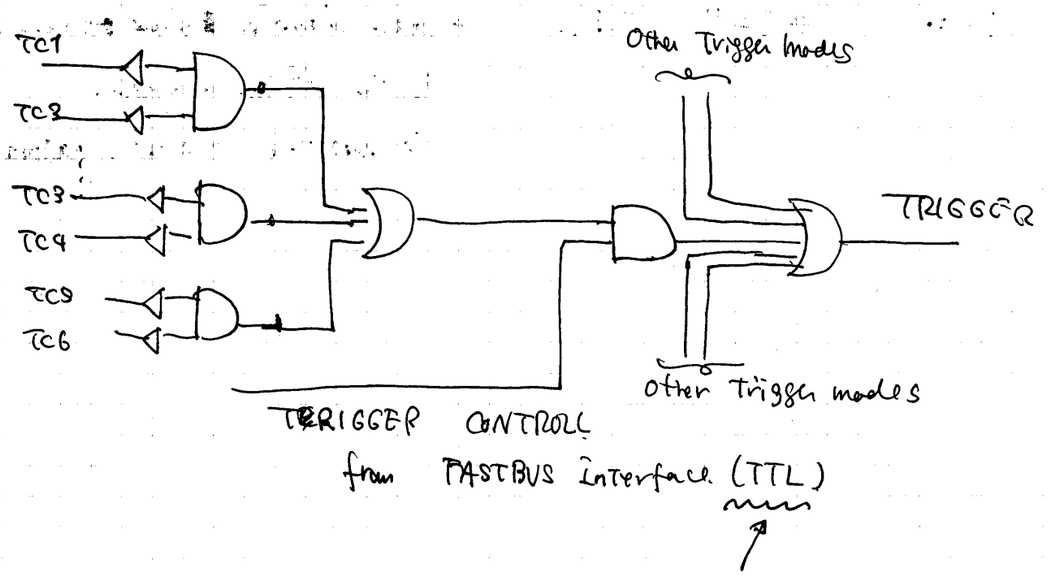
11:30 #7218 pedestal RUN

11:32 #7219 LED RUN

11:41 #7220 COSMIC-RAY TRIGGER RUN
→ stopped.

23/July/2004

Found a bug in cosmic RAC trigger logic



Things to be done. as of 23/July/04

- Online monitoring is Ok now. (mana.c is modified by RS)
  - MEG local version of MIDAS
  - (Details is written at LP computing page / installation log)

To get TREE from analyzer.
use ttree.C in online/macro

Check the tree contents when next data aquisition.

- offline gain calibration

  Plenty of "OFF", "STRANGE" messages in the offline LED analysis, are probably due to "mlogger" strenge behavior.

  Maybe, this is due to LED fluctuation

  Sometimes same event is written twice.
  This may be caused by wrong ODB structure.

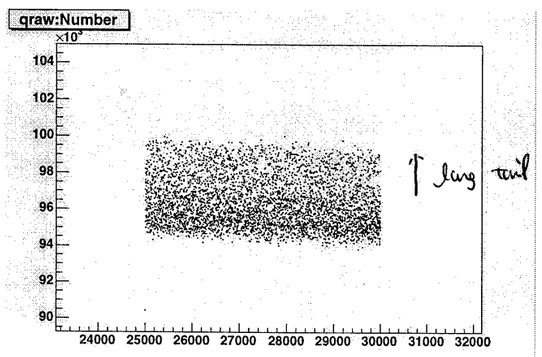
- CR trigger fixup. (TTL → NIM)
- CR trigger counter (TC1.) HV problem fix.
- ~~Discriminator~~
  Installation of CAMAC TDC, at least, for TC timing readout.
- Discrimenator / TDC for TDC unread channels

- TTL → NIM. OK.
- HV problem @ TC1 is fixed (cable replacement) ⇒ OK

TC1	2700 V
2	1600V
3	1800V
4	1800V
5	~~2070~~ 2070V
6	1850V

⇒ save as "230704_2.hv"

16:29	#7221	pedestal
16:55	#7222	LED
17:14	#7223	CR



← #7221
"Strange!"
Maybe LED input is noisy

~3% Full width for 10^5 gain is significantly larger than statistical fluctuation ?

23/July/2004

18:20	#7224	α
19:05	#7225	CR
19:26	#7226	CR — 0 events
19:28	#7227	CR

23:22	#7228	pedestal
23:28	#7229	LED
23:37	#7230	alpha.
23:46	#7231	CR

24/July/2004

1:50 Stop 7231

#7232 CR (0 event)

- change HV adjust = 1

1:58 #7233 LED with HV Adjust.

Implement of HV Adjustment, (still under way)

- Gain calculation algorithm was imported from offline analyzer. Now peak & Sigma for each step is calculated in "end of run" routine, instead after each step.
- There are still two problems.
  - frontend stops during gain calculation
  - Analyer stops after new HV calculation
- Anyway, analyer can calculate gain and next target HV. Nex target HV values are written in xls file.

5:02 #7234. CR.

5:36 #7235 pedestal.

5:38 #7236 LED 3&7 ({100,104,106,110,112,114} changed {96,98,100,102,104,106})

6:00 # "

6:14 #7237 alpha.

6:25 #7238 CR.

Both LED (1&5) and (3&7) sets have large fluctuations.

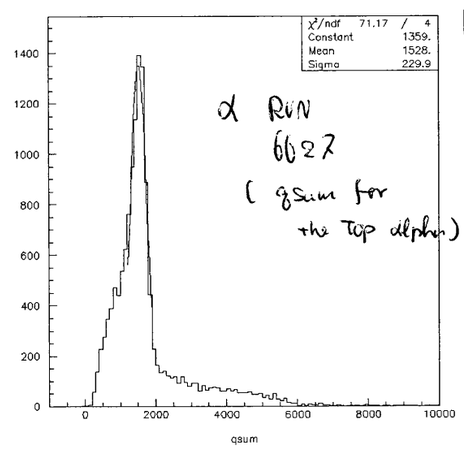
→ LED setting to (1&5) {100,104,106,110,112,114}

8:50 #7239 CR

Check the alpha peak/width (comparison with data in last green) by TI

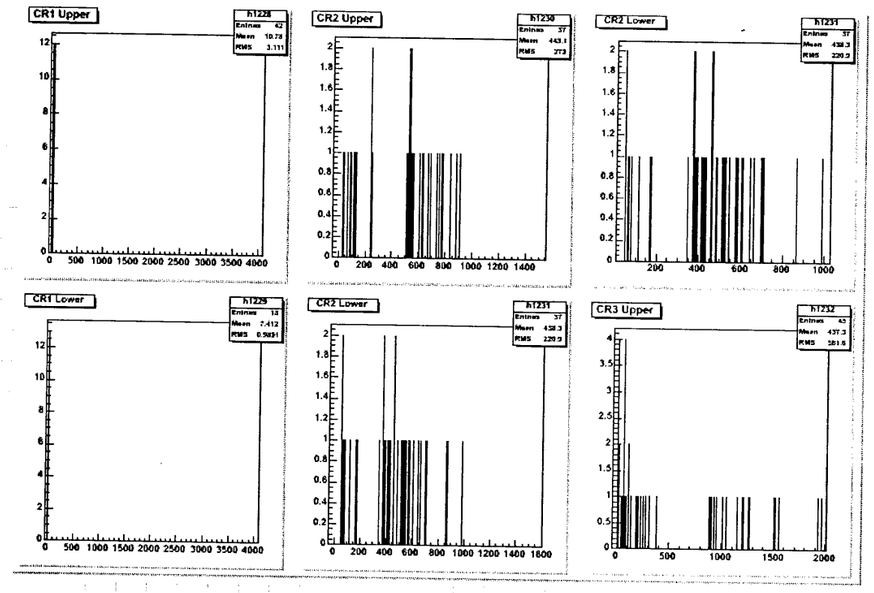
RUN 6627 (during π^0 RUN)	Mean	7528	
	σ	229.9	~16%
RUN 7230	Mean	540	
	σ	65	~14%

- Mean value is smaller by factor of 3 (due to absorption?)
- width is similar (which originate mainly from α energy deposit)



PMTs are probably stable ... → Broad LED peak is caused by LED itself (or Driver...)

24/July/04



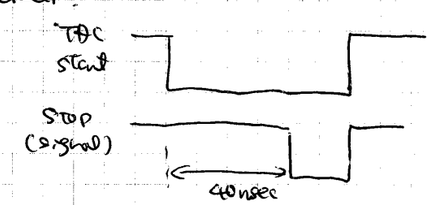
11:07 CR RUN # 7239 stopped

Enter the zone to investigate several things

- Check the CR Trigger Counter.

  CR1 Upper is dead. No signal output from the PMT. Measured current is almost 0, indicating that the breeder circuit has a problem. (possibly, can be fixed)

- TDC timing for the cosmic RAY Trigger counter was checked.



They are already in the range.

24/July/04

- TDC module addresses were checked.
  - CAMAC TDC (V1190INPUT for CR Trigger) 22
  - FASTBUS TDCS 21, 19, 17

They are already written in the include file. So just enabling the TDC readout flag is enough to take TDC data.

frontend.h include file is modified so that TDCs are read.

frontend compiled (⇒ #undef PRO_FB_TDC_1875, #undef PRO_CAMAC_TDC, ⇒ #define, #define)

12:14 #7240 CR RUN To test TDCs

... Something is wrong.

FRONTEND says "No common signal!" mask = 22a00, tdc = 2a0000

and No data of FTDC in MIDAS bank.

7240 stopped, enter the zone to investigate

⚠ CAMAC TDC.

found that one of three fuses was missing.

A fuse was taken from another TDC module and inserted to CAMAC NIM-input TDC.

- ~~Start~~ COMMON mode was found to be "common stop"

  This ~~the~~ was changed to common start.

OK. CAMAC TDC is working.

Trigger bank is filled (histograms are not checked yet) → Need to modify analyzer.h

24/July/04

⚠ FASTBUS TDC

In frontend.c, the TDC's may not be reset.
Need to confirm.

Warning Message on the frontend window is due to FASTBUS Response.
Need further investigation. { jumper setting etc...

13:30 Take calibration data. although LED calibration may not be perfect.

13:33	#7241	Pedestal
13:35	#7242	α
13:47	#7243	LED 125 (100, 104 ...)
14:00	#7244	Cosmic-Ray

Include file of analyzer is modified
So that TDC histograms are filled correctly

N_FTDC → 192
N_CTDC → 16

histogram titles are modified accordingly

??? not filled yet ...

16:40	stop	7244	~~enable~~
16:40	#7245	failed	Bank swith CTDC, FTDC, ~~FTDC, CTDC~~ enabled
	#7246	pedestal	
16:45	#7247	LED	Failed
	#7249	LED	
17:20	#7250	CR	
21:27	#7251	pedestal	
21:35	#7252	LED	
21:51	#7253	α	

TEST of ~~FTDC~~ Fast Bus TDC modules

- Use all TDC modules ⇒ frontend says "No common signal"
- Only ch 21 ⇒ "
- Only ch 19 ⇒ "
- Only ch 17 ⇒ frontend does not warn.

⇓

frontend.h on { meg only 01 : noline/include
meg only 02 : online/include
pc4466:/afs/psi.ch/project/meg/offline/src/ranalyzer

was modified like

~~N_FTDC~~ N_FTDC 192 → 64

```
tdc_map[] = {
   {21, 64},
   {0, 0}
   };
```

analyzer.h was also modified

tdc_channel_name[N_TDC][32] = {

25/July/2004

00:42 #7254 CR

1:48 #7255 pedestal.
1:53 #7256 LED 1 & 5 {90, 92, 94, 96, 98, 100}

LED strength lower than #7208
just same as #6626.

too small output.
but. still wide

2:04 #7257 alpha.

2:11 #7258 CR.

4:20 #7259 Pedestal.

4:23 #7260 LED 1 & 5 {100, 104, 106, 110, 112, 114}

4:34 #7261 LED 1 only { broad!! // }

4:45 #7262 LED 5 only { broad // }

5:05 #7263 LED 1 & 5 { broad // }

LED driver channel
0 & 1 ⟶ 2 & 3

O.K.
LED seems good

5:27 #7264 LED 1 & 5 { // }

LED driver channel 2 & 3 ⇒ 0 & 1,
width of each step is broad.

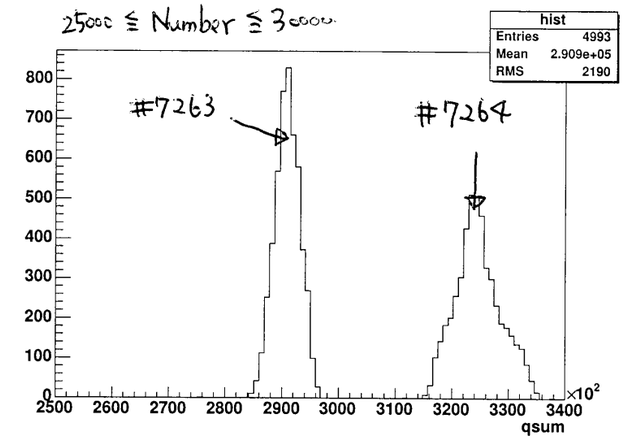
6:01 #7265 LED 1 & 5 {

LED driver channel 2 & 3

6:19 #7266 alpha.

6:30 #7267 CR.

"LED width problem" was solved.
by Shuei, T.I.



LED driver module channel 0 & 1 were strange.
2 & 3 channels seems normal.

08:32 Stop the RUN #7267. CR counts 160. triggered.
Open the beam area, due to check the counter "TC1",
pick-up ● and installed another counter.

↳ Larger trigger counter
which was used for veto counter
of NaI crystal @ UTTAC, Tsukuba.

Notice!! this new "TC1" has larger area of plastic scintillator.
10cm×10cm ⟶ 15cm×15cm. HV value is −1800 V.

I'll check the broken one, and repair it, as soon as possible.

09:29 closed, the beam area.

25/July/2004.

09:30 RUN #7268. pedestal run.

09:35 RUN #7269. LED calibration run. with LED 2&3.

09:44 Alpha ray run. #~~7270~~.

09:52 Cosmic ray run. start : RUN #~~7271~~.

13:33 #~~7271~~. stop. the CR run. 481. events.

13:38 #7272. pedestal.

13:40 #7273. LED.

13:58 #~~Alpha~~ 7274. Alpha.

14:09 #7275. Cosmic ray run. start

15:30 stop 7275

*save HV setting as "250704_1.hv"

HV adjustment mode

{ ° /Analyzer/Parameters/ADC calibration/Adjust HV = 1
° run mode = 2

⇓

goto HV adjust.

Basically now it works. But there are problems.

1° Frontend stops during gain calculation
° gain calculation is repeated eternaly.

So, you have to kill analyzer after the first loop of gain & HV calculation

° changes
° db_find_key → db_find_key1 (when analyzer read HV Demand)
° made new parameter "max_hv[228]" in analyzer.h on megon1no2
It limits HV value for each PMT.

set	max_hv	172	(L24)	→ 900
		11	(BT8)	→ 800
		2	(BT9)	→ 800
		114	(BT10)	→ 800
		178	(BT29)	→ 0
		17	(LF8)	→ 800

~~#~~ start HV adjust to 1E6

number of event for each step = 1000
number of steps = 6

17:42 #7276 LED with HV adjust.
⇒ save as "250704_4.hv"

17:50 #7277 LED with HV adjust
⇒ save as "250704_5.hv"

17:58 #7278 LED with HV adjust
⇒ save as "250704_6.hv"

18:10 #7280 LED with HV adjust
⇒ save as "250704_7.hv"

18:20 #7281 LED with HV adjust (Abort)
HV02 was off

18:25 #7282 LED with HV adjust
⇒ save as "250704_le6_1.hv"

change adjust HV = 0

18:34 #7283 pedestal

18:36 #7284 LED

18:44 #7285 α

change adccalib for offline

$\chi^2/N > 10$, that channel ~~was~~ have been disabled.
But, there are many such channels.
So we started to use such channels for analysis

25/July/2004

18:57 # 7286 CR

stop 7286

LED setting ⇒ {96, 98, 100, 102, 104, 106}

20:02 # 7287 pedestal

20:04 # 7288 LED with new setting.
(Junk)

20:07 # 7289 LED with new setting

LED setting ⇒ {97, 98, 100, 102, 104, 106}

---

gain (HV) Adjustment with new LED setting

20:52 # 7291 pedestal

Analyzer ~~died~~ died with adjusthv = 1

⇓

start debugging

7.7.22 cm_enable_watchdog

Enable/disables watchdog system.

Syntax

```
cm_enable_watchdog(BOOL flag)
```

Parameters

`flag`

`TRUE` enables watchdog, `FALSE` disables it

Return value

`CM_SUCCESS`	Successful completion

Remarks

The watchdog system uses timers on Windows NT and the `alarm()` signal under UNIX to check periodically for hanging clients. The alarm() signal has the disadvantage that it can interrupt some operations like tape mounting. Therefore the watchdog has to be disabled before any tape operation occurs. This is done by the logger using the `cm_enable_watchdog()` function and should be done by the user code for similar operations.

Example

```
cm_enable_watchdog(FALSE);

<rewind tape>

cm_enable_watchdog(TRUE);
```

OK.

the problem was solved

with adding

"cm_enable_watchdog(FALSE)"

at the boginning of pedestal calculation

and

"cm_enable_watchdog(TRUE)"

~~at~~ at the end of that.

Note !!

If analyzer crashs during pedestal calculation
It may block other applications forever. In that case
You can solve it with "cleanup" command in ODBedit.

22:47 # 7296 pedestal for HV Adjust

22:49 # 7297 LED with HV Adjust

# of events per step = 1000
# of steps = 6

LED setting = ~~96~~ {97, 98, 100, 102, 104, 106}

⇒ save as "250704_10.hv"

	# 7298	LED	with	HV Adjust ⇒ "250704_11.hv"
	# 7299	LED	with	HV Adjust ⇒ "250704_12.hv"
23:14	# 7300	LED	with	HV Adjust
23:22	# 7301		〃	⇒ "250704_13.hv"
23:31	# 7302		〃	

⇒ save as "250704_leb_2.hv"

CVS commit

online / src / frontend on megonln01

online / include on megonln02

online / src / analyzer on megonln02

26-Jul-2004

0:20 #7306 pedestal

#7307 LED with "HV adjust"
↳ failed. forget to replace analizer.

#7308 LED
↳ Junk

0:31 #7309 LED w/ "HV adjust".

#7310 LED w/ "HV adjust"

#7311 Pedestal.

~~#7313~~

#7313 LED w/ HV adjust.

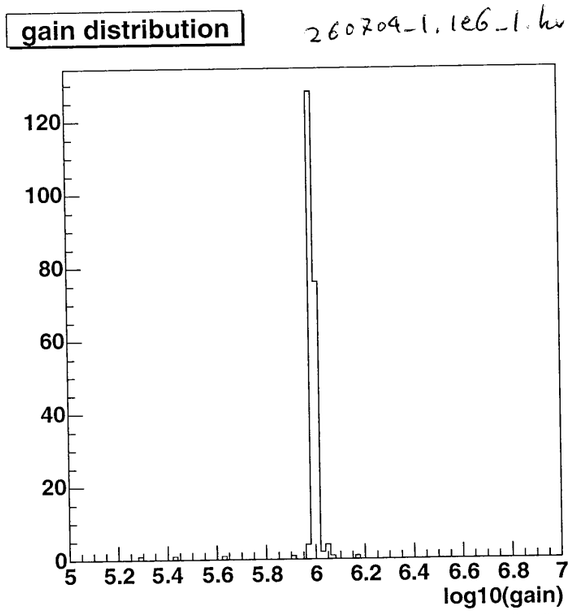
#7314 LED w/ HV adjust.
↳ HV saved as 260704_1e6_1.hv

#7315 pedestal.

#~~7316~~ 7316 LED

#7317 α (5000 cuts)

1:31. #7318 CR (210 events)



26-Jul-2004

3:29 #~~7317~~ 7319 pedestal

#7320 LED

#7321 α - Junk. set to LED by mistake

#7322 α

3:53 #7323 CR (219 events)

#7324 ~~pedestal~~ Junk

#7325 pedestal

#7326 LED

#7327 α

5:10 #7328 C.R.

6:00. RUN #2328. Stop. 300 events triggered.

RUN #2329. pedestal run.

RUN #2330. LED calibration run.

6:12. RUN #2331. α ray run.

6:33. RUN #2332. Cosmic Ray run, start.

11:37. RUN #2332. stop. ~300 events taken.

RUN #2333. pedestal.

RUN #2334 LED calibration run.

11:50. RUN #2335 α ray run.

^{3}He counter put on the place which will be used for Liq-Xe detector.
Now, scaler data is used for ^{3}He counter to take neutron flux.
scaler[1] : counts in 10~~0~~ sec.

26/Jul./2004.

12:06. **Beam ON. Blocker OPEN**

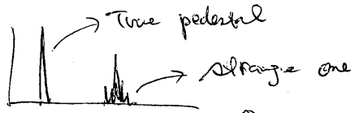
RUN # 2336 ≫ JUNK

RUN # 2337. Alpha ray @ Beam ON

12:18 RUN # 2338. Cosmic ray @ Beam ON

13:10. Stop #2338 due to check the pedestal on each channel.

Because I found that some ADC values are strange in #2335 //.



13:11. RUN #7339. pedestal.

C128 ~ C133, C138 ~ 139. ⇨ STRANGE.

⇓

G10 card. #5 and #6.

(!) We have to check it !!

Open the beam area, and checked we found one MACRO Spliter was broken, so the corresponding crate has been [redacted] NOT applied any voltage!!!

⇒ We replaced to another spliter module.

13:20 RUN #7340. pedestal. @ Beam ~~OFF~~ ON.

⇒ Fixed! OK.

26/Jul./2004.

Notice !!.

You must not use the RUN # 2335 ~ # 2339.

⇓

G10 #5, #6 has been strange.

13:25. RUN #2341. LED @ Beam ~~OFF~~. ON Separator OFF } run comment is wrong.

13:46 RUN #2342. Alpha @ Beam ~~OFF~~ ON. separator OFF. }

14:00 RUN #2343. Cosmic ray @ Beam ON. Separator OFF.

15:51 Stop 7343

15:54 #7344 Pedestal @ Beam ON, Separator OFF

15:56 #7345 LED @ Beam ON, Separator OFF

16:07 #7346 α @ Beam ON, Separator off

16:18 #7347 CR @ Beam ON, Separator off

- ^{3}He counter setup @ of data taking.
  - RO_CAMAC_ADC → #define } in frontend.h
  - RO_IO → #define }
  - on megadn01, megadn02, pc4466
  - NAIO bank added (flag just on).
  - NAIO[1] : ^{3}He ADC spectrum.
  - NAIO[11] : Input register from NaI trigger.

#7343 ..... 0.19 Hz ⇒ 0.38 n/cm^2 } by ^{3}He

#7347 ..... 0.22 Hz ⇒ 0.44 n/cm^2 }

19:02 #7348 pedestal for DAQ test

20:16 #7349 〃 (new)

20:35 #7351 pedestal @ beam on

20:38 #7352 LED @ beam on

20:47 #7353 α @ beam on (Junk)

22:33 #7355 pedestal @ beam on.

#7356 LED
#7357 alpha } Junk.

23:10 #7359 pedestal @ beam on

23:12 #7360 LED 〃

(Y) #7361 α 〃

23:38 #7362 CR. 〃

0:34 #7362 Stopped

26/7/2004

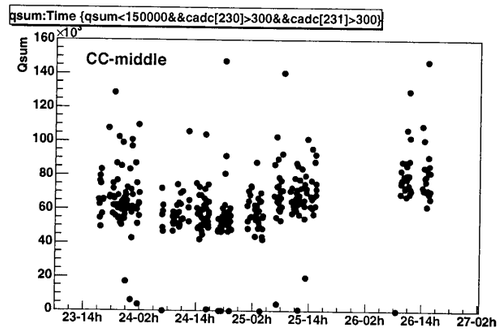
Beam Status :

12^{05} ON

beam off 2x ~ 5mins
14^{05}

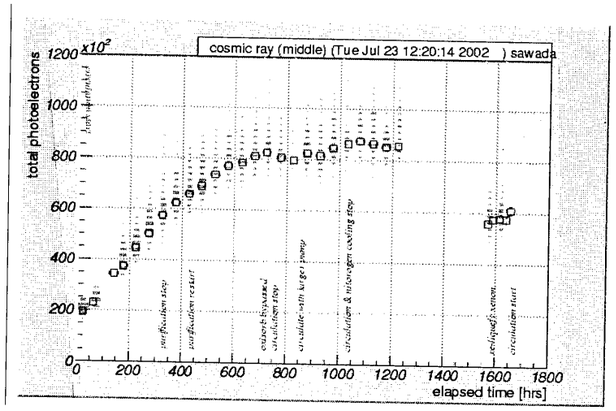
18^{25} OFF
19^{10} ON

19^{30} OFF
19^{50} ON



Qsum during CR data taking.

⇐ July / 2004



⇐ May ~ July / 2002

27-Jul
2004

ADC # 178.

1:00 BT29 (HV01, unit8 ch9) tripped.
↳ HV cable un-plugged
set BT29 to 0V ⟶ 270204_1e6_1.hv

1:30 beam blocker OPEN

01:48 # 7364 pedestal @ beam ON
7365 LED @ beam ON.
Ⓧ # 7366 α @ beam ON
02:12 # 7367 CR @ beam ON → JUNK

~~connection~~

~3:20 found that connection to hv01 is lost.
⟶ rebooted hv01.
#7362 Stopped.

4:00 # 7368 CR @ beam ON

~4:20 beam blocker closed. to turn off & ON MSCB.
4:30 beam blocker opened.

5:50 # 7368 Stop (~~200~~ CR events)

Ⓧ 5:51 # 7369 α @ beam ON

5:54 beam blocker CLOSED

6:12 # 7369 Stop (~ 10^5 events)
1:14 # 7370 pedestal @ beam off
7371 LED @ beam off
Ⓧ # 7372 α @ beam off
6:38 # 7373 CR @ beam off

27/Jul./2004

07:42 Stop the RUN #7373.

The broken trigger counter "TC1" (cf. 25/July). is repaired !!
(One of the register series in bleeder circuit was burned, so I replaced this register (R1. 10kΩ) to new one. ⇒ Fixed.)

▲ HV applied on TC1, −2500V. (Notice: This is different from last one because current became much larger ... ~1.3mA).
▲ HV setting file is newly defined as "270204_1e6_1.hv" (overwrite).

09:56 #7374 pedestal run @ Beam blocker closed.

08:00 #7375. Cosmic ray @ Beam blocker closed.
&
" with Original Trigger Counter 1."

10:02 Stop the RUN #7375.
#7376. pedestal run @ Beam off.
#7377. LED run @ Beam off
Ⓧ #7378. α run @ Beam off

10:37 Beam blocker OPEN!

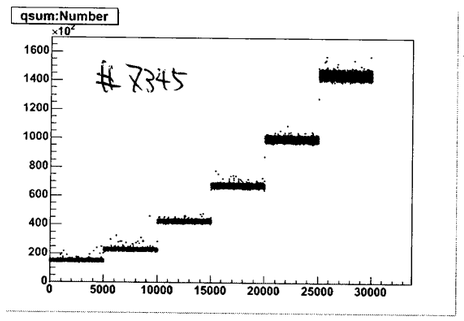
10:48 #7379 pedestal @ Beam ON, Separator OFF.
#7380. LED @ Beam ON.

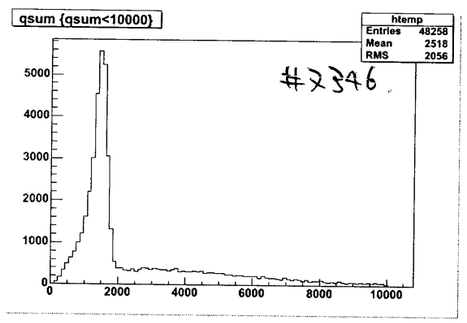
10:50 #7381. Alpha @ Beam ON.

I realized that all of data is junk during last night. ???

27/Jul./2004

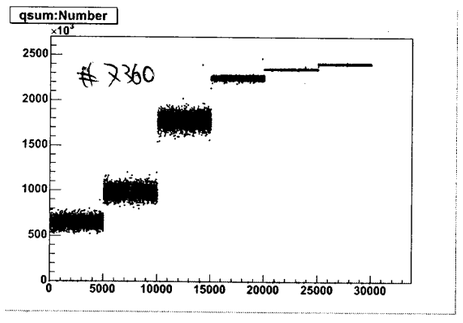
In last evening, something has been happened.

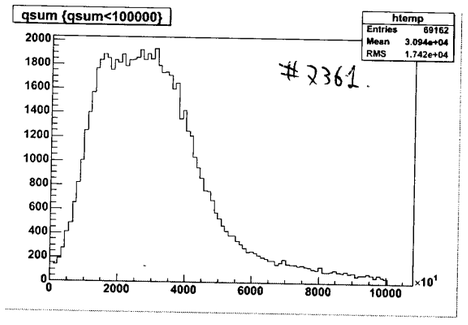




↑ Last "correct" data. LED & α data. #7345 & #7346

↓ First strange data. LED & α data. #7360 & #7361.





After #7348 ~ , ALL DATA is strange !!

↳ after this run, we has used "new DAQ" which has new analyzer header file @ OFFLINE.

27/July./2004.

I checked ONLINE histograms after #7348 ~,

every histograms look GOOD!!

⇒ So, OFFLINE analyzer has something wrong.

In last evening, Toshiyuki introduced new DAQ exe to take the data of ^{3}He counter, probabably, this caused something.

→ He will fix this problem without lunch.

14:07 HV power supply (hv01) down. SCFE restart. Second times.

14:13 HV01. down again.

14:36 Beam ON again, Peter announced.

ADC80. (L14) is very high gain, the high voltage set value was set down 1020V → 940V when we tested 21/July.
But, after HV adjust run, this set value was grown up to 1152 V.
So, L14 is VERY VERY large signal, ⇒ Reset to 940V.
⇒ newly defined hv data file: 270204_1e6_2.hv.

Analyzer problem was fixed.

→ this was not the analyzer problem but bad channel ADC[80] {L14}, which was too high gain, couldn't get right gain value to remove this one, HV value was down. as discribed,
If this problem occurred again, mask this PMT by
pc4466 : /afs/psi.ch/project/meg/2004_1/meglp/meg/tbofl/lib/pmt.ne

27/July/2004

- Now, we have to RE-Analyze all the data in last night and this morning.

▶ REPROCESSING:

# 2360.	LED	→	finished.
# 2361.	α	→	//
# 2362.	CR	→	//
# 2365.	LED	→	
# 2366.	α	→	
# 2368.	CR	→	
# 2369.	α	→	
# 2371.	LED	→	
# 2372.	α	→	
# 2373.	CR	→	
# 2375.	CR	→	
# 2377.	LED	→	
# 2378.	α	→	
# 2380.	LED	→	
# 2381.	α	→	

13:12 ~ 14:39. #2382. CR @ Beam off.

Notice! During this RUN, HV power supply downed again and again.
So, you cannot use this data as LP analysis.
(of course, 3He counter data is normal.)

22/July/2004

proton 1800μA

11:41 :	# 7383.	pedestal run @ Beam ON. Separator ON.	
	# 7384.	LED run @ Beam ON.	
14:56	# 7385.	Alpha run @ Beam ON	
15:08	# 7386.	Cosmic ray @ Beam ON.	
17:13	# 7387	pedestal @ Beam ON Separator ON	
	# 7388	LED run @ Beam ON ⇒ stop (NOT completed	
17:24	# 7389	Alpha	Beam ON → OFF (Beam OFF @ 17:26)
17:41	# 7390	Alpha	Beam OFF → ON (proton 1.8mA (Beam ON @ 17:42)

- gain of BT24 is too high ~ 5×10^6
  HV setting 1190 → 1000 V saved as
  gain $5 \times 10^6 \rightarrow 0.4 \times 10^6$ 270704_1e6_3hV

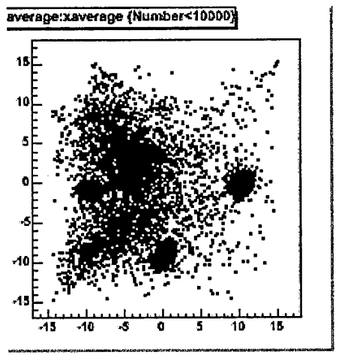
18:10	# 7391	pedestal	@ Beam ON
18:11	# 7392	LED	@ Beam ON (270704_1e6_3hV)
18:23	# 7393	CR	Beam ON
20:38	# 7394	pedestal	w/ beam ON
20:39	# 7395	LED	w/ beam ON
20:57	# 7396	CR	w/ beam ON

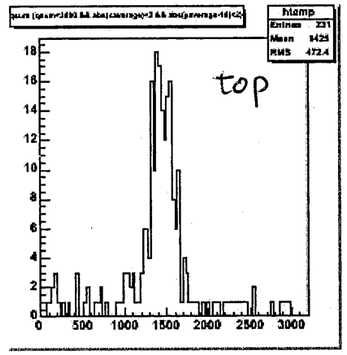
→ 21:45 stopped to change the setup of He-3 counter

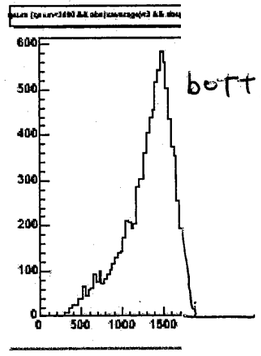
23

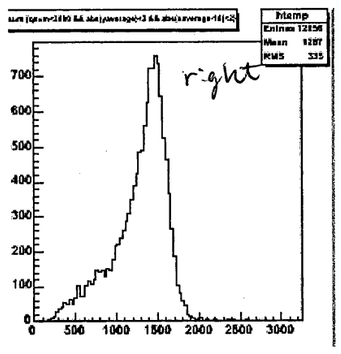
3He counter was covered by 5cm Pb block.
because of removing the γ radiation background.
Position was same as before. in front of the concrete,
upstream of concrete, down stream of separater.

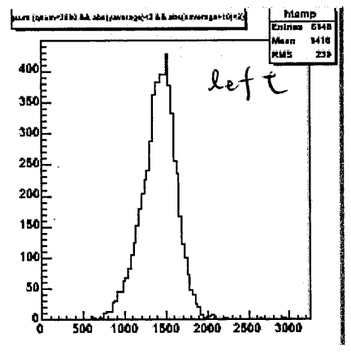
#7385 alpha Fewer trigger for top event







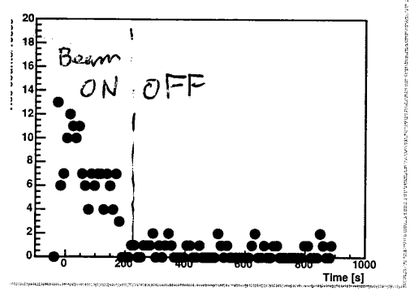




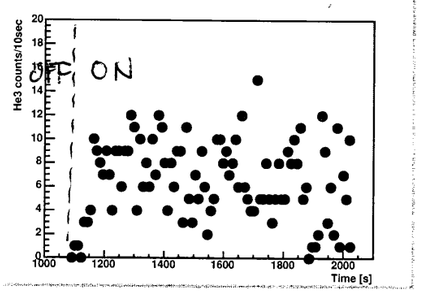
Qsum peak position and reconstructed position ~~a~~ are OK.
⇒ it might be a problem in discriminater.
⇒ to be checked when area is open.

22:10	#7397	pedestal w/ beam ON
22:12	#7398	LED w/ beam ON
22:23	#7399	CR w/ beam ON & He-3 counter in lead shielding
23:43	#7399	Stop

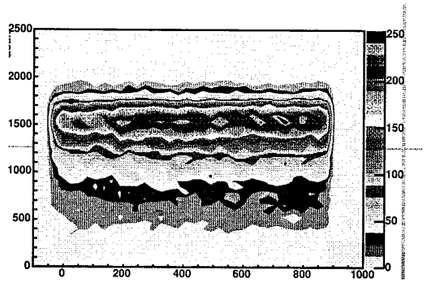
#7389

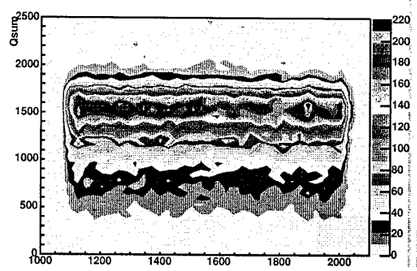


#7390

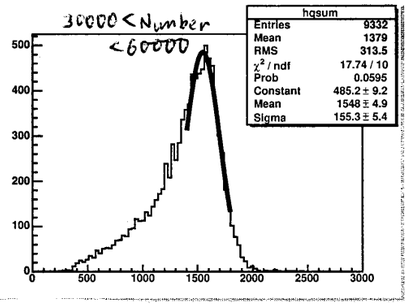


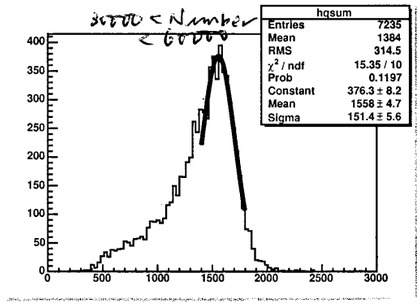
← He-3 scale counts/10sec





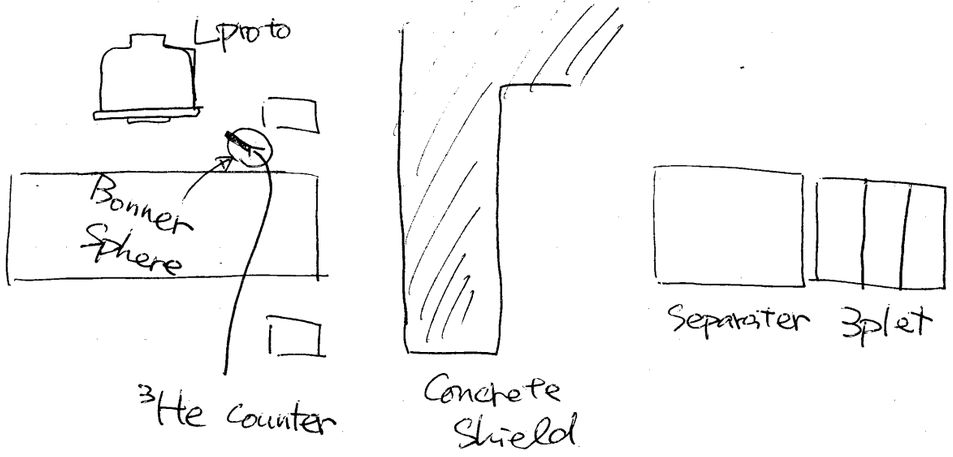
← Qsum for α





Peak position difference ≲ 0.6 %
No difference

28-Jul-2004



~0800 ^{3}He counter was moved to near Lproto (see above)

0817 #7400 pedestal @ beam ON, ^{3}He counter in 10 inch bonner sphere

#7401 LED @ beam on, ^{3}He counter w/ 10 inch bonner sphere

#7402 α @ beam ON, ^{3}He counter w/ 10 bonner sphere

0942 #7403 CR @ beam ON, ^{3}He counter w/ 10 inch bonner sphere.

1156 #7403 Stopped

2005 #7404 CR @ beam ON, ^{3}He counter w/o bonner sphere

3132 #7404 Stop

3140 #7405 pedestal @ beam ON, ^{3}He counter w/ 2inch bonner sphere

#7406 LED @ beam on, ^{3}He COUNTER w/ 2inch bonner sphere

JUNK connection to hv02 was lost during run #7406.

#7407 LED @ beam ON, ^{3}He counter w/ 2inch bonner sphere.

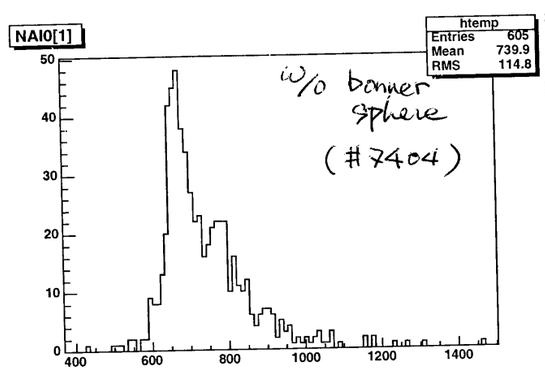
#7408 α @ beam ON, ^{3}He counter w/ 2 inch bonner sphere

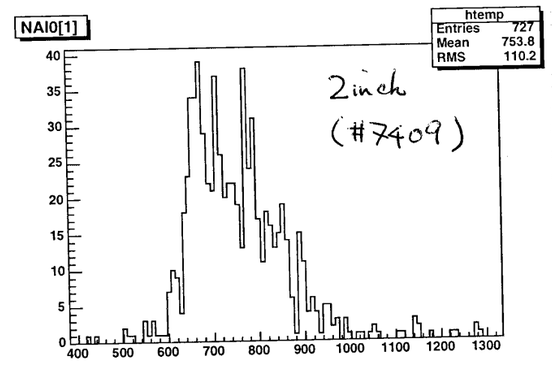
4813 #7409 CR @ beam ON, ^{3}He counter w/ 2 inch bonner sphere

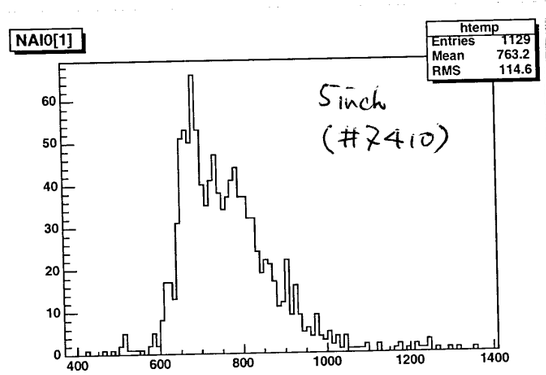
5831 #7409 Stop

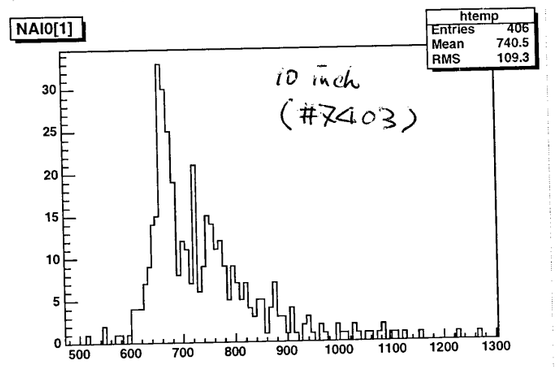
5838 #7410 CR @ beam ON, ^{3}He counter w/ 5 inch bonner sphere.

7805 #7410 Stop.









27-Jul-2004 (Wed).

~7:00 beam stopped. & D.D. closed.

#7411 pedestal @ beam ~~on~~ off, ^{3}He counter w/ 5inch bonner sphere.

#7412 LED @ beam ~~on~~ off, ^{3}He counter w/ 5inch bonner sphere

7:20 #7413 α @ beam ~~on~~ off, ^{3}He counter w/ 5inch bonner sphere.

7:33. #7414. Cosmic ray RUN @ Beam off.
^{3}He counter w/ 5inch bonner sphere.

⊗ #7415 → Junk.

8:23. #7416. same as before. "CR".

9:08 MSCB hang up. and LabView freezed.

⇒ MSCB and LabView. restart.

10:13 Stop the RUN #7416

▲ Alpha source (TOP) disappearance Study.

▸ We faced this problem after #7385 which triggered by "α".

▸ ~~the~~ threshold value Vth = 12, this is the lowest value.
So I examined CAMAC discriminator because Watarai pointed out it in last night (see before 5 pages).

▸ However, there are no strange point on the CAMAC discriminator.

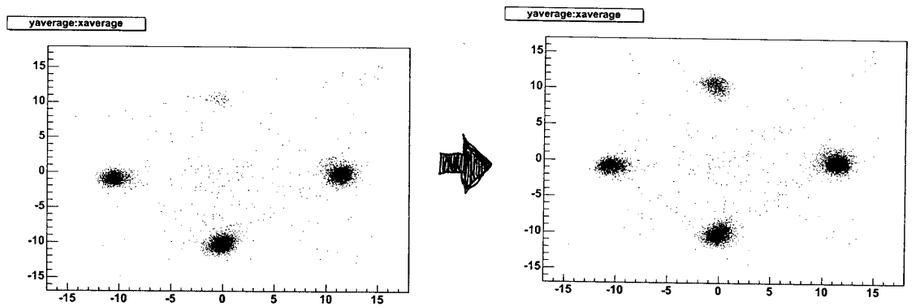
▸ Actually, before the RUN #7385, we ~~reduced~~ reduced the HV value of PMT: L14 (ADC80). since this PMT has very high gain (see before 7 pages).

27/Jul./2004.

▸ The Alpha source disappearance problem happened after this modification.

▸ So, I re-apply the high voltage value calculated by HV adjust RUN on the PMT: L14. again. (940V ⇒ 1157V).

▸ I carried out some TEST RUN (without data written).



▲ 940V @ L14 (adc80). ▲ 1157V @ L14 (adc80).

▸ Applying gain matched value on L14, then, the TOP of Alpha source appeared, again!! ⇒ But still fewer trigger.

▸ ~~Lower QE PMT around top source?~~
QE not used in analyzer.

HV value @L14 returned to 940V. 10:46.

10:42 RUN # 7417. pedestal @ Beam off.
RUN # 7418. LED @ Beam off.
RUN # 7419. Alpha @ Beam off.
11:13 RUN # 7420. CR @ Beam off.
11:23. RUN # 7420. stop.

27/Jul/2004.

11:25. Putting out the 5" Bonner Sphere.

11:26 RUN #7421. { Cosmic ray @ Beam off.
3He counter w/o Bonner Sphere.

13:33. Stop the RUN #~~7421~~.

13:32. RUN #7422. pedestal @ Beam OFF.
RUN #7423. LED @ Beam OFF.
12:45 RUN #7424. ∝ @ Beam OFF.
14:04 RUN #7425. Cosmic Ray and 3He bg. measurement.
@ Beam OFF.

16:04 #7426 pedestal w/ Beam OFF
16:05 #7427 LED "
16:16 #7428 alpha "
16:50 #7429 CR "
→ 18:10

↕ Run control software modified (Ryu)

22:43 #7430 pedestal w/ beam ~~OFF~~ ON
22:45 #7431 LED "
He-3 counter with 12" Bonner sphere
22:55 #7432 alpha w/ beam ON
23:03 #7433 CR w/ beam ON w/ 12" bonner sphere
23:08 #7434 "

Accelerator down.

29-Jul-2004

~~24~~:06 0. #7435 CR w/ beam ON w/ 12" bonner sphere

1:11 #7435 Stop.

1:19 #7436 pedestal
w/ beam ON, w/ 12" Bonner sphere

#7437 LED.
w/ beam ON., w/ 12" bonner sphere

※: ONLINE COMMENT for #7436 is {WRONG}

#7438 α
w/ beam ON, w/ 12" bonner Sphere.

I found that 3He counter was not fully inserted into the 12" bonner sphere.

1:37 #7439 CR w/ beam ON, w/ 12" bonner sphere.

3:39 #7439 Stop.

3:46 #7440 pedestal. @ beam ON, w/ 8" bonner sphere
#7441 LED @ beam ON, w/ 8" bonner sphere
#7442 α @ beam ON. w/ 8" bonner sphere

4:03 #7443 CR @ beam ON, w/ 8" bonner sphere
5:33 #7443 Stop.

5:40 #7444 CR @ beam ON. w/ ~~5~~ 3" bonner sphere

JUNK

※ online comment for #7444 is wrong: 3" bonner sphere is correct.

5:52 Connection to hw01 was lost
— automatically reconnected.

~~6:34~~ #7444 Stop

hv 01 access couldn't be done. → rebooted.
SCFE crashed many times. → Now, running.

Run # 7445 Junk Run.

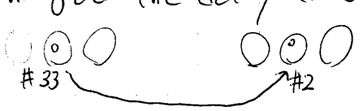
7:27 Run # 7446 Pedestal @ beam on with 3" bonner sphere.

7:28 Run # 7447 LED @ beam on with 3"

7:34 Run # 7448 alpha @ beam ON with 3"
7:42 Run # 7449 CR @ beam ON with 3"

Delay cable of L14 had a problem.
Output of the cable becomes half of the input.
So We ~~replace~~ changed the delay cable for L14

burndy



Now ADC 11-48 is corresponding to L14

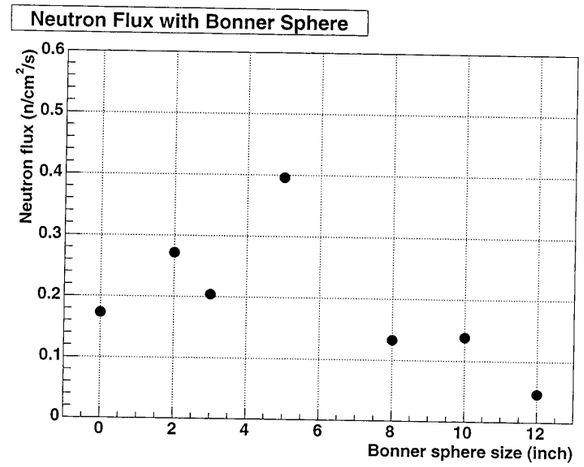
⇓ Modified frontend.c on megaln 01

10:08 Run # 7450, 7451, 7452 } Test
10:17 Run # 7453 pedestal @ beam ON without Bonner
10:18 7454 LED @ "

L14 HV 940 V → 1157 V → save to 290704_1e6_1.hv

10:26 Run # 7455 pedestal @ beam ON without Bonner Sphere.
10:29 Run # 7456 LED @ "
10:36 Run # 7457 alpha. @ "
10:45 Run # 7458 CR @ "

Neutron Flux near LP with different Bonner Spheres using ^3He



Ref: Neutron flux before Concrete.

6 ~ 7(?) n/cm²/s : without Pb shield. (Possibly, many background γ's detected.)
3 n/cm²/s : with 5cm Pb shield.

mlogger problem was fixed by ~~Stefan~~ Stefan

- It was not a problem of mlogger but that of ODB.

  { /Equipment/Environment/Variables/Output
  /Equipment/Environment/~~Variables~~ Settings/Names Output[19]
  were conficting.

  So the number of "Names Output" was reduced to 1.

- The start command of mlogger was changed to
  /usr/local/bin/mlogger -e mego -D

- Double events problem was not reproduced

⇒ Save as "290704_2.odb"

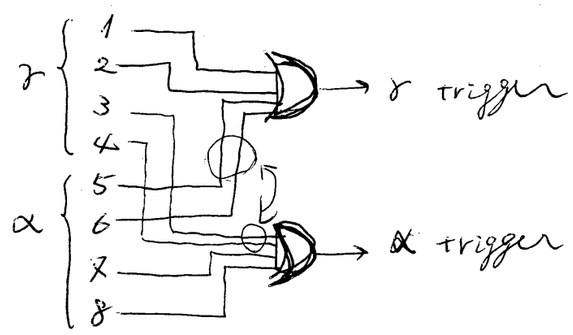
15:15 #7464 pedestal w/ beam ON w/o bonner sphere
(3He counter)

15:20 #7465 LED "
15:27 #7466 alpha "
15:41 #7467 CR "
17:15 - stop 7467 ; SQL implement (runcatalog insertion)
18:05 #7476 pedestal
18:06 #7477 LED
18:15 #7478 LED
19:01 #7479 alpha w/ beam ON w/o bonner sphere
19:08 #7480 CR "
21:11 #7481 pedestal "
21:12 #7482 ~~LED~~ LED "
21:21 #7483 alpha "
21:28 #7484 CR " → Beam is off during this run.

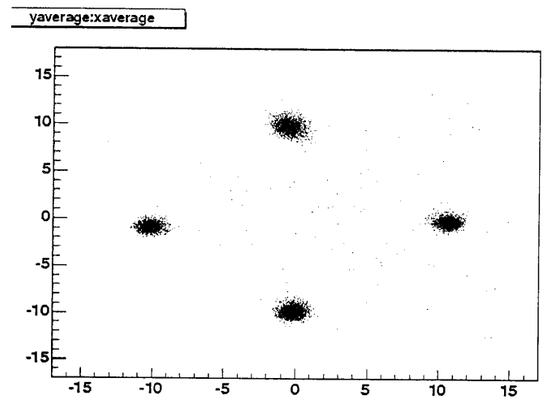
Top alpha problem (much fewer trigger) solved

- it was caused by misconnection in trigger logic

- CAMAC Discri. / NIM coin.



HV(L14) = 957V



HV(L14) 957V → 1157V

~~22:54~~
22:59 #7485 pedestal w/ Beam OFF
23:01 #7486 LED "
23:07 #7487 ~~alpha~~ alpha "
23:50 #7488 TDC ~~Test~~ RUN
30/July/04 No DATA, but produced plenty of waning messages
0:02 #7489 Cosmic
3:00 end of #7489

30/July/04

3:02
#7490 pedestal

3:04
#7491 α
See pedestal RUN to be #7490
LED RUN to be #7486 in data base
W/o Beam
I forgot to take LED data before α.

3:12
#7492 LED.

3:18
#7493 α w/o beam.

3:26
#7494 COSMIC W/o beam

6:36 #7495 pedestal "

6:37 #7496 LED "

6:43 #7497 α "

6:59 #7498 COSMIC "

9:21 #7499 Pedestal w/o beam.

From 2:00 A.M. Accelerator was stopped by QHB17 trouble.
~ to 3:00 P.M !! ~ to tomorrow?
or more?

9:23 #7500 LED w/o beam

9:30 #7501 alpha "

9:39 #7502 CR "

12:09 #7503 Pedestal w/o beam.

12:11 #7504 LED "

12:19 #7505 alpha → but no data } Junk.
HV dropped.

HV dropped. → fixed.

12:41 #7506 LED.

12:46 #7507 alpha.

12:53 #7508 CR.

ADC# 0~15
#32~47
#48~63
almost all channels

17:53 #7509 pedestal w/o beam.

ADC0[9] ... R16 channel has strange pedestal data.

15:01 #7510 pedestal w/o beam.

15:09 #7511 LED "

15:10 #7512 alpha "

large size test over 200000 events.

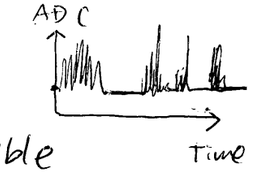
15:52 #7513 CR "

16:13 stopped
for DAQ test. (#7514 – #7518)

16:54 #7519 CR w/o beam → HV tripped
(most channels)

→ SCFE restart.

17:15 #7520 pedestal w/o beam
R16 is noisy



⇒ has to be checked
if area gets accessible

17:22 #7521 LED w/o beam

17:19	# 7522	alpha	w/o beam
17:36	# 7523	CR	//

Problem: Noisy channel R16 ⇒ solved by replacing preamp card in CIA

18:29	# 7524	pedestal	w/o beam
18:30	# 7525	LED	//
18:38	# 7526	alpha	//
18:46	# 7527	CR	//
21:05	# 7528	pedestal	//
21:06	# 7529	LED	//
21:13	# 7530	alpha	//
21:20	# 7531	CR	//

- I realized gain of BK14 is too high. (≃ 14×10^6!)
- BK14 HV was 1250 V (max) → reduced to 1050 V
- → saved as 300704_1e6_1.hV

22:45	# 7532	pedstal	w/o beam
22:47	# 7533	LED	//
22:55	# 7534	alpha	//
23:05	# 7535	CR	//

31/July/04

2:40	# 7536	pedestal	//
2:41	# 7537	LED	//
2:45	# 7538	LED	//
2:54	# 7539	α	//
2:58	# 7540	CR	//

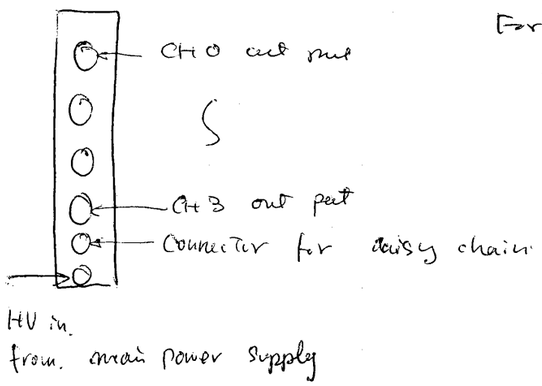
Started during the run do not use

31/July/04

6:13	# 7541	pedestal	w/o beam
6:14	# 7542	LED	//
6:20	# 7543	α	//
6:29	# 7544	CR	//

! Attenuated signal ADC for FG (ADC ch 245ch) has broad pedestal distribution. (looks like negative pedestal) Keep watching and if it is not recovered, replace the mini-round.

One new MSCB HV module is ready to test.



For operation.

- ~~Supply~~ Set in the MSCB CRATE
- Configure 4 channels (MSCB address etc...
- Supply (~) 1.3kV to the module
- HV on.

- For configuring and changing the status use msc.exe from megsc01.
- Each HV has own MSCB address. (now set to 100 ~ 103 probably)
- There are several variables for each address, but important ones are 1st (HV on/off) and 2nd (demand voltage)

For setting demand voltage, write the value to the 2nd variable. For HV on, change the 1st variable to "3"

31 July, 2004

9:13	#7545	pedestal	w/o beam
9:25	#7546	LED	〃
9:36	#7547	alpha	〃
9:43	#7548	CR	〃

12:40	#7549	pedestal	with beam, ^{3}He without Bonner
12:50	#7550	LED	〃

Attenuated signal ADC for F9 (ADC ch245)
still unstable. → will be replaced to new mini card if area is accessible.

12:59	#7551	alpha	beam ON, ^{3}He counter w/o Bonner.
13:08	#7552	CR	〃

16:00	#7553	pedestal	beam ON ^{3}He counter w/o Bonner
16:02	#7554	LED	〃
16:07	#7555	alpha	〃
16:14	#7556	CR	〃
→	18:59	stopped for fixing the problem of ADC[245]	
19:20	#7557	pedestal	w/ beam ON

The problem of ADC[245] (strange pedestal) is fixed by replacing mini-card.

19:25	#7558	LED	w/ beam ON
19:31	#7559	alpha	〃
19:38	#7560	CR	
~~19:~~			
22:16	#7561	pedestal	〃
22:19	#7562	LED	〃
22:26	#7563	alpha	w/ beam ON
22:33	#7564	CR	〃
23.43		stop 7564	

23:48	#7565	α		beam off
23:54	#7566	α	(166 k events)	〃
7 Aug. 2004				
~~23:55~~ 0:22	#7567	α		〃
0:28	#7568	α	(313 k events)	〃

Modification of midas TTree filling.

- Analyzer has crashed after ~120k events due to short of memory.
  So I implemented TTree.Reset() in to mana.c.
  It is supposed to be called if TTree.GetTotBytes() > max_virtual_size
  ⇒ You can set max_virtual_size with the macro
  MAX_VIRTUAL_SIZE (Long64_t)
  in analyzer.c
  I set it ~100 MB = 38 k events

1:16	#7569	pedestal		beam off
1:18	#7570	LED		〃
1:24	#7571	α		〃
1:31	#7572	CR		〃
3:23		stop 7572		
3:24	#7573	pedestal		〃
3:27	#7574	LED		
3:32	#7575	α		
3:43	#7576	CR		
		stop 7576		

ADC	gain
80	2.81×10^6
172	0.41×10^6
210	2.83×10^5

4:41	#7577	α	beam off Junk
5:03	#7578	α	Junk
5:14	#7579	pedestal	beam off
5:44	#7580	LED	〃
5:59	#7581	α	
6:15	#7582	α	

Start HV adjustment

- save current setting as "010804_leb_1.hv"

6:22	#7583	pedestal	for HV adjust
6:24	#7584	LED	for HV adjust
6:39	#7585	LED	for HV adjust
6:45	#7586	LED	for HV adjust

ADC 105 : No signal

HV for ADC 105 was changed to 1000V

⇒ save as "010804_leb_2.hv"

ADC 105) should be checked
120 F.

6:56	#7587	pedestal	beam off ---delay cable may be wrong
6:59	#7588	LED	〃

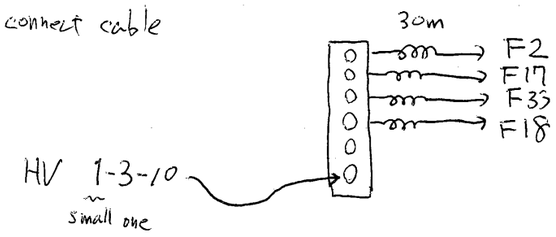
Modification of MIDAS TTRee filling for online

The number of event to fill TTree is limited by rwnt_buffer_size. written in analyzer.c

7:08	#7589	α	

MSCb HV module installation

- set module in crate
- connect cable



- set HV 1-3-10 1300V
  current limit 800μA
- MSC.exe.

address	ch	value	
100	0	3	
	1	859	— F2
101	0	3	
	1	984	— F17
102	0	3	
	1	968	— F33
103	0	3	
	1	973	— F18

Fixed

ADC 105 was misconnected between splitter and barrudy

How to set HV (msc.exe in mscb1) ← 100~103

1	change address	addr	???
2	ON [off] HV	w	0 3[2]
3	change HV	w	1 value ← for ex. 1000
4	see status	i	

1. Aug. 2004

⇒ HV setting save as "010804_1e6.3.hv"

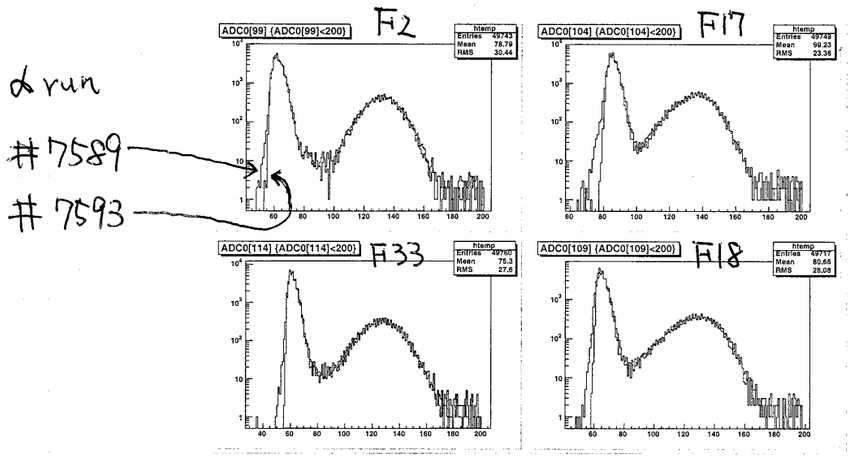
9:01	# 7591	pedestal	beam off
9:03	# 7592	LED	
9:11	# 7593	alpha	
9:18	# 7594	CR	

ADC 105 HV value corrected. from 1000 → 960.
(gain: 1.4×10^6) saved as " 010804_1e6_4.hv.

12:24	# 7595	pedestal	beam OFF
12:26	# 7596	LED	
12:33	# 7597	alpha	
12:39	# 7598	CR	

14:51	# 7599	pedestal	beam OFF
14:53	# 7600	LED	
15:00	# 7601	alpha	
15:14	# 7602	CR	

HV02 → Midas HV module effect.



Histograms around peak are almost same shape.
Midas HV module looks working.
The width of the pedestal seems to be sharper?
HV value itself might be stable by same compensation circuit

17:14	#7602	STOP	
17:16	# 7603	pedestal.	@ beam off. w/ ^{3}He counter. w/o bonner sphere.
	# 7604	LED	——— : ———
	# 7605	α	——— : ———
17:33	# 7606	CR	——— : ———
19:34	# 7606	Stop.	
19:37	# 7607	pedestal	——— : ———
	# 7608	LED	
	# 7609	α	
19:54	# 7610	CR	
21:58	#7610	Stop	

1. Aug. 2004

22:00	#7611	pedestal	@ beam off, w/ ^{3}He counter
	#7612	LED	& bonner sphere
	#7613	α	
22:17	#7614	C.R.	

2. Aug/2004

0:55	#7615	pedestal.	beam off
0:57	#7616	LED	
1:04	#7617	α	
1:17	#7618	COSMIC	

Found that ADC 193 ch has a broad pedestal distribution at least from #7582 L38. 9-45.

4:56	#7619	pedestal	beam off
4:58	#7620	LED	
5:04	#7621	alpha	
5:11	#7622	CR	

This channel was actually bad from the beginning of this neutron measurement.

L38 ADC 193ch. Problem (broad pedestal) was fixed by replacing mini-card

2. Aug. 2004

9:01	#7623	pedestal	several ADC channels have no signals. Do not use this run.
9:06	#7624	LED	
9:37	#7625	LED	beam off.
9:43	#7626	alpha.	
9:51	#7627	CR	

12:07 Midas online message said

[SCFrontend][lrs1454.c:] Connection broken to LRS1454.
" Cannot override other telnet session.
Successfully reconnected to LRS1454.

but HT dropped. → reload HT value by HTedit

	#7628		
12:35	pedestal		
12:37	#7629	LED	
12:42	#7630	alpha → Junk.	

12:45 same message as @12:07

12:52	#7631	alpha	
12:59	#7632	CR	
14:57	stop 7632		

Stop circulation to see the heating power during circulation or

15:09	#7633	pedestal	beam off
15:11	#7634	LED	"
15:17	#7635	α	"
15:23	#7636	CR	"

2 /Aug/ 2004

17:29	stop 7636		
17:30	#7637	pedestal	@ beam off
17:33	#7638	LED	〃
17:39	#7639	α	〃
17:58	#7640	CR	〃
20:54	stop 7640		
20:55	#7641	pedestal	@ beam on
20:56	#7642	LED	〃
21:02	#7643	α	〃
21:11	#7644	CR	〃

beam was stopped in this RUN

Heater Power w/o circulation 72~ 67%

23:48	#7645	pedestal	beam off
23:50	#7646	LED	〃
23:56	#7647	α	〃
0:03	#7648	CR	〃

Pedestal of CR1 upper counter ADC is broad from ~#7633.
σ= 12.75. ~14.3 ch.
Corresponds to (ADC ch 9-80) ?

In addition, reference cards in the ADCs at slot 11 & 9 seem to be noisy.

Mini card for slot 9 in 80 was replaced.
Reference cards on the boards in slot 11 & 9 also.

3/Aug/04

4:29 #7649 LED

Much more noisy channel appeared and. noisy channels were not fixed.

⚠ Found that I replaced the wrong card for CR1 upper due to misunderstanding of 0-origin & 1-origin of numbering

New noisy channels.

ADC	slot	channel (1-origin)	
52	13	53	
91	13	92	same card
92	13	93	same card
172	9	9	same card
179	9	16	same card
228	9	84	
49	13	50	
59	13	60	
61	13	62	
63	13	64	
66	13	67	

#7650 ~ 76543 pedestal RUNs To check mini-card. DO NOT USE

~~7700~~

5:10
#7654 Pedestal.

At last the noisy CR1 upper counter was NOT fixed.
Still σ ~ 14.4ch.
Maybe caused by another part like splitter, cable....

3/Aug/2004

5:25	#7655	LED	
5:30	#7656	α	
5:38	#7657	CR	
7:38	#7657	Stop.	
7:40	#7658	pedestal	@ beam off
7:43	#7659	LED	
7:49	#7660	α	
7:57	#7661	CR	
10:06	#~~7662~~ 7661	Stop	

← beam blocker was opened during this run.

10:09	#7662	pedestal	@ beam ON
10:10	#7663	LED	
10:22	#7664	α	
10:29	#7665	CR	
12:41	#7665	Stop	
12:42	#7666	pedestal	@ beam ON
	#7667	LED	
	#7668	α	
12:56	#7669	CR	
1455	#7669	Stop	

~~15:00 stop~~

30 sec
N200