#2174 40 MeV run @ 1e6 -

LASER SIGNAL ADDED :

Laser signal jitters by ~100 ns max and comes ~3 μs before the γ in the detector. We use a two gate/delay generators, the first to delay the laser pulse, the second to broaden it to ~200 ns, so as to have it in time with the γ majority trigger (see page 223). The number of PMT patches over threshold is now required to be 3, instead of 4.

#2175 CALIBRATION. 10000 LED 185

#2176 PEDESTAL

#2177 [illegible] MeV gamma Test 36500 events

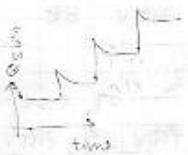
#2178 Laser off RUN

17:00 INJECTION TO TEQAS

Check if it is possible to calibrate during injection

#2179 Pedestal [illegible]

17:50 #2180 LED 185 10^4 events per line



↑ This fits is not good

#2181 RUN FLASHING ONLY LED 185 @ 53 V to CHECK LONG TERM STABILITY. (100'000 events)

19:00 We increase the HV of {T, K, BT, L} {2, 3, 8, 9} BY +200 V to see "2"s.

#2182 Calibration run

#2183 pedestal HV REBOOT

#2184 pedestal

#2185 ALPHA RUN 50·000 events

—RESTORED ALL THE HV—

19:45 #2186 10000 ~~events~~ – per-peak LED 1 & 5 calibrations

#2187 " LED 2 & 6

#2188 " LED 3 & 7 w/o inverter

20:35 #2189 " LED 4 & 8

20:52 COSmic run start. (who started? ~~Hvcon~~ Hvconfiguration?) Run #2190

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02:00 HV error.

2:40 #2190 LRS1454 (upper-small) module 3-11 unplugged
(HV 18-11)
=
F1

3:08 lower-big HV auto-restart

10:00 Run #2190 stopped for calibrations. ~770 events collected

10:02 Run #2191 started. PEDESTAL

10:05 Run #2192. LED 1+5, 10000 events / setting

10:20 Run #2193. LED 2+6 " " "

10:35 Run #2194 LED 3+7 " " "

10:45 Run #2195 LED 4+8 " " "

11:03 Run #2196 cosmic ray run started

13:30 HV error. HVchannel 7-10 (PMT L18, ADC ch. 112.) found in trip. Recovered.

18:15 Run #2196 terminated 416 cosmic events

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For α source ON

HV increased for { TEST } { 2000 }

18:20 Run #2197 ~~LED calibration 1&5~~ pedestal

log 200V

18:24 Run # ~~2198~~ 2198 LED 1 & 5 for α run.

HV {45, ..49} 10,000 events/step

18:45 Run #2199 α run started.

18:55 Run #2199 stopped. 55603 triggers.

Restored the old HV.

19:00 Run #2200 pedestal

19:10 Run #2201 LED 1&5, 10000 events per setting, HV LED set: {49, .., 53}

19:25 Run #2202 LED 2&6, 10000 events "

19:40 Run #2203 LED 3&7, 10000 events

19:50 Run #2204 LED 4&8, 10000 events

20:05 END OF CALIBRATIONS

Start of CR ~~run~~ acquisition. RUN #2205

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10:55 stop # 2005 for calibration

Run # 2206 pedestal

11:04 Run # 2207 LED 1&5 10000 events/step HV LED setting {49-53}

→ stop after 3 steps for LED HV setting.

11:25 Run # 2208 pedestal → HV setting changed to α HV setting (see above)

Run # 2209 LED 1&5 10000 events/step HV LED {45-49}

11:40 Run # 2210 α run 11:50 stopped

11:50 HV setting restored LXe - led - after - HV Match - reco.h

⇓ HV setting for Trigger Counter was written

Run # 2211 pedestal for cosmic run

Run # 2212 LED 1&5 10,000 events/step HV setting {49 - 53}

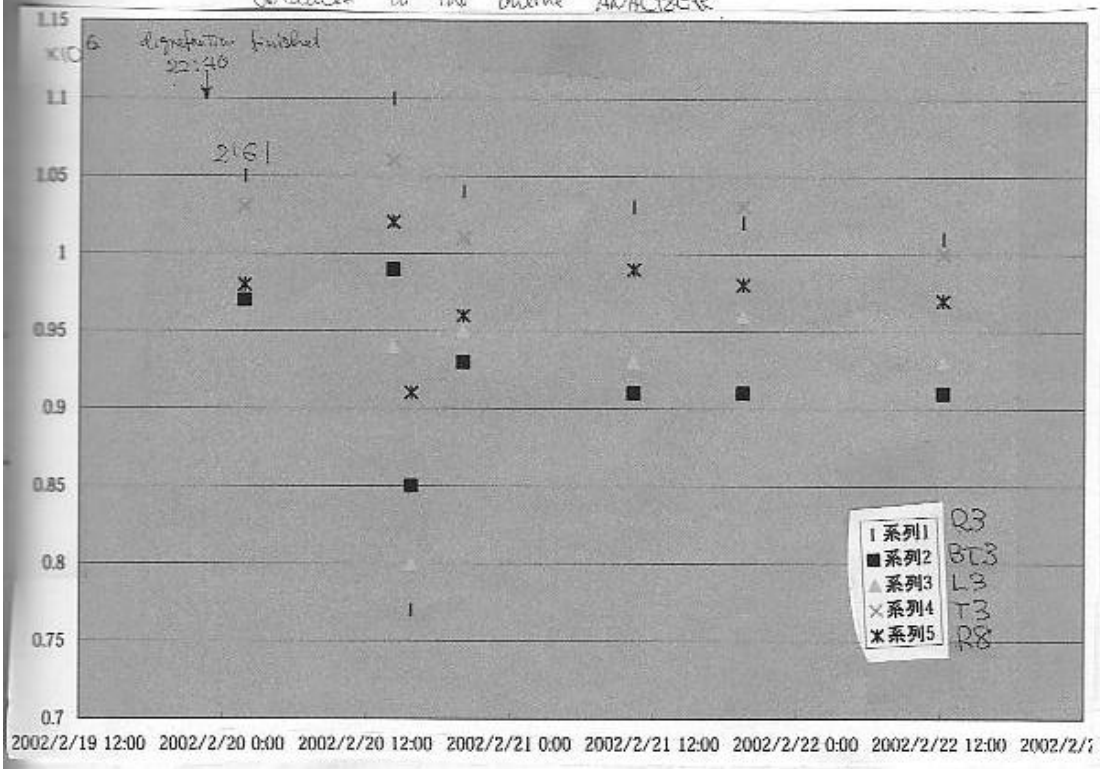
Run # 2213 cosmic rays

The HV channels to the the Trigger Counters were switched OFF. Now turned ON

HV trip @ upper mainframe ⇒ HV ch 18-3 (F29) see p233

pause and resumed

Gain Stability of R3, BT3, L3, T3 & R8 obtained in the online ANALYZER



RUN2175 Shutter was open ⇒ plenty of SR light

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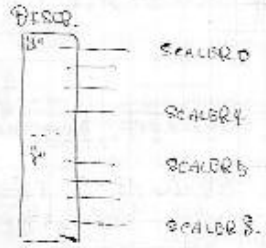
For monitoring the trigger rate, outputs from the Discr "α" & Discr "γ" are fed into the CAMAC Scaler. (see p223).



HV setting for alpha. → LXe - leb - alpha - hV HV setting for LED {45 - 49}

Run # 2214 pedestal

↓ see ☆ on p239 2215 LED 1 & 5 10000 evt/step

00:10 Run # 2216 α-run ; loaded HV database for α-runs (+200 V on TRT, 4, 8 2, 3, 8, 9)

00:20 Run #2216 stopped. 51279 triggers.

Restored the "normal" (↔ gain≈10⁶) HV database.

Run #2217 Pedestal.

00:25 Run #2218 LED 1+5, HV setting for LED = {49, ..., 53}

00:37 Run #2219 cosmic run

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12:00 Run #2219 stopped for calibrations. 641 triggers recorded.

HV setting changed To LXe-leb-alpha-hV

12:07 RUN # 2220 Pedestal Run

RUN # 2221 LED 1-25 10,000 events/step HV for LED {44-49}

12:15 RUN # 2222 α

12:25 Run # 2222 stopped. 5127 triggers.

12:30 Normal HV database reloaded

Changed the PAL again to set LED HV to {49, ..., 53V}
RUN # 2223 Pedestal @ 1e6
Run # 2224 LED 1+5, 10000 events/step

12:42 RUN # 2225 Cosmic RUN

14:00 HV channel 7-10 (PMT L28) found in trip. Restored.

16:05 Discr. channel 4-11 (PMT BT10) found unplugged.
The analysis of LED runs tells us that it has been disconnected since run 2215. We decided to go on as calibration factors keep into account a doubled gain on the corresponding ADC channel.

18:55 Lower HV mainframe trip ⇒ automatically restarted

21:22 lower HV error, ⇒ automatically restarted

22:25 Run # 2225 stopped for calibrations. 486 triggers.
Soon after loaded the HV database for α-trigger.
START OF CALIBRATIONS

22:30 Run # 2226 PEDESTAL

22:32 Run #2227. LED 1+5 LED HV setting changed to {46, ..., 50V} so as to collect more photoelectrons.

22:43 Run # 2228. α-run

22:52 Run #2228 stopped. 5084 triggers
Reloaded normal HV values.

22:55 Run #2229. PEDESTAL

22:57 Run # 2230. LED 1+5, 10000 events/step, LED HV = {49, ..., 53V}

23:15 Acquisition stopped in order to test the LN2 control system

23:20 refrigerator off to test LN2 cooling (See next page)

2/24 0:32 " on.

~~Discr. input 4-11 (BT10) plugged again~~

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23:20 test of
LN2 control system started
- switch off refrigerator
- Pressure control setting changed to 0.018 (L)
0.022 (H)

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00:35 Test completed successfully.
Refrigerator switched ON again.
Restart of acquisition.

00:38 Run #2231 . PEDESTAL

00:40 Run #2232 . LED 4+5 . 10000 events/step. LED HV set to {49,..., 53}

00:50 Run #2233 started. Cosmic rays.

02:50 Lower Hv error ⟹ restart automatically
1:49 "
3:19 "

5:56 outer TMP stop (preparation Dynamo)

6:04 outer RP stop after closing valve

6:04 #2233 (Cosmic ray) stopped. qsum < 25000. 262 evts

6:08 HVs off.

6:10 DAQ ~~off~~ system off

6:15 data loser stopped

6:17 " restart

6:18 RP on

6:16 TPM on

6:23 Valve to outer vessel was opened.

6:27 refrigerator off.

LN2 cooling start 1.25 ~ 1.30 atm.

sheedule
7:30 ~ preparing
8:30 ~ shut down
19:30 ~~return~~ restoration
23:00 complete restoration

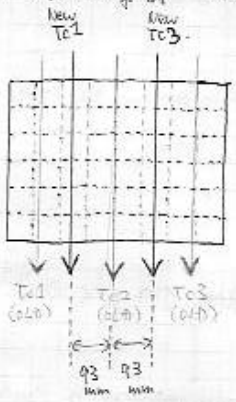
14: 40 Because of gasoline empty, dynamo stopped

15:30. Dynamo, restart.

~19:00 Power restored

22:20. We arrange the Configuration of trigger Counter.

New Geometry of Trigger Counter



OLD TC1 ⇒ New TC1 : Center of 3rd column.
OLD TC2 ⇒ Not USED. (※)
OLD TC3 ⇒ New TC3 : Center of 6th column.
(※) OLD TC2 will be used for VETO Counter.

We start to move to usual power source.

22:30. Refrigerator, TURN ON.
Turbo molecular pump, TURN off for switching Power supply.
DAQ systems are turned ON.
Pump for outer vessel, TURN ON with usual power.

22:45 PMT's turned ON. No HV error. Loaded HV database LXe_1eG_alpha.hv

23:18. Monitoring Data Logger & PC. Switch the power supply, and Dynamo power off.

242 23:35 The temperature inside the vessel now looks like stable (variation < 0.1°C in 20 minutes).

→ * We decide to start DAQ.
* Discr. input 4-11 (PMT BT10) plugged again ←

23:40 Run #2234. Pedestal.

23:46 Run #2235. LED 1+5 for α-calibration, LED HV = {46, .., 50V}

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00:05 No signal found on PMT R22 (ADC ch. 127), neither charge on ADC, nor pulse height by the scope.

00:06 Start of α-run. Run #2236

00:15 Run #2236 stopped. 50538 triggers

00:20 Run #2237. Pedestal.

00:25 Run #2238. LED 1+5 for cosmic rays. Reloaded the normal HV database. LED HV = {49, .., 53V}

00:40 Run #2239 started. CR

@ Shared data to save the disk space on dhcpxn084 (linux)

MIDAS file -- *.mid
ODB file -- *.odb
Excel file -- *.xls
Online RZ file -- hsk.rz

/scratch/muegamma/lp_linux/lp_2nd/data/

@ disk space for RZ files which aren't used frequently.
(You can use /home/muegamma/users/-- in case you have RZ files which are used frequently)

/scratch/muegamma/lp_linux/rz/(user_name)/...
signorel, ozone, sawada, ...

@ Pay attention to the disk space!!
Save the space!!

/home 7.5GB available
/scratch 134GB available

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6:30 HV7-10 ... error occured ⇒ enable it on the web page. (trip)

12:26 Run #2239 stopped for calibrations. 439 triggers

12:27 Run #2240. Pedestal

Loaded LXe_1e6_alpha.hv

12:32 Run # 2241. LED 1+5 for α LED HV= {46, ..., 52}

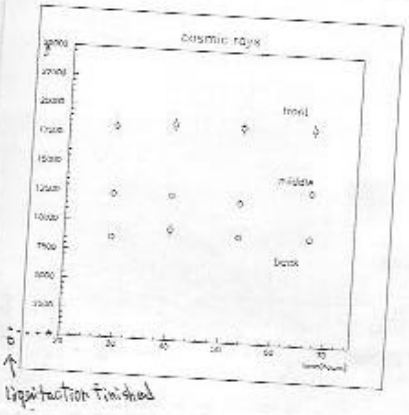
12:45 Run #2242. α

12:55 Run #2242 stopped. 57432 triggers

Reloaded normal HV database

12:59 Run #2243. Pedestal

13:00 Run #2244. LED 1+5 for cosmics, LED HV= {49, ..., 53}



13:11 Run #2245 Cosmic Run

22:58 Run #2245 stopped for calibration.

23:00 Run #2246 Pedestal. Reloaded the HV database for α-trigger

23:03 Run #2247. LED 1+5 for α-calibration

23:35 Run #2248 α

23:44 Run #2248 stopped 52160 events.

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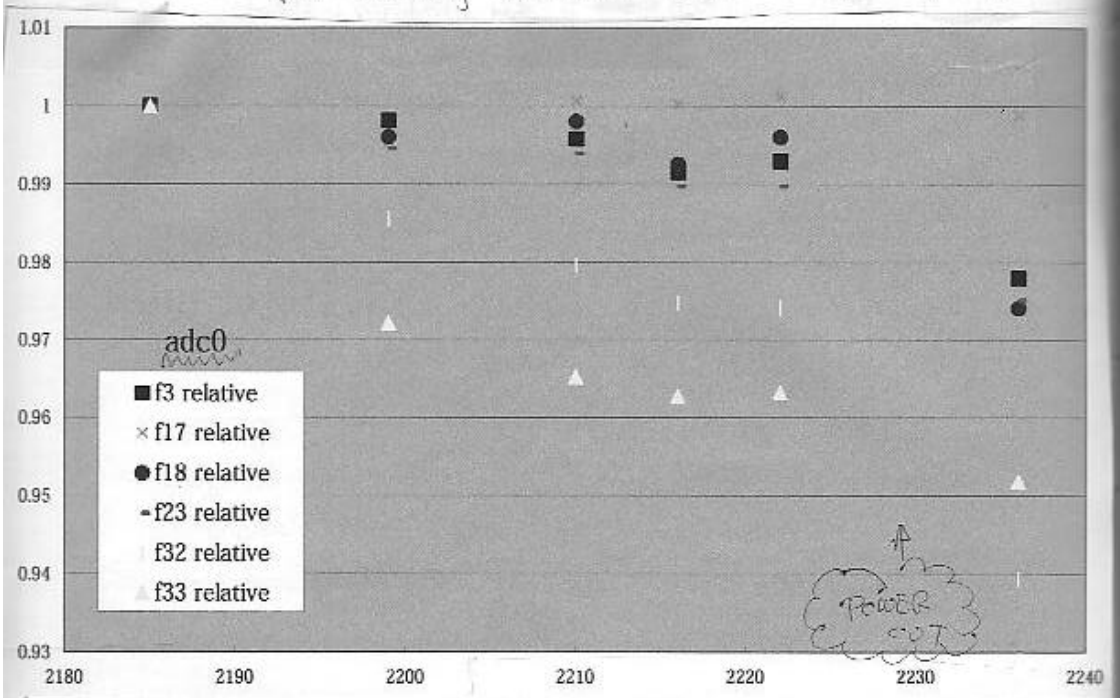
PMT stability monitored with the alpha peaks



Relative peak positions of α.

No corrections, No pedestal subtraction applied

Plots show that mean stable within an accuracy of ±0.5% before the power cut.

23:47 Run #2249. Pedestal. Reloaded normal HV database.

23:50 Run #2250. LED 1+5 for CR calibration.

23:59 Run #2251 (CR run) started.

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10:45 Bunch of noisy events due to trials of electron injection.

Events from ~380 to ~480 (occurred at ~10:25) exhibit an oscillating ADC charge as already observed during run #2169 (see page 233)

~~15:55~~ ~~Injection~~ Apart from these events, the run ~~was~~ looks like going on smoothly.
We decide to continue the data taking; noisy events are easily rejected by off-line cuts. In order to check whether the injection modified the PMT conditions, we start our calibration procedure.

16:06 Run #2251 stopped. 527 trigger

16:07 Run #2252 pedestal.

16:10 Run #2253. LED 1+5 for cosmic calibration (as a check for possible gain variation after injection)

Start of α-calibration Loaded HV database for α-trigger.

16:25 Run #2254. Pedestal

16:28 Run #2255. LED 1+5 for α-calib. LED HV = {46, ..., 50}

16:40 Run #2256. α

Reloaded normal HV database

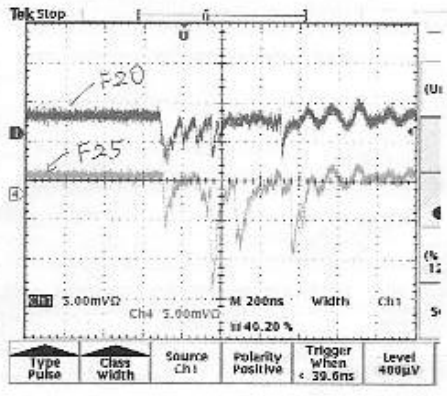
16:55 RON #2257 Cosmic RON

17:47 #2257 stopped because of noise associated with injection @ TERA

~~Noise duration~~ ~~Noise duration~~

#60 < Run number < 160 ⇒ should be eliminated

15:55 DAQ PC hang up ⇒ reboot.
SCFE & FAL also restart



246

16:20 Beam is available.

16:50. New cables setup for Veto counters are completed.

:53. Veto counter test. ⇒ Barrel's pin is broken!!

So, we use "ex-TCD" cables for Veto counters.

(Now, ADC channels & TDC channels of TC2 are VC1 and 2.
But HV channels are individual (Veto's VC1 and 2 on HVedit).

#2258

17:00 ~~Waveforms~~ with TERAS beam stranged condition
Pedestal
Laser Off, Shutter Opened

#2259

LED 125 flashing for calibrating data of #2177
with TERAS beam stranged condition.

~~SC Front end Stuck~~, cannot control the HV
for LED driver.

#2259 stopped
SC Front end Restarted ⇒ HV modules Restarted.

#2260

LED 125 flashing, same as #2259

#2261

LED 125 flashing
Laser ~~Off~~ ON. Shutter opened

(ELog description is wrong for #2261)

Coincidence level for γ trigger was set to be "2"

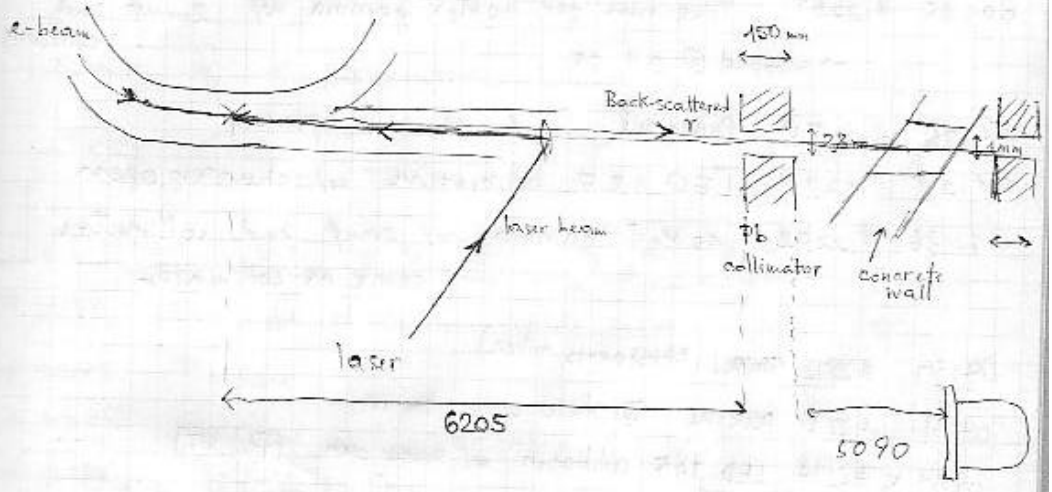
18:22 Collimator alignment.

#2262 Failure

#2263 Failure

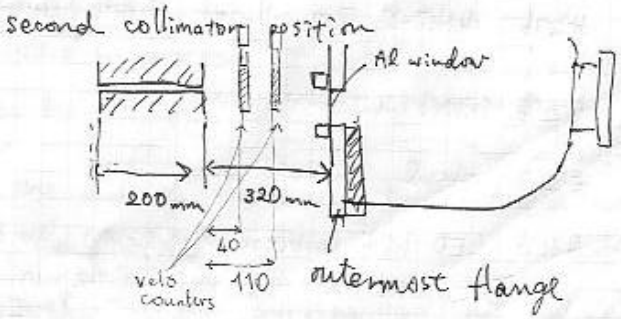
found that the TDC start signal cable is disconnected.

19:42 #2264 40MeV Compton with the 2nd collimator (1 mmφ)
w/o veto counters, discriminator
~3~4 Hz trigger rate.



21:18 Run # 2264 stopped. 22833 triggers ~~discriminator~~

Veto counters placed at the end of the second collimator



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E_{e^-} = 76.4 MeV

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21:30 #2265 Pedestal run

21:32 #2266 LED 1&5 flashing, @~~same 06~~ {49,..,537} ... abnormally stopped?? OK

21:52 #2267 LED 1&5 flashing again {49~537} stopped prematurely & and erased

22:00 #2268 ~~Test Runs for Veto Counters~~. (No data written).

22:17 ~~#2267~~ 2268 Run started with the Veto Counters operating.

→ stopped @ 00:09

00:15 # 2269 Test run for 40MeV gamma w/ 2mmφ 2nd collimator

-> stopped @ 01:15

01:20 # 2270 Pedestal w/ shutter open

01:21 # 2271 LED 1&5 calibration w/ shutter open

01:36 # 2272 40 MeV gamma w/ 2mmφ 2nd collimator

same as collimator

04:27 #2272 stopped (58863 events taken)

04:31 #2273 pedestal ⓦ shutter open . laser on

04:34 x #2274 LED 1&5 calibration w/ shutter open {49..,537}

unfortunately, At ~25000event, HV connection broken and automatically restarted.

04:41 ◎ #2275 LED 1&5 calibration ⓦ shutter open, laser on {49..,537} again

04:52 #2276 40MeV-e ⓦ2-collimator, ⓦ veto counters 4~5events/sec

laser on

07:26 #2276 stopped (40776events taken)

07:27 #2277 pedestal ⓦ shutter open, laser on

07:31 #2278 LED 1&5 calibration ⓦ shutter open, laser on {49~537}

FAL forced aborting at the end of the run. ⇒ retry (ED run

07:42 #2279 same as #2278 (similarly to #2278, forced aborting, however, output files are generated.)

0731 #2279 40MeV γ ⓦ 2mmφ 2nd collimator, shutter open, laser on
FIRL abnormally forced ~~stop~~ aborting at the end of run → retry (ED)run

0742 #2280 same as #2279

~~#2279~~
#2280 40MeV-γ ⓦ 2mmφ 2nd collimator, shutter open, laser on

#2281 LED 1 & 5 calibration shutter closed
just befor injection

10:06
#2282 Pedestal Run

Start of α-calibration. Loaded for α-calibration.
HV setting
Injection to TC-QAS started
However, let's try to take α data!

#2283 LED for α-calib (LED = 106 ... 50?)

#2284 Failure

#2285 Pedestal for α-calib.

#2286 Failure

#2287 α calibration

Those data were taken during Injection w/ shutter closed

10:34 Injection completed

11:07 #2288, 40MeV-γ w/ 2mmφ 2nd collimator. (same as #2280)
30 Hz Trigger Rate ← might be due to wrong HV setting

- Around the end of the run, Laser trigger was removed by mistake.
- Found that the HV settings were not Reloaded before this RUN

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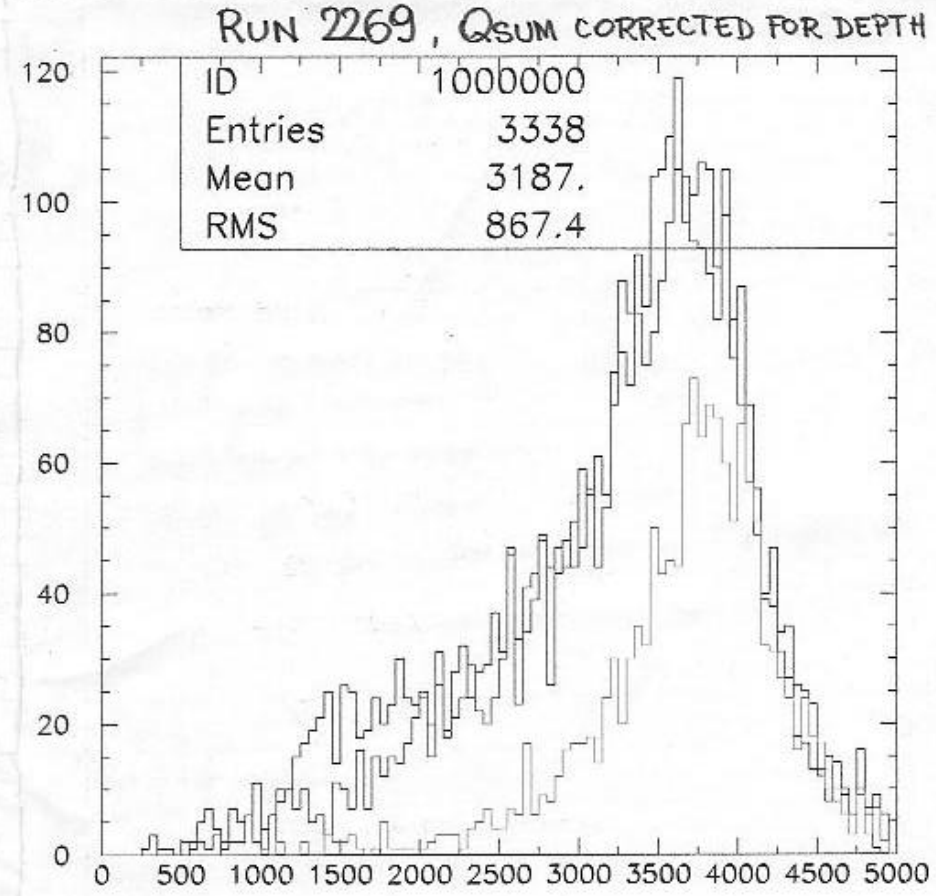
#2289 40 MeV e^- w/ 2cm ϕ 2nd collimator

- Found that the HV setting was for α RUN

HV setting for γ-data loaded

12:28 #2290 LED 125 calibration , shutter opened
Laser on

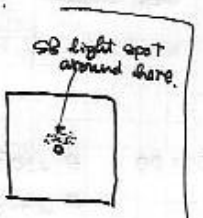


12:39 #2291 Pedestal RUN 27/Feb/02

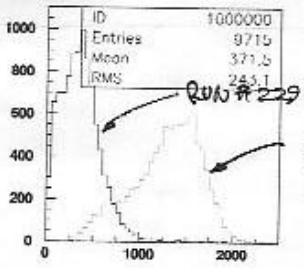
12:45 #2292 40 MeV γ w/ 2mmφ Collimator
w/ Veto counter

4Hz

The Compton peak cannot be seen in this RUN.
It looks that the beam position is shifted upward.
Try to realign the collimator (2nd).



#2293 collimator alignment Test RUN



⇒ It was found that this was due to the problem during updating pedestal in #2291

Interruption of DAQ. for investigating the problem

#2294 a RUN w/ Shutter opened. Test
Beam dumped

#2295 a RUN w/ shutter opened after beam dumped Test

2296 ~ 2303 Test of the DAQ. WINDOWS Rebooted

#2304 Pedestal RUN

#2305 40 MeV γ Test RUN short

#2306 LED 185 calibration shutter opened, laser on

20:23 #2307 40 MeV γ w/ 2mmφ 2nd collimator & veto.

22:30 A check is made of ~~the~~ possible biases introduced by the trigger scheme, in case of deep events in the calorimeter.

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We trigger the scope in "logic" mode by requiring the coincidence of the laser trigger pulse with the multiplicity signal from the TAIL discriminator (see page 221). In these conditions we can verify that the γ-trigger (formed by a combination of FRONT discriminators multiplicity, as explained at page 223) is <u>never</u> missing. In other words, even in case of deep penetrating γ's, the amount of light seen by FRONT PMT's is enough to set the γ-trigger. So there is no bias on the conversion depth.

01:00 #2307 stopped for calibration
#2308 pedestal w/ laser on shutter open
01:10 #2309 LED 1&5 〃
↳ stopped @ 01:20 with error message on fal.exe
but data is OK.

Laser is switched off to see BG rate
⇒ 3 counts / 100 sec.

01:30 Laser on
#2310 40 MeV gamma w/ 2mmφ 2nd collimator
(under 1 Hz)
2:44, 3:34. HV automatically restarted.
04:04 #2310 stopped (9760 events)
04:06 #2311 pedestal 10,341 events.
04:09 #2312 LED 1&5, LASER on, shutter opened. 49~53V

~~after #2312, found that Gate Generator has been set to instead of LATCH!!! (from when?)~~
~~⇒ restart to LATCH~~
~~retry Pedestal & LED run~~
broken width switch pretended so.
maybe DAQ test runs

— FAL restarted — (#2312 data are alive)

04:24 #2313 40 MeV γ Ⓦ 2mmφ 2nd collimator, shutter open, LASER on. (<1Hz)
07:10 [HV edit error] System time changed. last: 22566234 ms, now: 43354121 ms delta: 20788187 ms
… What does it mean??

07:15 #2313 stopped (1783 events accepted)

current disk space: C 1.45GB free
E 29.3GB free

#2314 pedestal (5122 events)
#2315 LED 1&5, shutter opened, LASER on, 49-53V
#2316 40MeV γ w/ 2mmφ 2nd collimator LASER on ~0.5Hz
stop the RUN for TERAS injection 4439 events

Laser off - shutter closed.
#2317 Pedestal RUN during injection (but injection is not started yet)
#2318 LED 1&5 "

α RUN HV setting loaded

#2319 pedestal for α RUN
#2320 LED for α - calibration = 966 ~ 501
injection started just after starting this RUN

#2321 α calibration

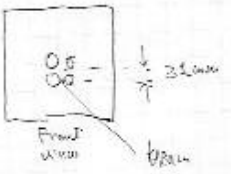
HV setting for γ RUN restored

#2322 40MeV gamma. w/ 2mmφ coll. Laser on 6 Hz ~ 8Hz
Test just after injection 779 events

detector position scan, started

#2323 Pedestal RUN

#2324 40 MeV γ w/ collimator, VETO
γ beam on the position 32mm low from the center.

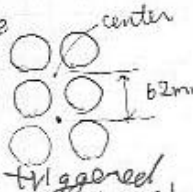


16:20 run #2324 stopped
16:25 run #2325 pedestal run start ~~beam~~ beam-off, laser off
16:26 #2326 LED 1&5 laser off shutter closed.

17:00 Detector position movement.
CIAFB mini card exchange. { slot 12. (92-93).
slot 11 (2-7, 25-32).

17:14 Pedestal run. #2327. (laser off, shutter closed.). (9583 events.).

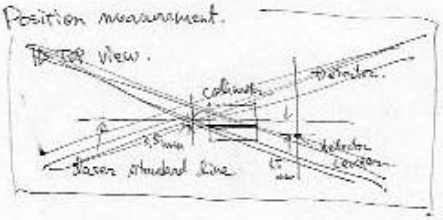
Detector shifted ~~down~~ upward by ~~31mm~~ 62mm

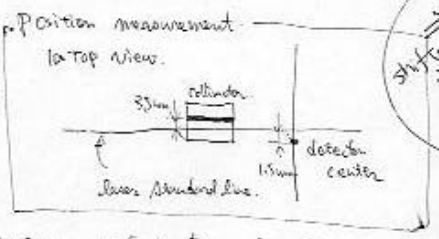


18:05 #2328 pedestal w/ laser on shutter open.
#2329 40 MeV gamma
20:05 run 2329 stopped ~25900 events triggered
maximise counting rate
To realign 2nd collimator to ~~optimize~~

2330 test run for 40MeV γ to align collimator ⇒ counting rate increased up to ~10Hz
2331 40MeV γ same as #2329

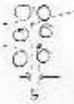
22:40 # 2331 stopped for LED calibration
2332 pedestal w/ laser on shutter open
2333 LED 1 & 5 calibration laser on shutter open





maybe shifted from injection on 27th Feb morning

23:52 # 2334 Pedestal. (Detector shifted to left by 5mm) laser ON. (6492 events)
2335, 40MeV gamma. same as # 2331



01:00 Detector moved ~~upward~~ downward 31mm.

01:18 # 2336 Pedestal run.
'19 # 2337 40MeV Gamma. Same as # 2335

beam impinging within Al window

rate ~20Hz
higher than # 2335

01:45 # 2337 stopped.

02:05 Detector moved to right by 31mm.

beam outside window

02:07 # 2338. pedestal run. (laser ON). (2400 events taken).
02:09 # 2339 40MeV Gamma. Same as # 2337. ~8Hz
02:52 # 2339 stopped

negligible

Detector shifted to ~~right~~ downward by 31mm but slightly ~~sh~~ tilted

03:20 # 2340 pedestal laser on shutter open.
2341 40 MeV γ detector shifted to ~~left~~/~~right~~ downward by 31mm

03:47 # 2341 stopped

07:02 # 2342 pedestal
07:05 # 2343 40MeV γ ~~on the center~~ (~12Hz)
3002 events Detector re-aligned so that γ impinges on the center of the detector

07:48 # 2344 pedestal 5290 events
07:50 # 2345 LED 1&5, LASER on, shutter open. 49-53V. FAIL showed on the end of run, but data are OK.
08:02 # 2346 failure
08:06 # 2347 40MeV-γ, same as # 2343

09:37 end fun injection 46541

Table III. The most probable values of W_{ph}(max), η -factor, q-factor, η_0, α/β ratio, $W_{ph}(\alpha)$ and $W_{ph}(\beta)$ in liquid argon and in liquid xenon.

	Liq.Ar	Liq.Xe
N_{ex}/N_i	0.21	0.13
W_{ph}(max) [eV]	19.5±1.0	13.8±0.9
η	0.80±0.04	0.64±0.03
q	0.72±0.04 [a]	0.77±0.04 [a]
β/α	1.11±0.05	$0.81^{+0.07}_{-0.13}$
η_0	~0.75	0.1~0.5
$W_{ph}(\alpha)$	27.1	18.1 (16.3±0.3 [31])
$W_{ph}(\beta)$	24.4	21.7

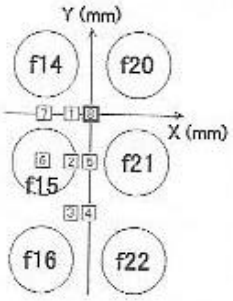
[a] These values are obtained from scintillation yield curves as shown in Fig.2 and Fig.4. As a result, the value of 0.72± 0.04 for liquid argon is slightly different from original one (q = 0.71 [6]), which was obtained from Fig. 3.

09:56 (pedestal
2348 Laser off, shutter closed
09:58 (LED 1-5 calibration Laser off, shutter closed
(# 2349)
HV setting for α calibration loaded
10:13 (Pedestal for α data
(# 2350)
10:19 # 2351 LED for α HV=1.46, .. 50 f
2352 α
HV setting for β data acq. loaded
10:32 (Pedestal for β data acq.
2353

2354) TDC channels check.
)
2357

after #2357, TDC hist-title in tdccalib.c was ~~un~~modified to the asigument of page 221.
2358 TDC channel test run
2359 pedestal RUN for updating the pedestal file

positions of incidence



1	(-5, 0)	~#2322
2	(-5,-31)	#2323~2327
3	(-5,-62)	#2328~2333
4	(0,-62)	#2334~2335
5	(0,-31)	#2336~2337
6	(-31,-31)	#2338~2339
7	(-31, 0)	#2340~2341
8	(0, 0)	#2342~

Cable mis connections from Discriminator to TDCs are found.
This happened probably when the detectors and electronics were transported to AIST.

* TDC SLOT 6 — 1st connection for TDC #0 – 15
  - input pins of the TDC, these 2 pins were not connected

shifted by 1 channel.

The connector had been plugged like this

Be careful when you analyse data.

Ch #	
0	No connection
1	F20
2	F25
3	F26
4	F27
5	R1
6	R2
7	R3
8	R4
9	R7
10	R8
11	R9
12	R10
13	R14
14	R15
15	STO
T5	→ missing, no data

* Discriminator #7 corresponding to 2nd connector pins
  TDCs of L6, L11-13, L16-23, L25-28

flat cable connector

Not available are these channels

1/Mar/02 HV adjustment RUNS To set the gain at 3×10^6.

#2360 HV adjust RUN To set the gain 3×10^6 1st trial
#2361 " Real trial
LED voltage decreased
from ○○○○○.
#2362, 2363 HV adjust RUN

Announcement from Togokawa-san

Because of LINAC Trouble, Beam cannot be accelerated.
No BEAM TODAY, which means the end of
the Experiment this time. 15:55

Take a data before shutdown

#2364 pedestal for a RUN after loading the HV set for a day.
#2365 LED 1 & 5 for a day.
#2366 a RUN

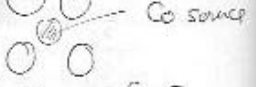
16:00 Start to pushing LN_2 into the vessel for TANK1 Xe.

HV setting for 8 day. loaded again
#2367 pedestal RUN

16:23	#2368	LED 1-5	10000 events per setting LED = 1.47 .. 63
16:31	#2369	LED 2-6	"
16:49	#2370	LED 3-7	"
17:04	#2371	LED 4-8	"

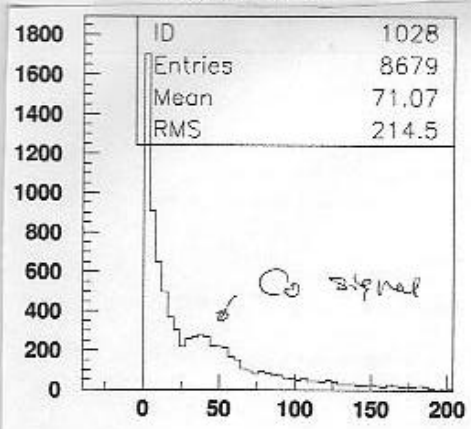
TRIAL of Calibration with a Co-60 source

18:28 2374 Co source at the center
w/ HV setting for "γ"

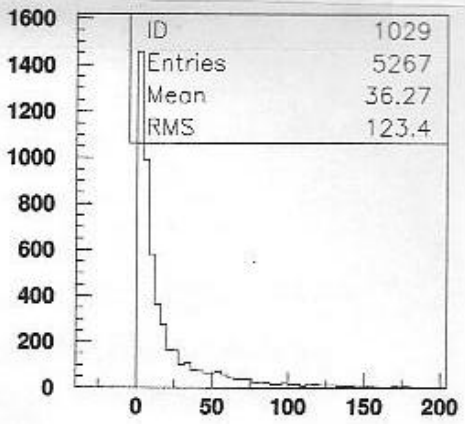


Trigger Logic is as same as "γ" trigger from the front
but without Laser timing

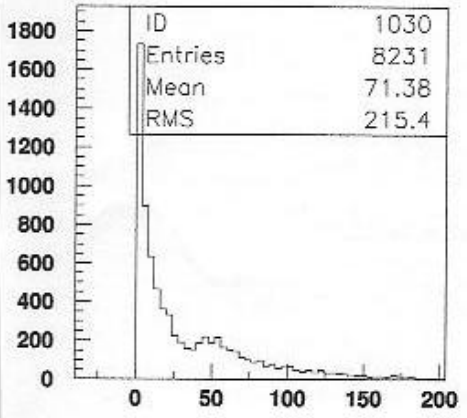
RON 237 11 Mar 02



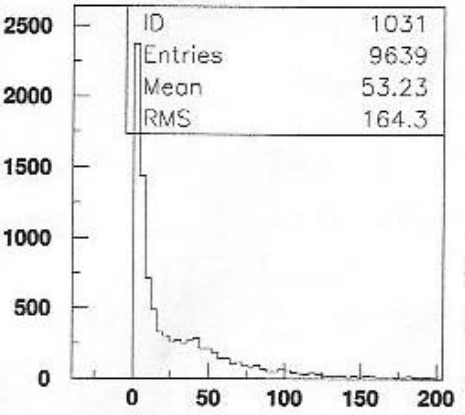
F15 S12-M29 C28



F20 S12-M30 C29



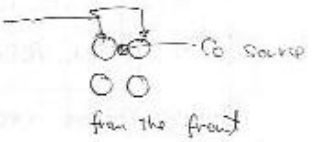
F21 S12-M31 C30



F14 S12-M32 C31

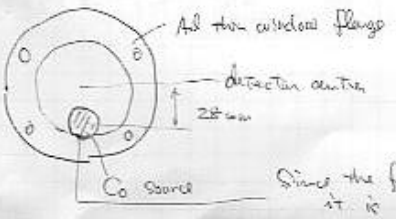
18:46 #2375 Co source 31 mm upward from the center

For comparison of these plots

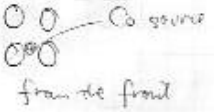


from the front

19:02 #2376 Co source 28 mm downward from the center



Since the flange interferes with the source holder it is impossible to place 31mm below the center



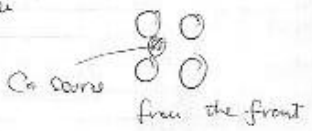
from the front

4

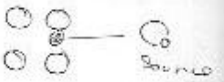
1/Mar/02

19:19 #2372 Co source at 28mm left from the center

28mm because of the interference between the flange and the source holder.



#2378 Co source at 4mm right from the center



20:03. #2328. Stop.

All DAQ is stopped.

Refrigerator STOP.

LXe flow meter. integrated value : 1491582.

Heater: 35 V. , LXe Recovery START.

20:10. HV set 0 V.

20:12. HV power supply / OFF.

20:13. FAL stop.

20:14. FASTBUS, CAMAC. NIM. Turn off.

3/Mar/02

9:40 Outer vessel ← gas N_2 0.2 atm ~49/2.5 Gas l/min

10:00 Outer vessel ← gas N_2 0.5 atm ~49/2.5 Gas l/min

11:25 〃 ← gas N_2 0.75 atm 48.6/2.5 Gas l/min

16:20 recovery almost finished flow meter 0-9 1239772