Status of GEM panel

visiting schedule
1st module : more check
2nd module
3rd,4th
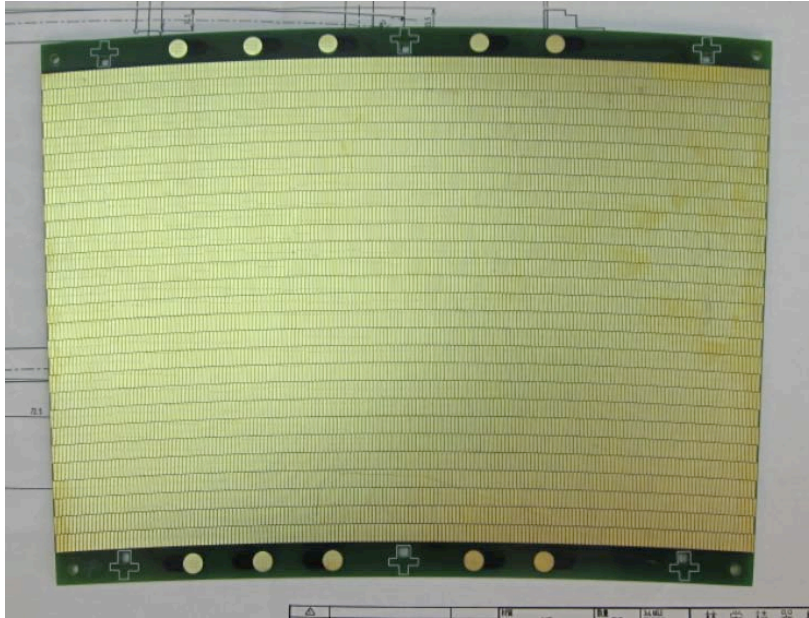
visiting schedule

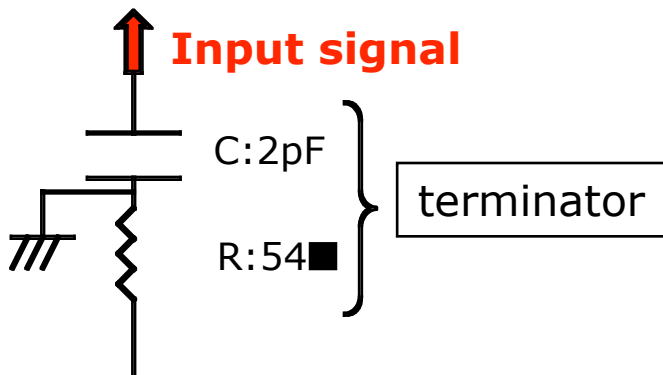|	arr.DESY	leave
H.Kuroiwa	2/1 ~	3/8
R.Yonamine	2/1 ~	3/8
H.Yamaguchi	2/1 ~	2/28
A.Sugiyama	2/1 ~	2/14
T.Watanabe	2/9 ~	2/18
Y.Kato	2/17 ~	3/1
K.Ikematsu	2/27 ~	3/9
K.Fujii	????	

We have end term exam. and entrance exam. on Feb
as well as qualification of undergrad. and grad.
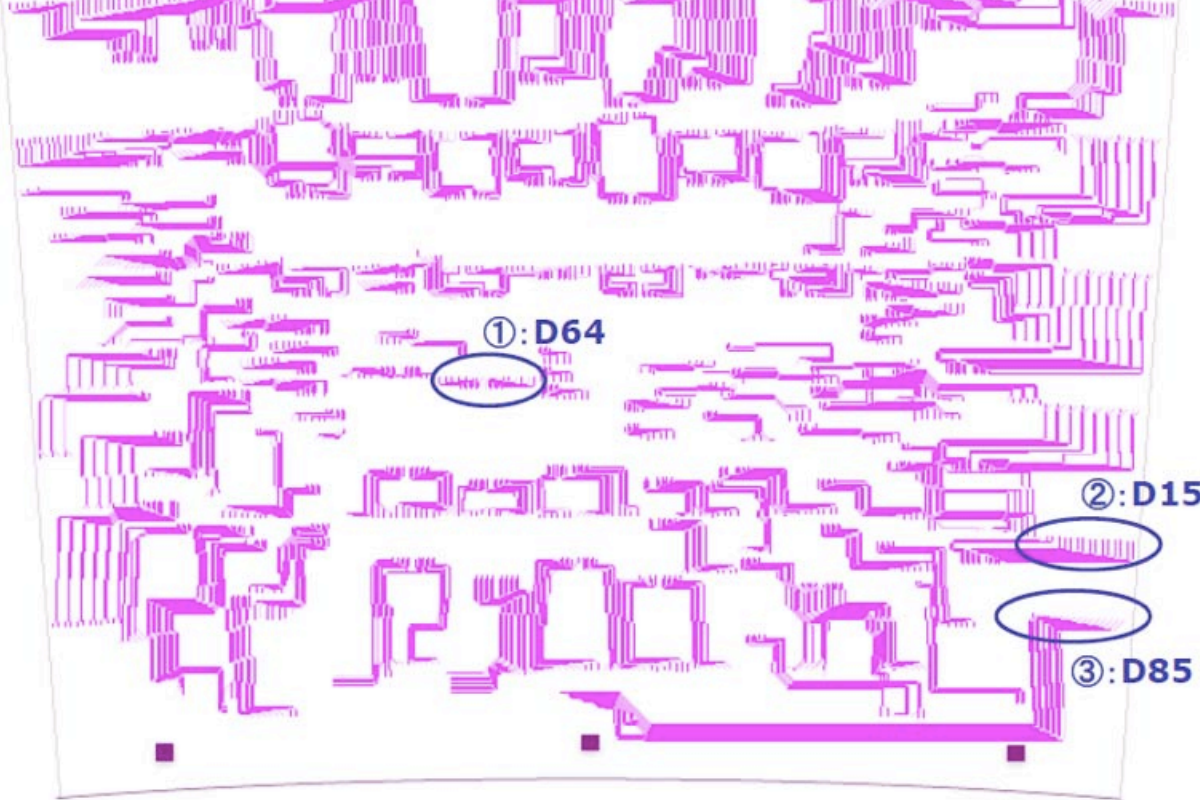This is the best we can do.

Under-grad. students had measured X-talk on PCB
and gain check of module 1/2

PCB x-talk

Target channel is connected
to pre-post-amp -> Oscilo
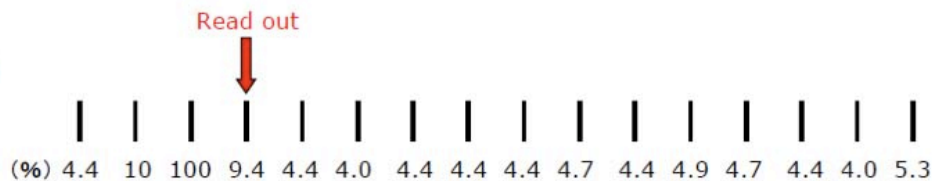Scan X-talk moving input channel
around the target channel

Input signal

C:2pF
R:54■ } terminator

①: D64
MAX: 6.1%
MIN: 2.9%

Read out

(%) 3.3 3.3 3.5 3.7 3.7 3.7 3.9 3.9 2.9 2.9 4.1 4.1 6.1 100 5.6 2.9

~6% at neighbor channel @
good/nominal routing

②: D158
MAX: 6.1%
MIN: 2.1%

Read out

(%) 2.1 2.1 2.1 2.1 2.1 2.2 2.2 2.4 2.9 2.9 2.4 2.9 6.1 100 5.6 2.4

10% at neighbor @
long routing

③: D85
MAX: 10.0%
MIN: 4.0%

Read out

(%) 4.4 10 100 9.4 4.4 4.0 4.4 4.4 4.4 4.7 4.4 4.9 4.7 4.4 4.0 5.3

④:D151

⑤:D65

⑦:D100

⑥:D116

⑦:D100
MAX:13.0%
MIN:3.9%

Read out ↓

(%) 3.9 3.9 4.3 4.3 4.6 4.8 5.0 5.2 5.2 5.2 5.9 7.0 12.5 100 13.0 7.2

④:151
MAX:9.2%
MIN:2.6%

Read out ↓

(%) 2.6 2.6 3.5 3.0 3.3 3.5 3.7 3.9 4.3 3.9 3.9 4.6 9.2 100 7.8 4.3

⑤:D65
MAX:7.6%
MIN:3.0%

Read out ↓

(%) 3.0 3.3 3.3 3.5 3.9 4.3 4.3 4.8 4.3 4.3 4.8 5.0 7.6 100 7.1 4.3
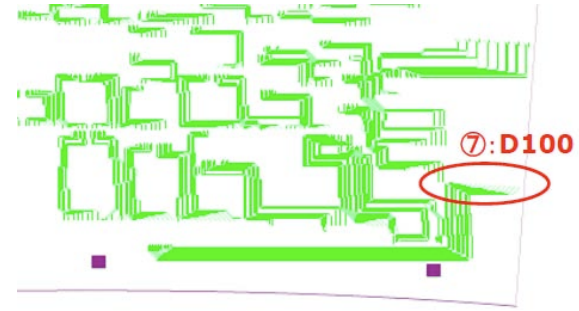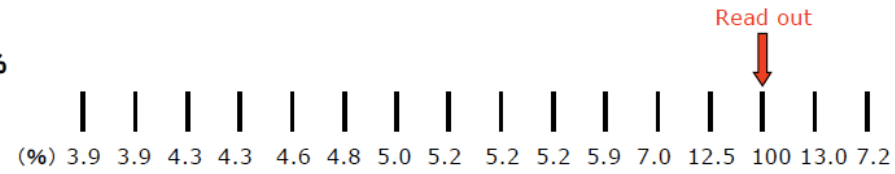
⑥:D116
MAX:11.1%
MIN:3.6%
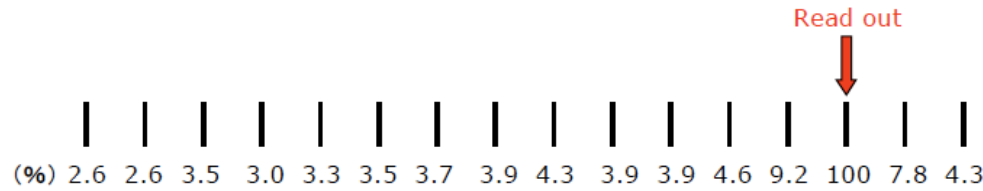
Read out ↓
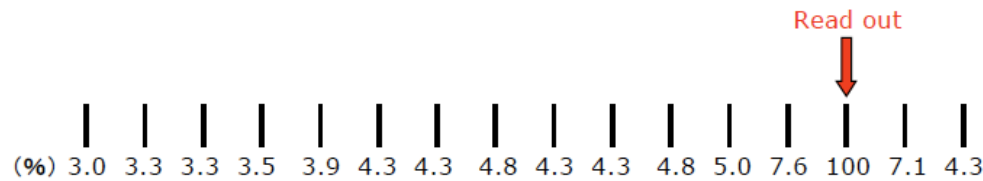
(%) 6.2 10.6 100 11.1 6.2 5.3 5.8 5.8 4.9 4.4 4.4 4.0 4.0 3.6 3.6 3.6
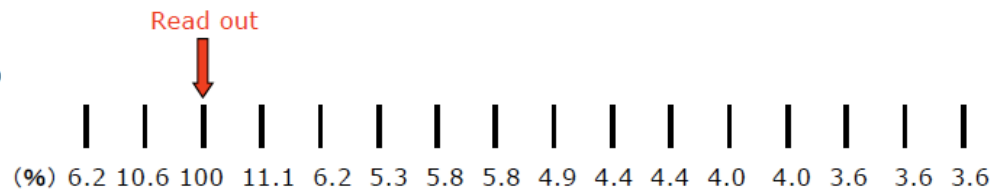
~6% at neighbor channel @
good/nominal routing

10% at neighbor @
long routing
(worst 13%)

There must be X-talk from connector/readout cable.. other than from PCB
   We know readout flex-cable has X-talk (but I forgot how much)

   good channels have ~6% X-talk which must be coming from other than PCB
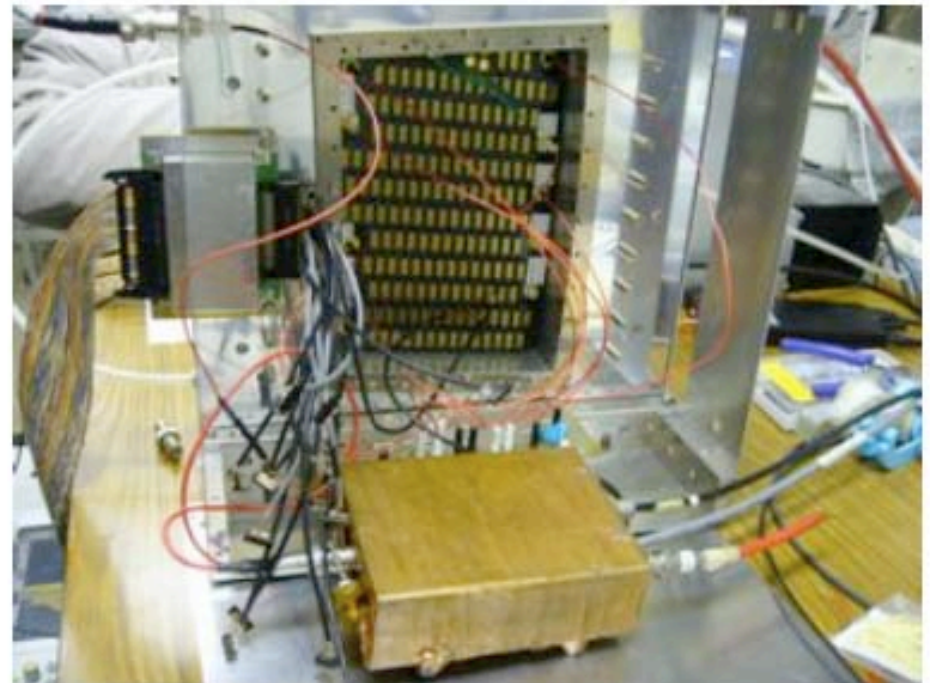   worst routing has 13%   ->   ~7% x-talk from PCB   ==> reasonable
                                                        from pre-proto study

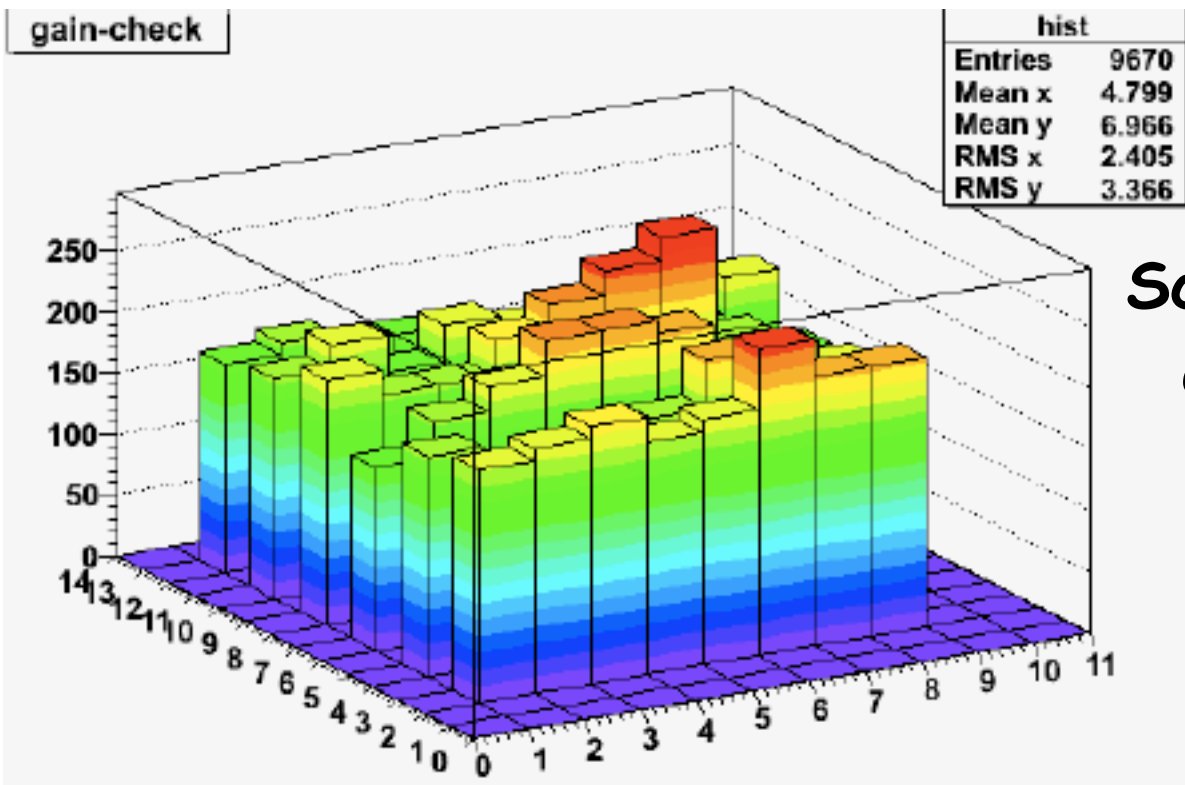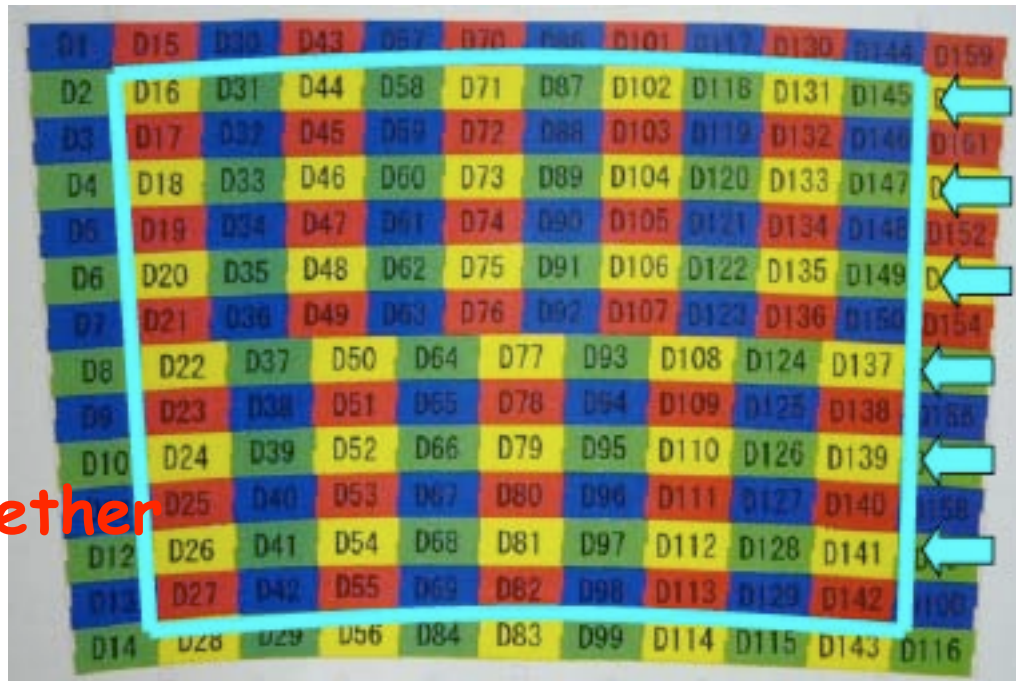   There must be no serious X-talk problem

gain check of module 1

method of measurement

- □ Test
  - ■ Oscilloscope
  - ■ PMCA・・・OrtecAMP(gain5×0.5)
- □ $V_{GEM}=400V$
- □ $E_D=100V/cm$
- □ 線源Fe^{55}

Fe55 PH(main peak) is monitored
through (belle) pre/post amp
by oscilloscope.
   so accuracy is very poor!!

16ch+16ch are all connected together

gain-check

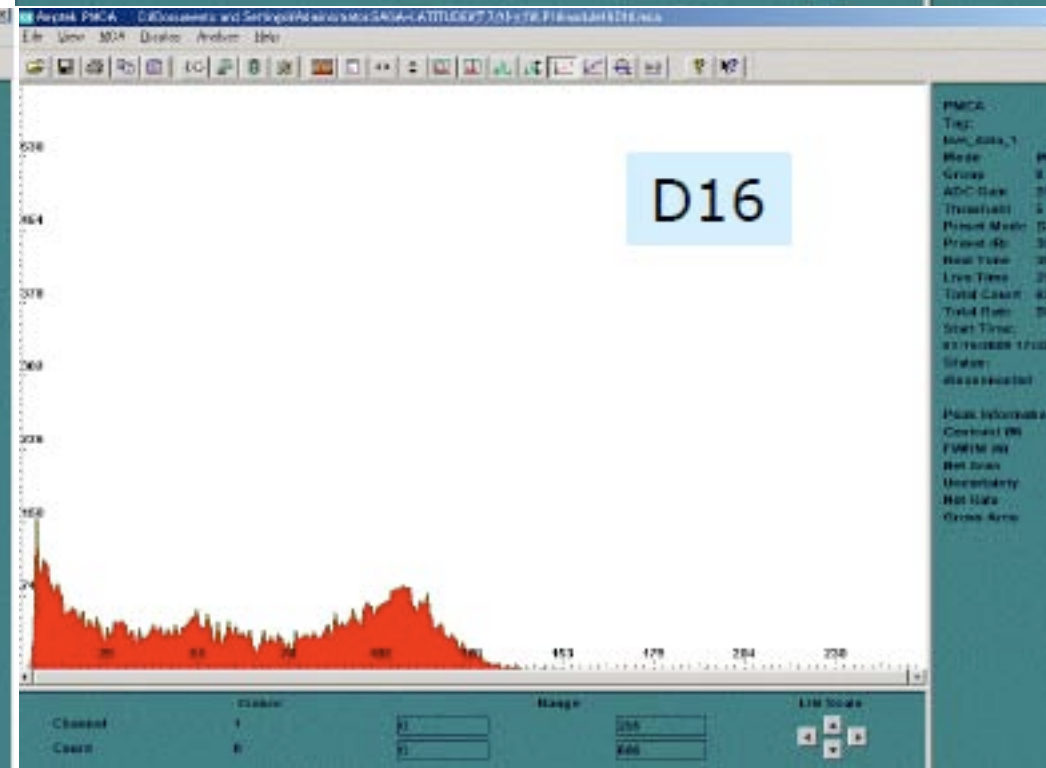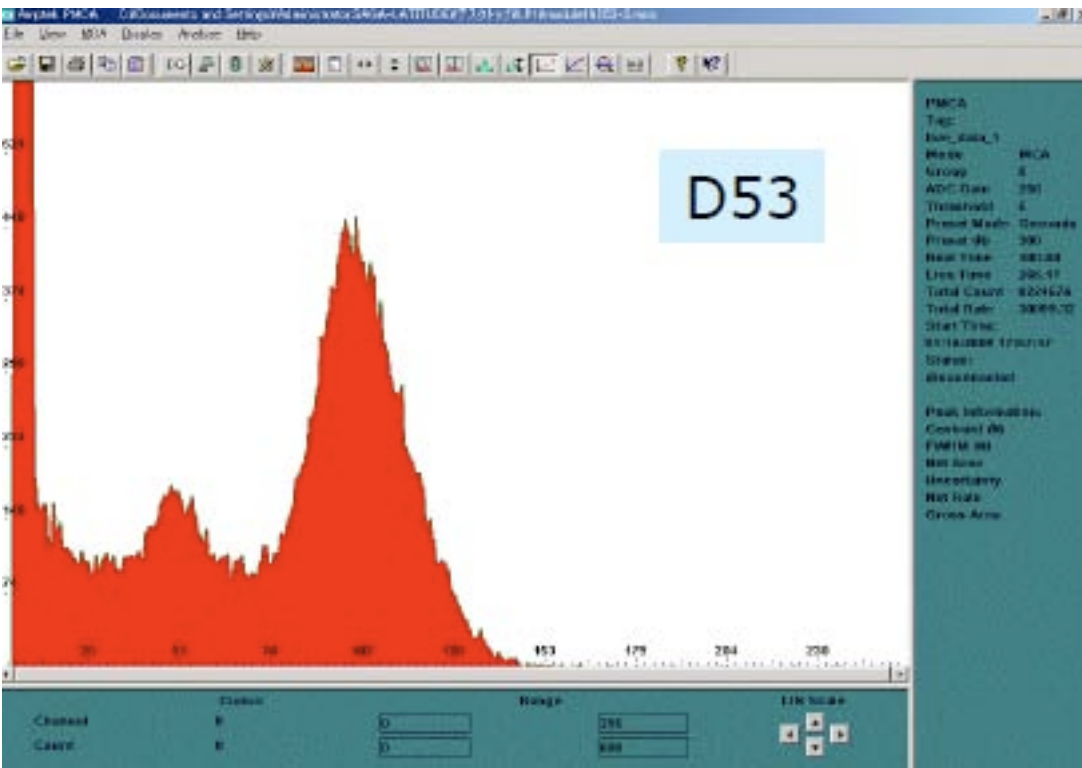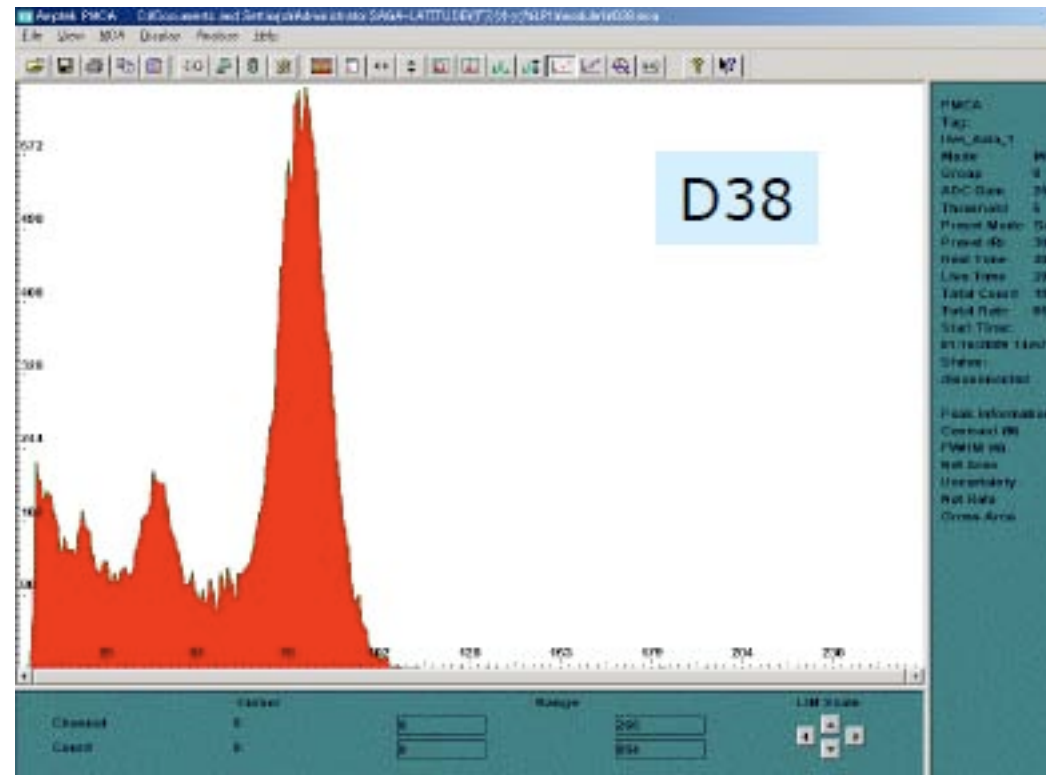| hist	
Entries	9670
Mean x	4.799
Mean y	6.966
RMS x	2.405
RMS y	3.366

Scan every other connector
except outer edge
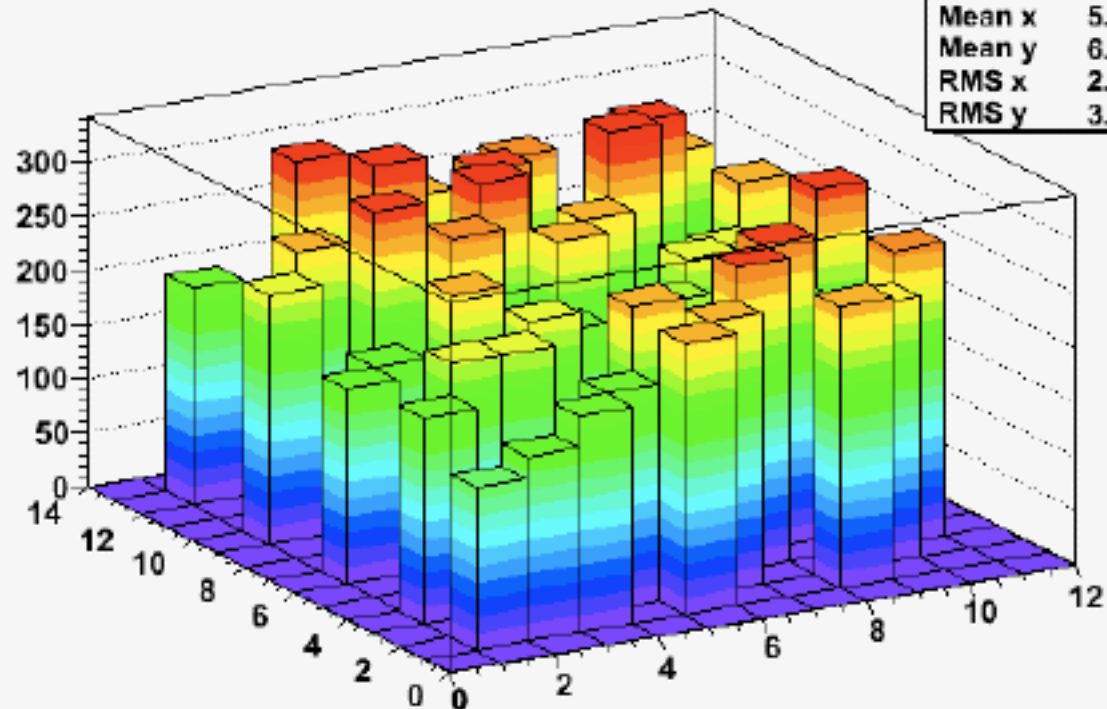
Fe55 PH(main peak) is monitored
through Ortec pre/post + PMCA

some are good, some are not so good

PH vary up to 50% systematically
   ? coming from deterio. drift field ????
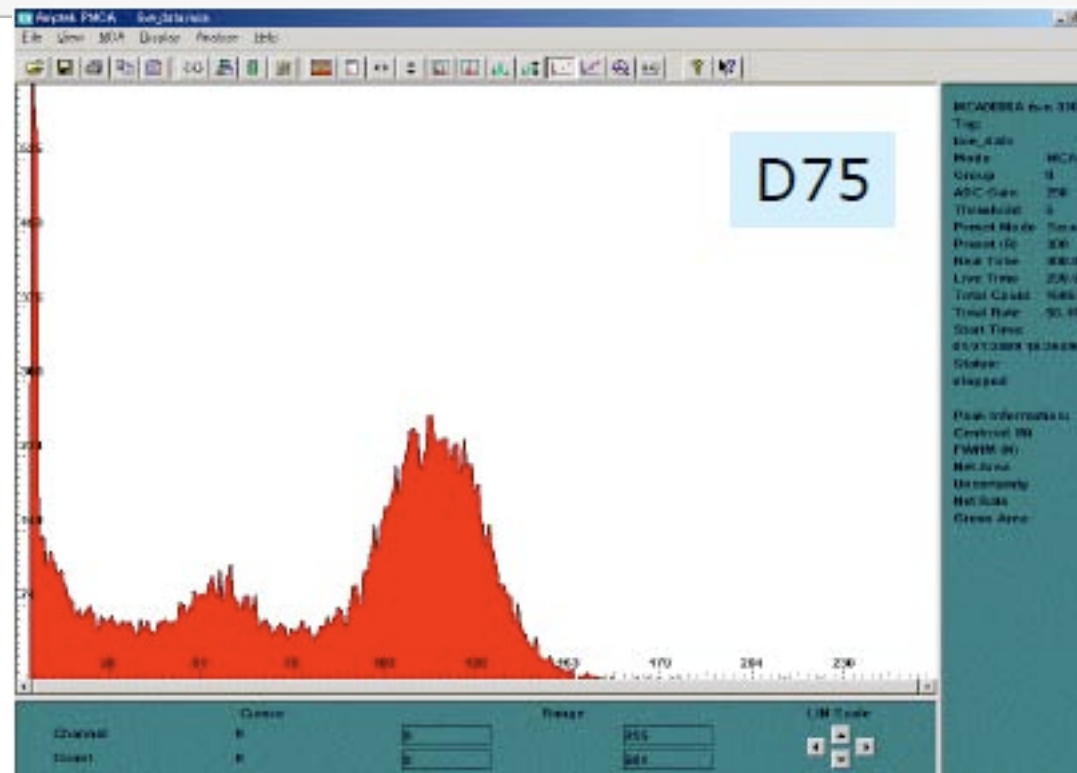   or real effect ??

module 2 has also large variation

1 GEM sheet is dead after discharge !

replaced GEM is not well stretched.
      we will fix this later

we see signal from module 1 and 2
      but .... further study will be done
            with ALTRO+DAQ
         or   in LP1 test

We received 3 more back frames from Dan.
   now they are mounted to PCB at the company

after we receive 2 more PCB,
   we will assemble GEM on them and check signal

         and ship to DESY

   Gate: we are preparing
              but we may start without Gate