

Status of FEV13-Jp

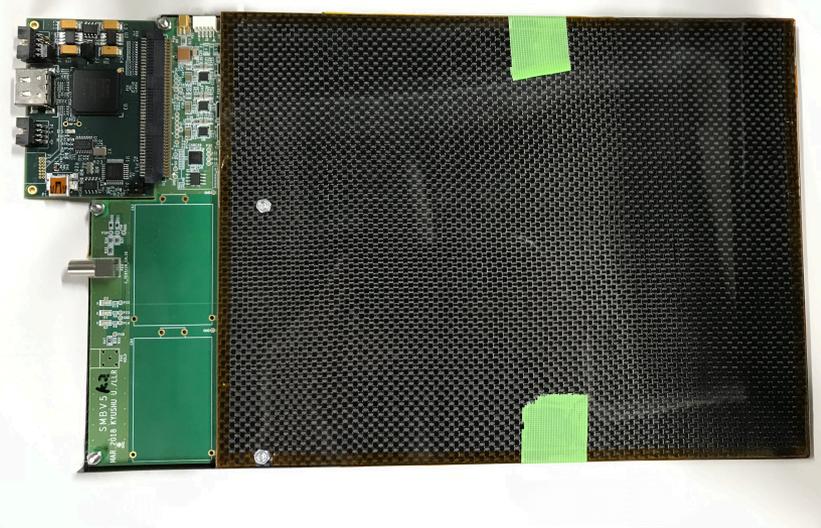
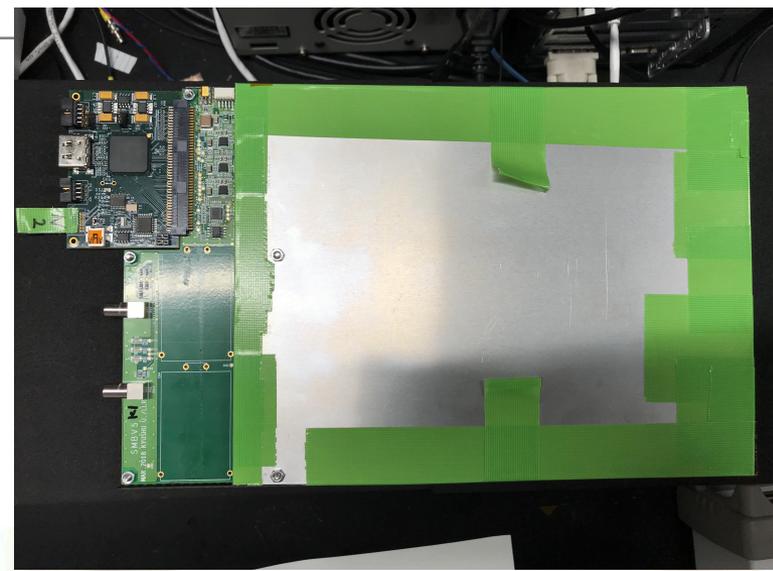
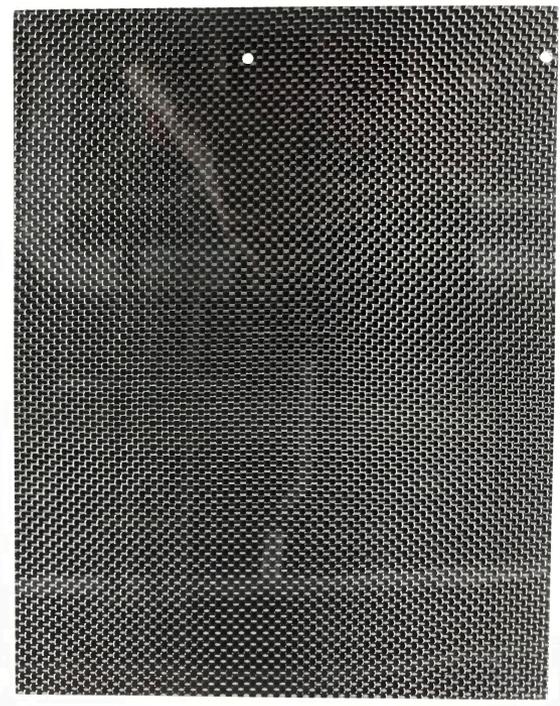
Y. Kato*, K. Goto, T. Suehara
Kyushu University
The University of Tokyo*

DESY2019-06 prep meeting #3
June 12, 2019

Table of contents

- Hardware setup
 - new carbon cover
 - packing
- Performance test
 - energy spectrum
 - ^{133}Ba
 - ^{57}Co
 - parallel operation
- Problems
- To do

New Carbon Cover



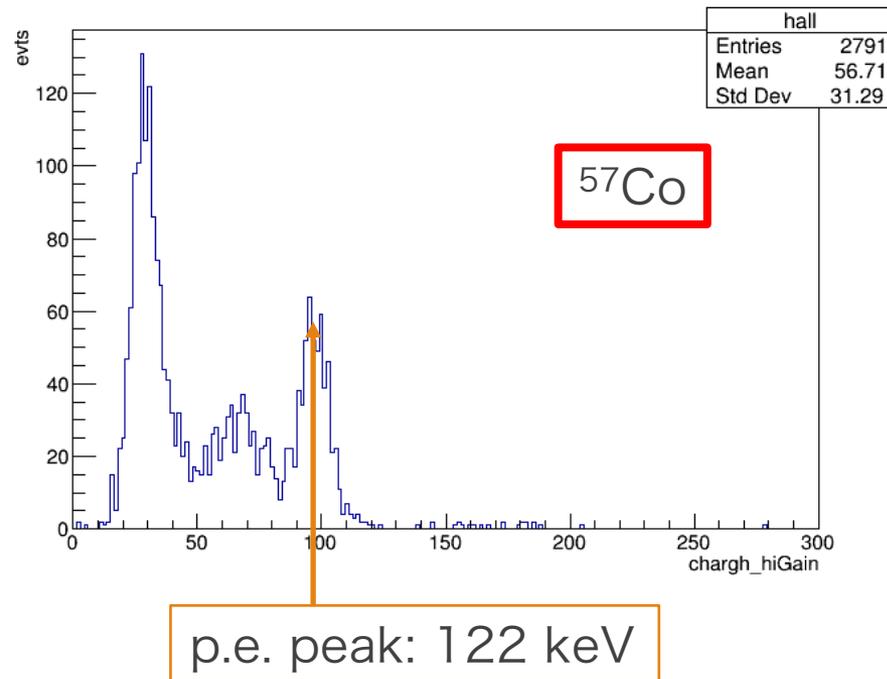
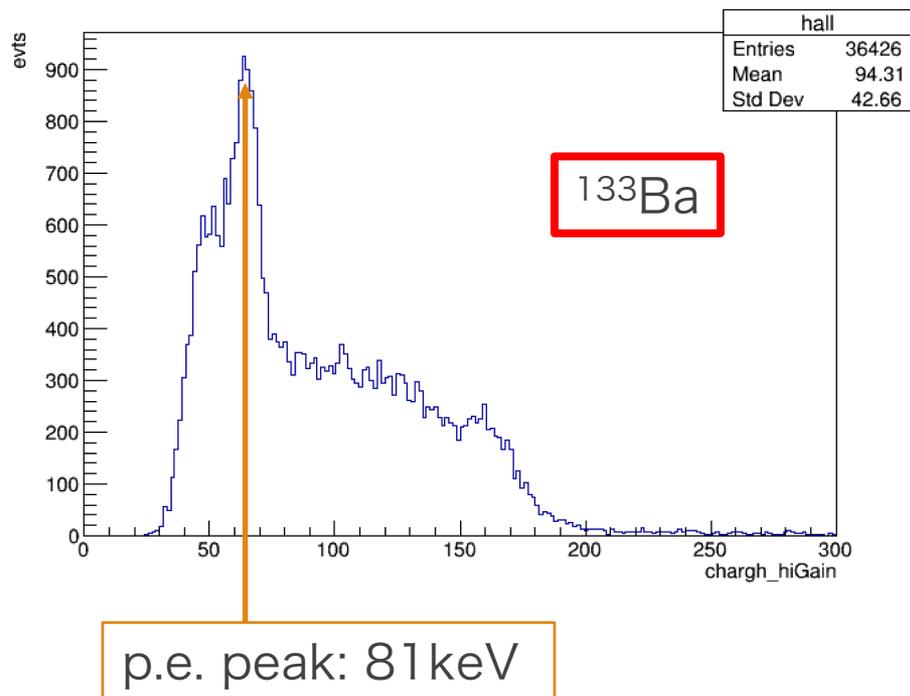
Hardware setup

Packing



Performance of single slab test

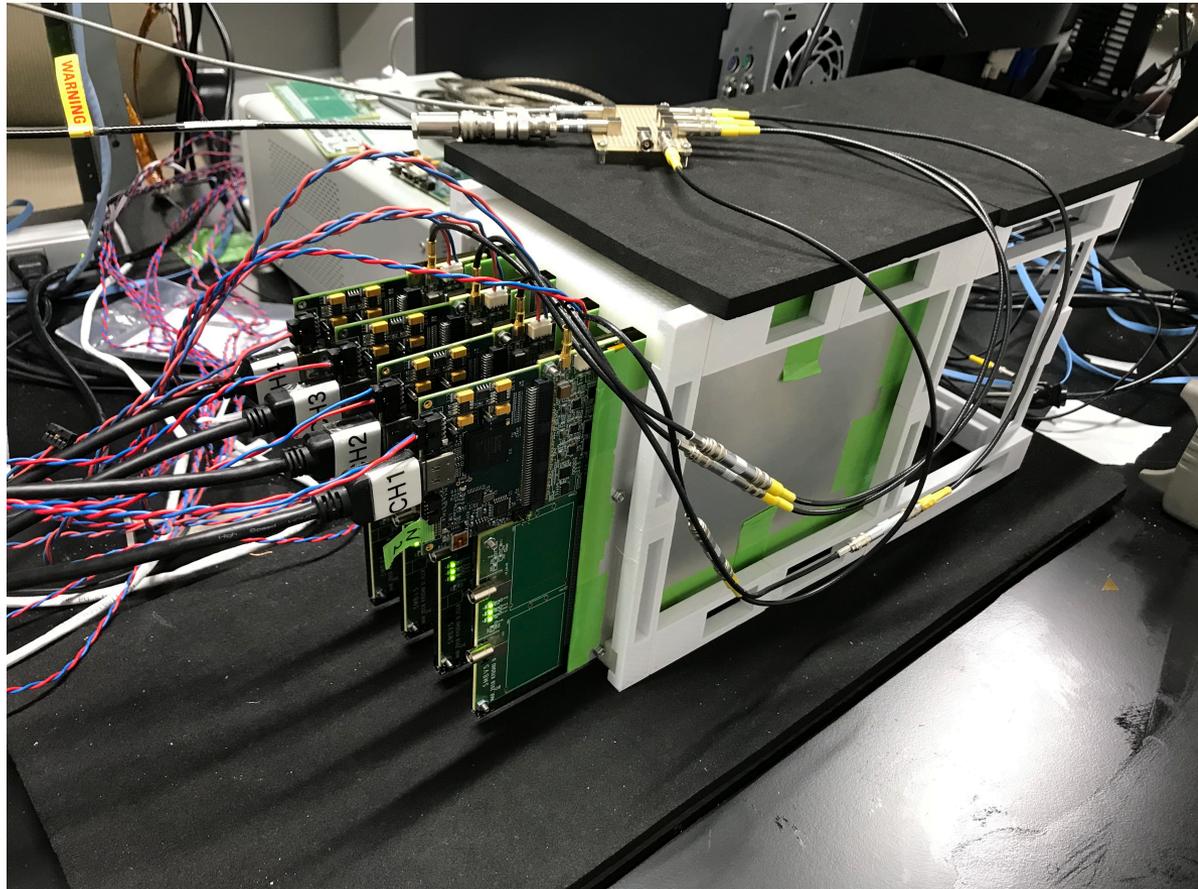
Energy spectrum



Performance of single slab test

Parallel Operation

work in progress...
trouble with data transfer...



Problems

1. Spill stops in high rate acquisition.

situation:

- single slab, charge injection: 50kHz, 1-2MIPs, spill: 2Hz
- multi(4) slabs, charge injection: 5kHz, 2MIPs, spill: 2Hz

log message:

“warning : write_shbuffer aborted on empty_semid-> unready”
after this message appear, “warning: lost packet” occurred.

2. Log message in DAQ seems to be busy.

- Do we need base64 output?

3. RAW2ROOT.cc

- “<!> WARNING <!> Additional data words detected”

```
209 0006400 013a 0139 013b 0135 013a 0131 013d 013c >:.9.;.5...1.=.<.<
210 0006420 012f 0137 0137 04a3 04a2 04a1 04a0 049f >/.7.7.....<
211 0006440 049e 049d 049c 049b 049a 0499 0498 0497 >.....<
212 0006460 0004 0004 fffe ff01 2020 2020 fffd ff02 >.....<
213 0006500 4843 5049 2020 012d 0137 0134 012f 0136 >CHIP -.7.4./.6.<
214 0006520 013d 0139 013a 0122 012c 0135 012c 0125 >=.9...".,5.,.%.<
215 0006540 0128 012e 0137 0136 0130 0129 0123 0136 >(...7.6.0.)#.6.<
216 0006560 0134 013a 0134 0138 0138 0129 0133 0135 >4...4.8.8.)3.5.<
```

To do

- ✓ Make new slab cover
- ✓ Parallel operation
 - data transfer test
- ✓ Linearity check
- TDC test & evaluation
- Auto gain mode test
- Trigger optimization: S-curve

backup

Status of each slab

SMB	P1'	P3	K1	K2
FEV	3A	2C	different color	3D
DIF	-	-	-	-
Silicon Thickness	650 μm	320 μm	650 μm	650 μm
Report from Miura-kun 2018.11.30	<ul style="list-style-type: none"> • broken in CERN • SMB was replaced P1-> P1' • recovered 	<ul style="list-style-type: none"> • broken in CERN • recovered • chip 0 is noisy 	<ul style="list-style-type: none"> • good in CERN • HV connector is soldered 	<ul style="list-style-type: none"> • broken in CERN • recovered
Task for TB	need to replace carbon plate			
Current Status	• good	• good	• unstable around chip 0,1	• good

