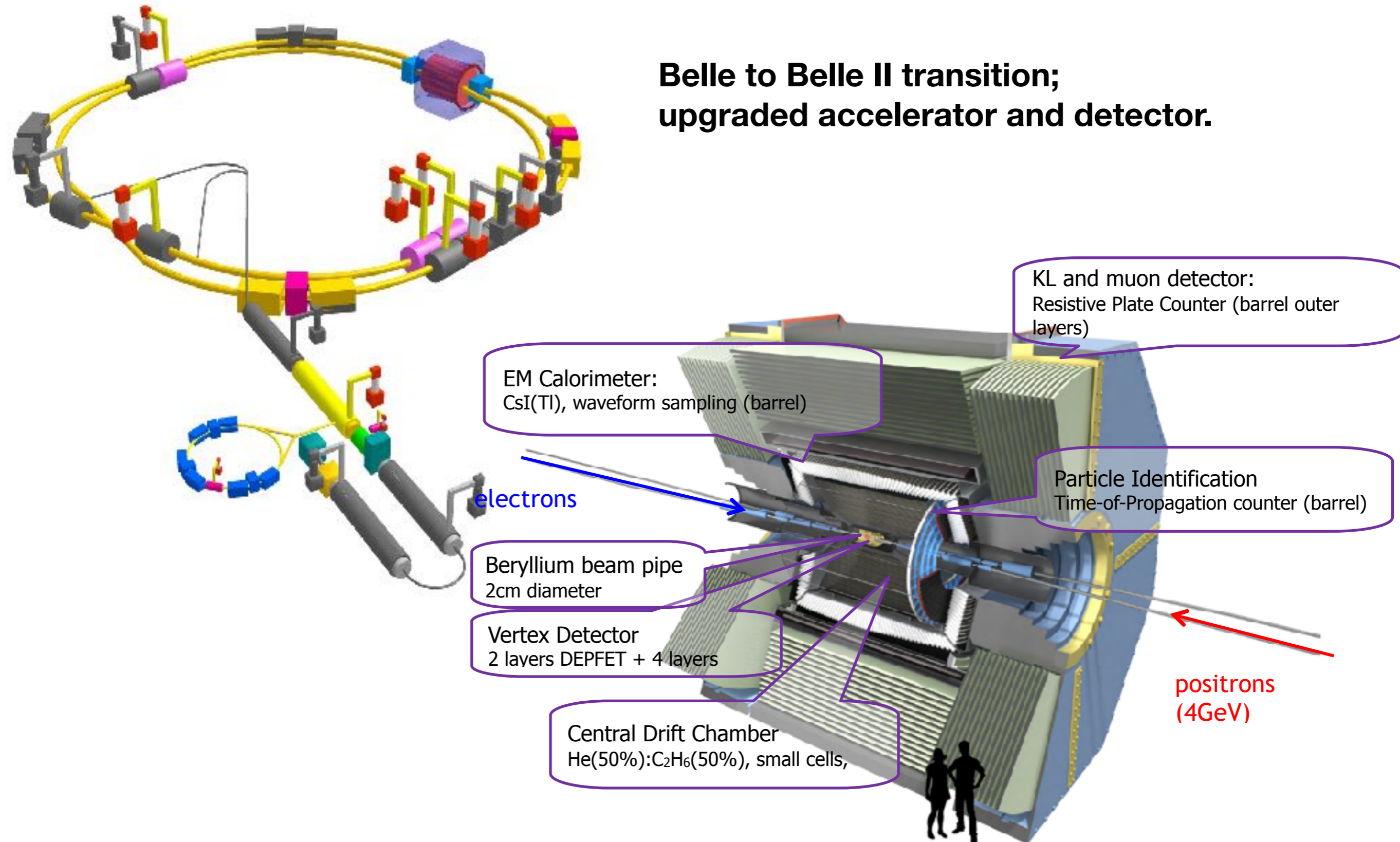


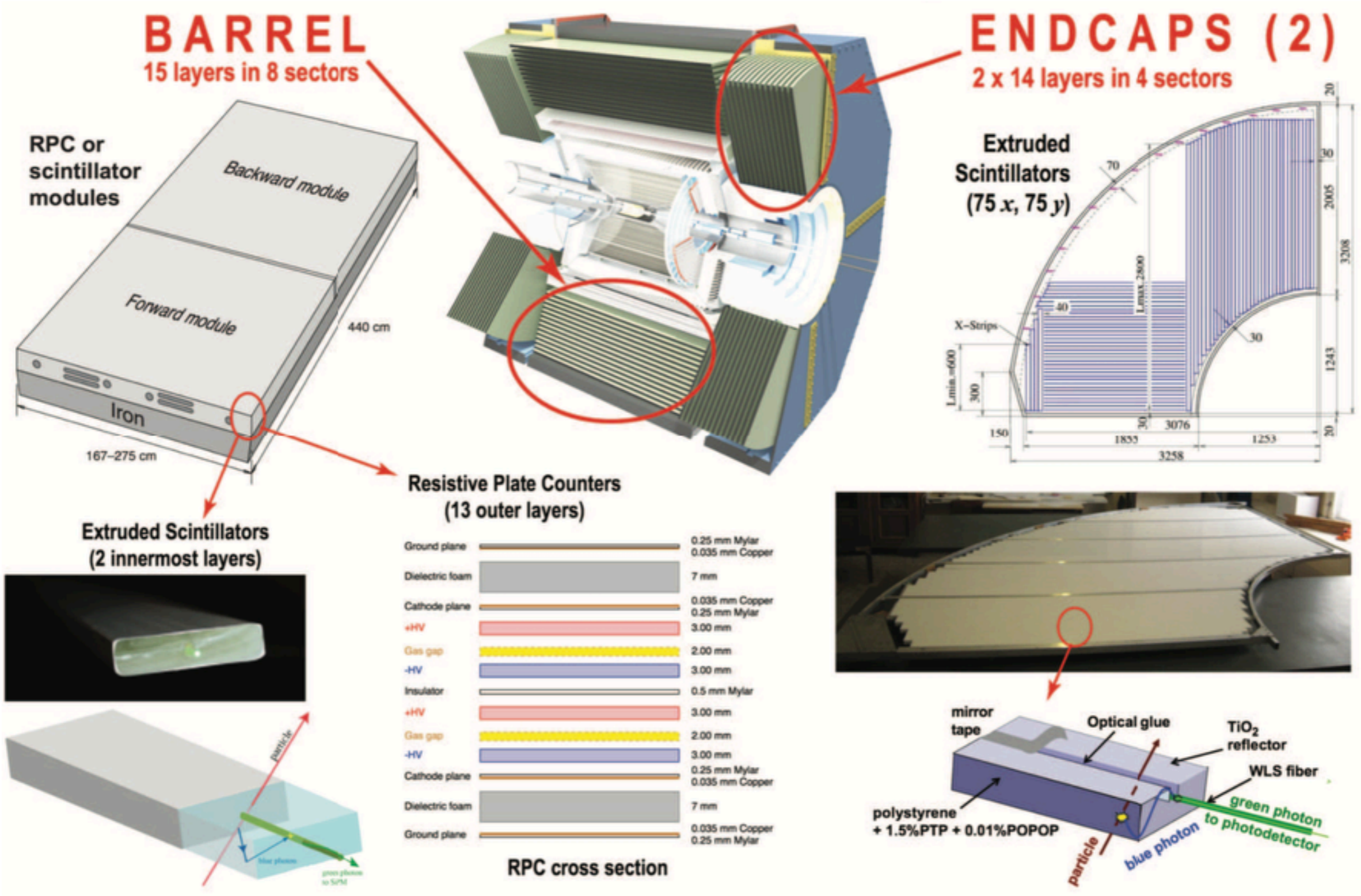
**BELLE II EKLM detector.
DAQ status.**

Belle II experiment

**Belle to Belle II transition;
upgraded accelerator and detector.**



Belle II KLM system

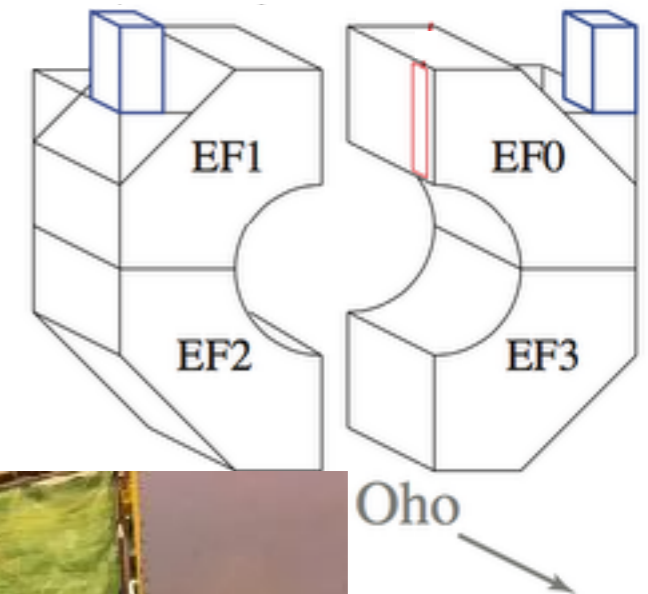
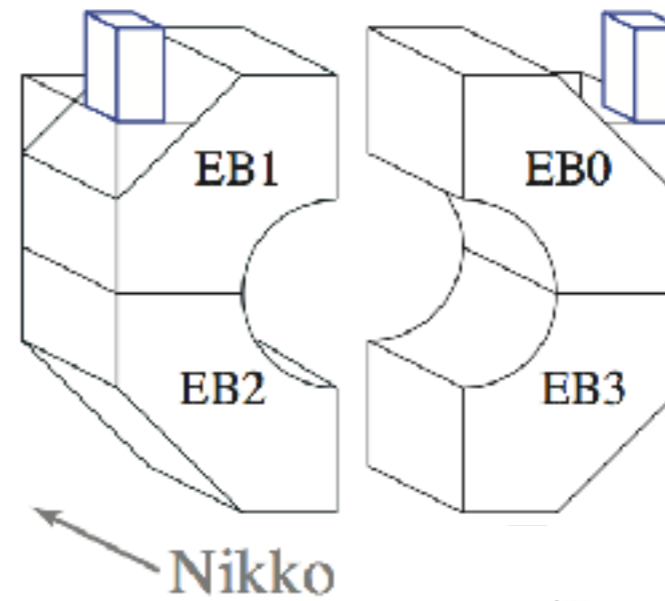


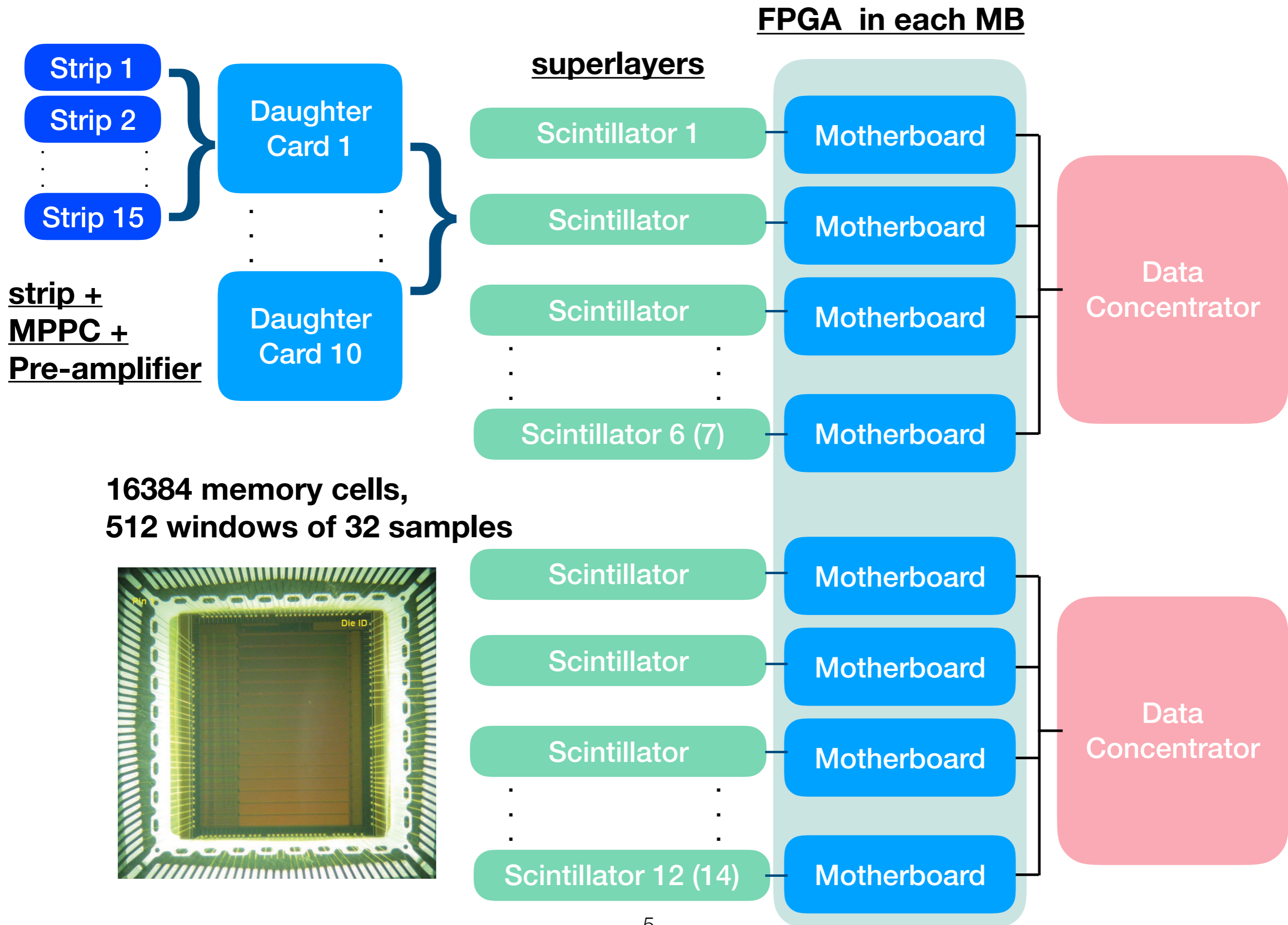
Belle II EKLM DAQ

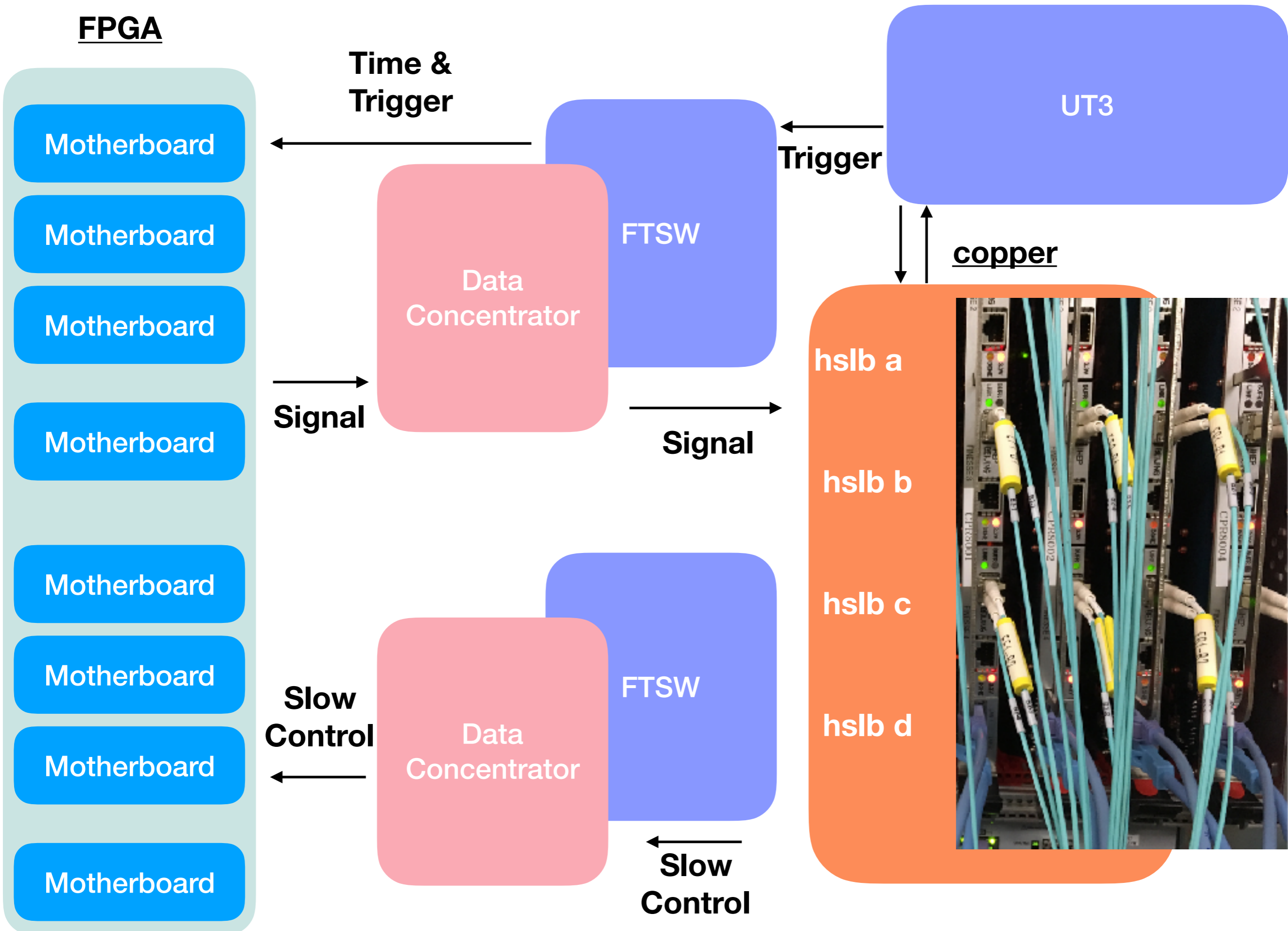
backward: 12 superlayers

forward: 14 superlayers

8 sectors total with 1 VME crate
per sector

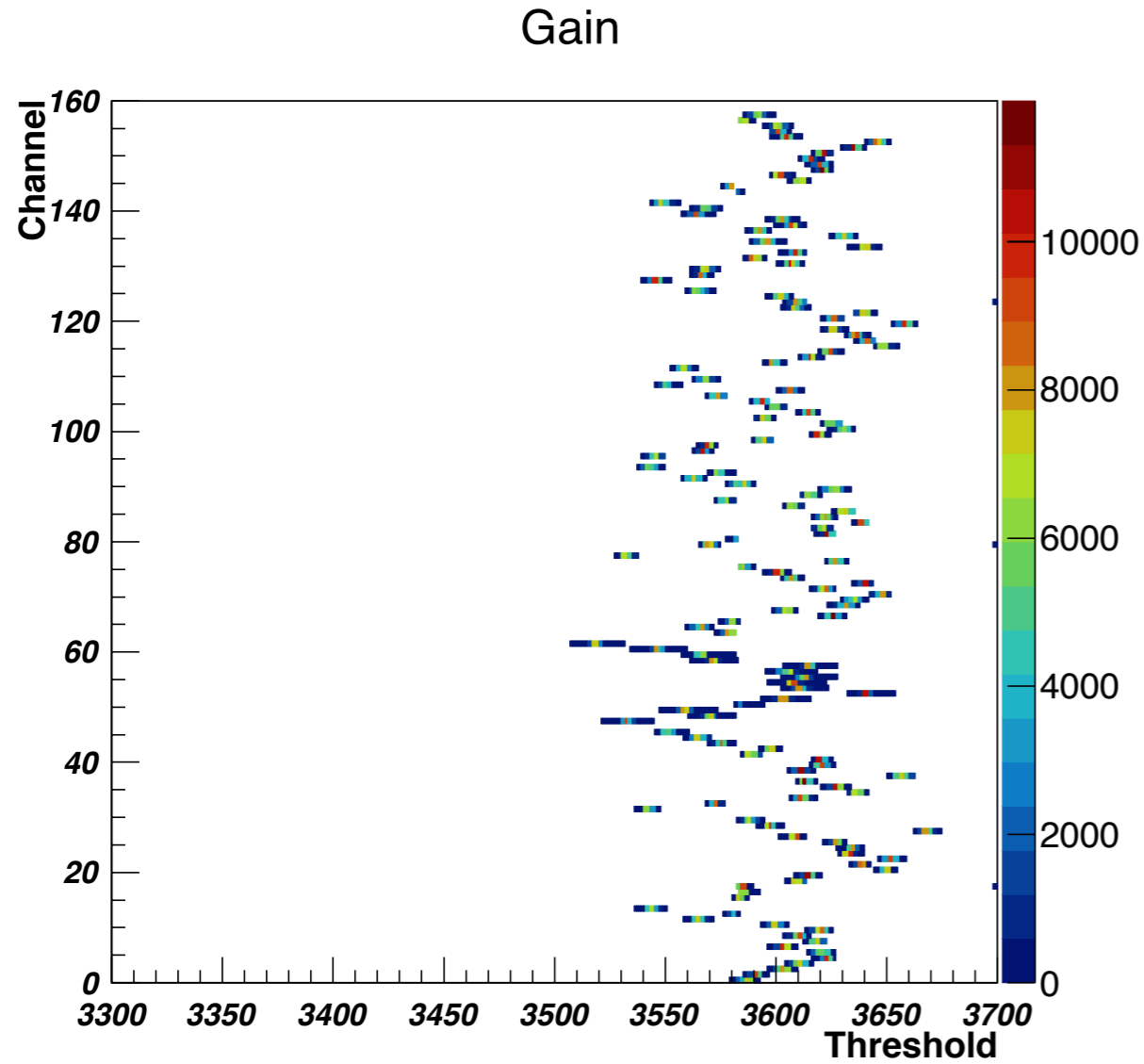




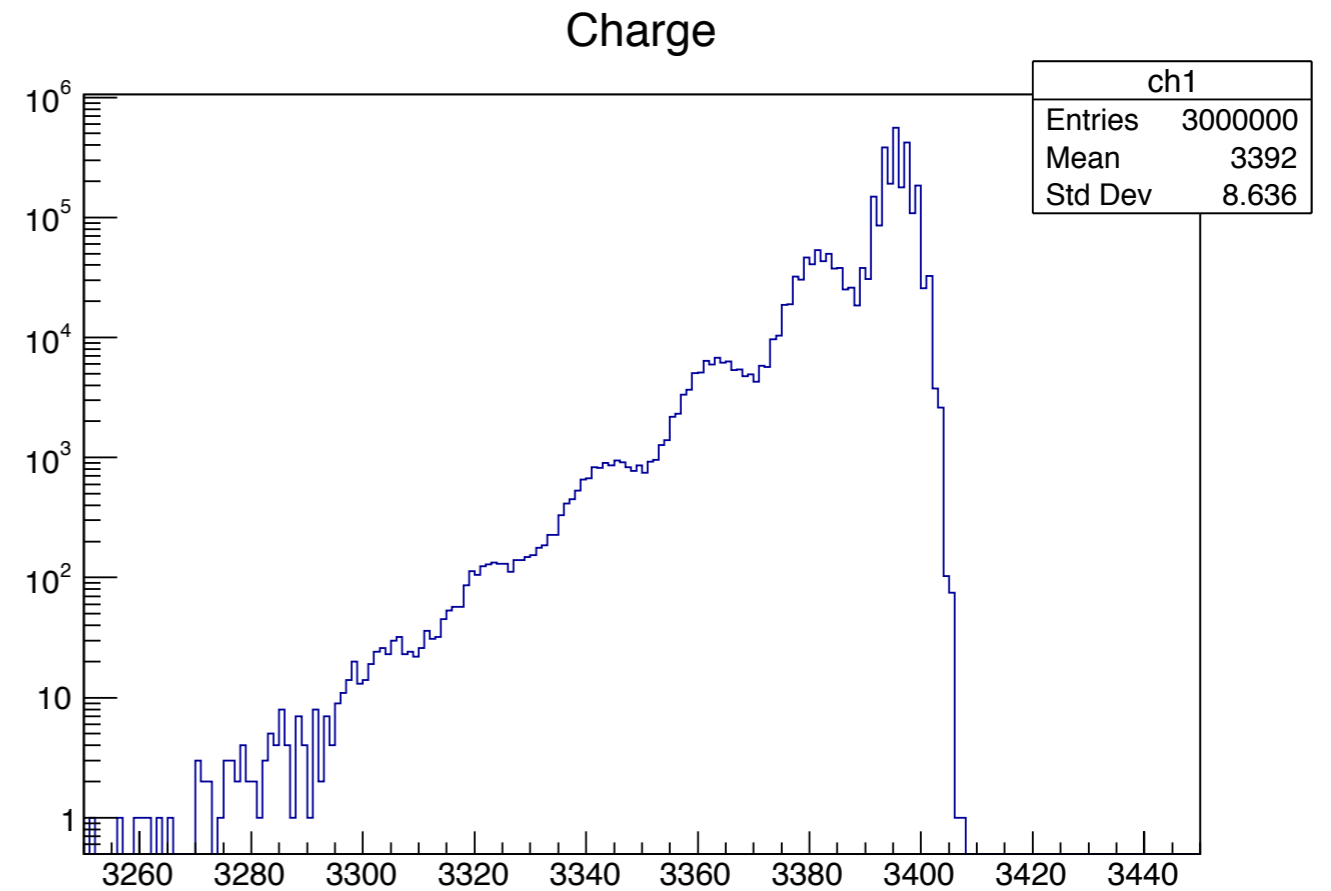


EKLM calibration

1. HV off; searching for the pedestal for each MPPC

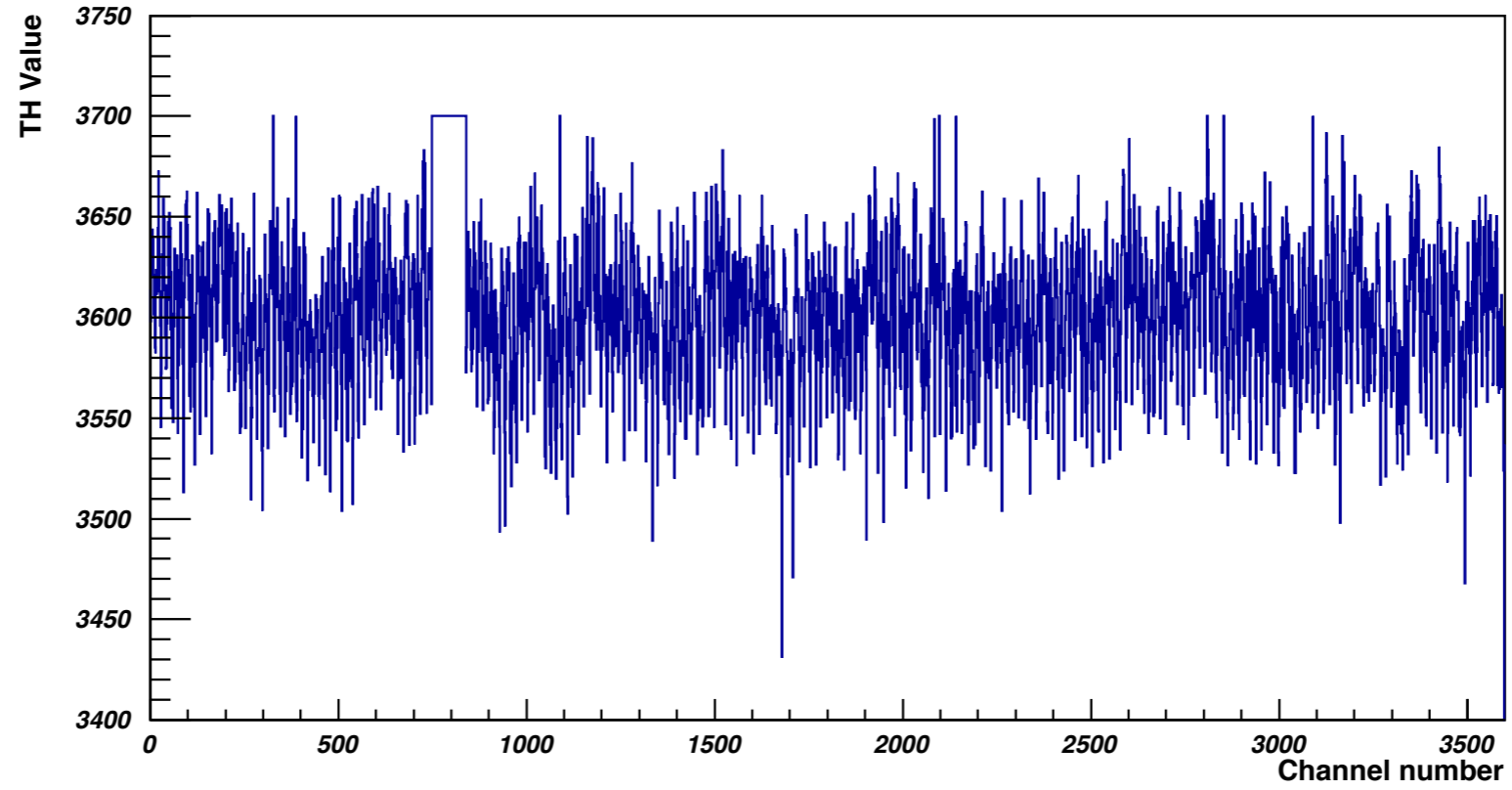


2. HV on (72.2V); Choosing an offset (on first or second PE)

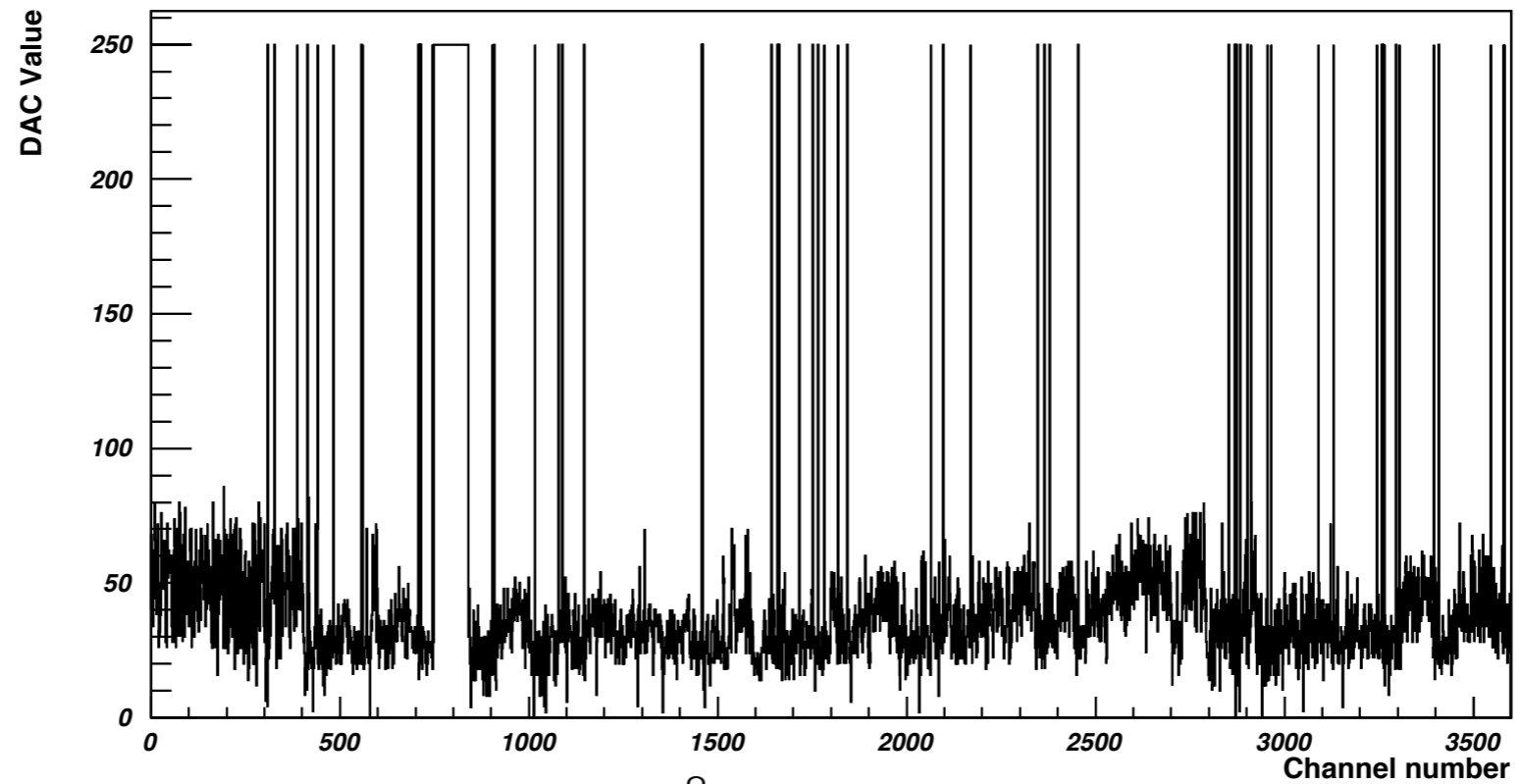


EKLM calibration

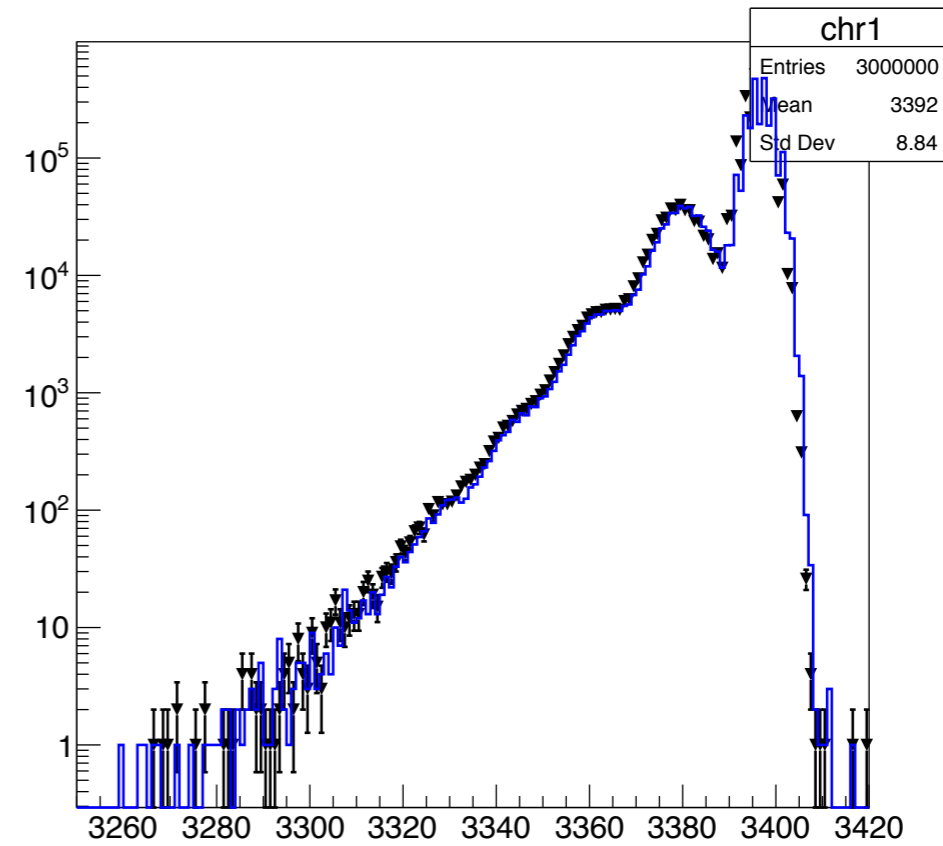
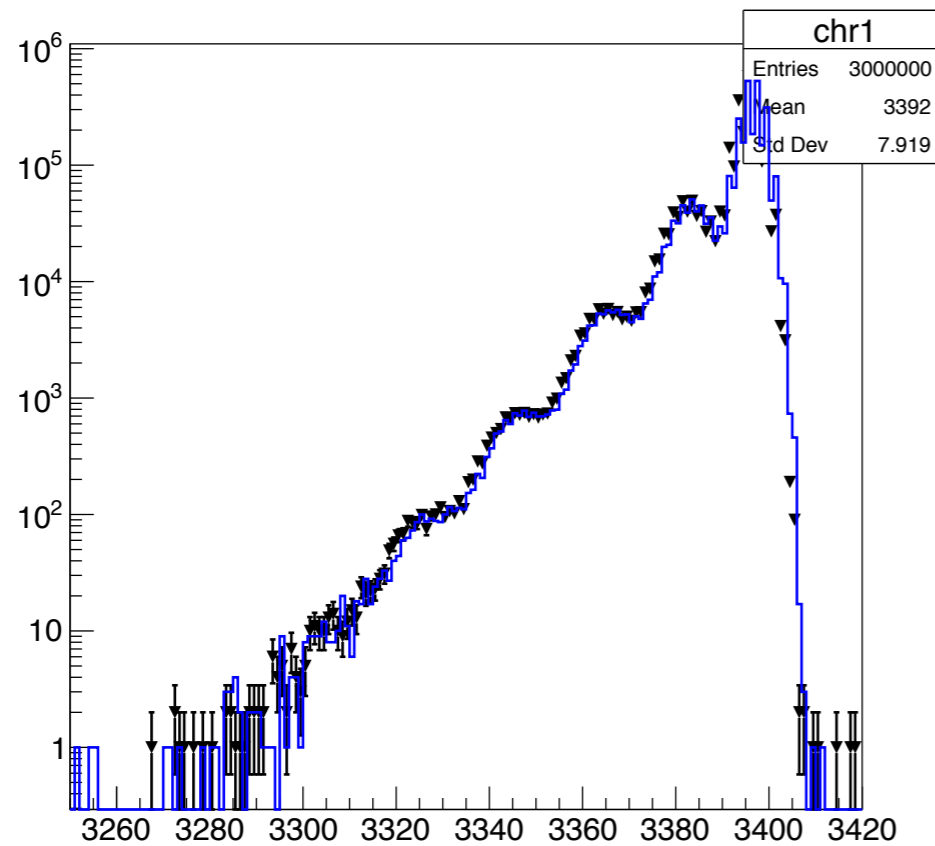
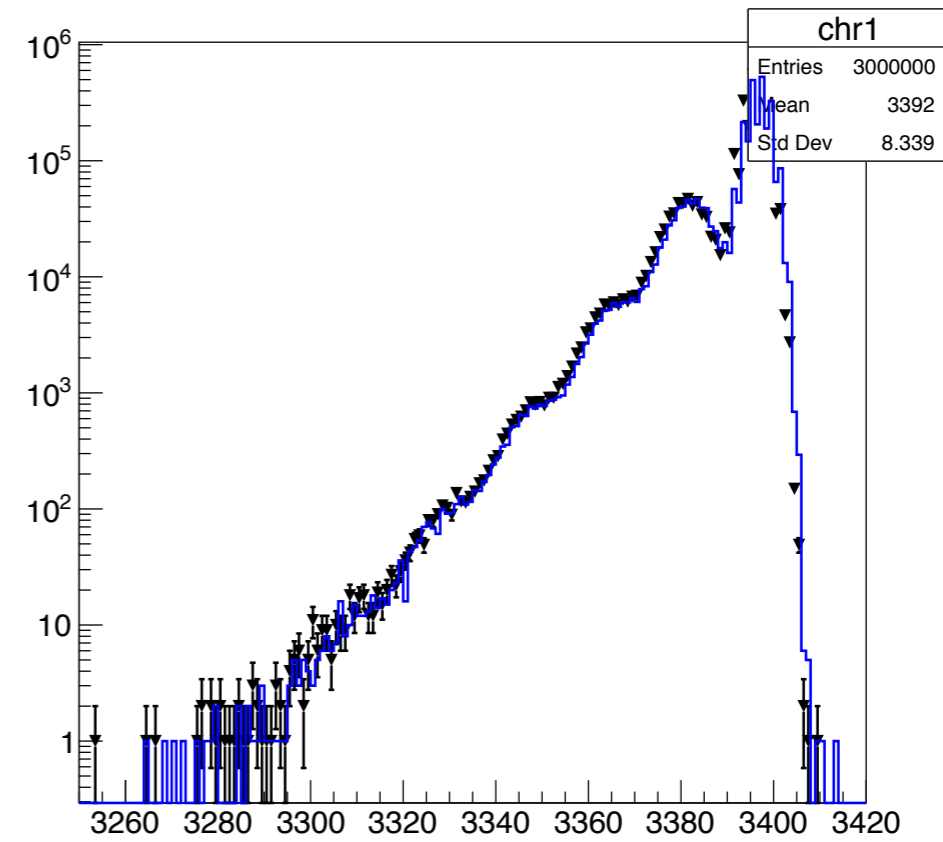
Calibration threshold 8002



Calibration voltage



The data from calibration mode confirmed that positions of pedestal and PE are reasonably stable in time.



EKLM DAQ status

```

statft-20180510 FTSW #191 / ft3p068 2018.05.21-09:01:51 -> 06.05 22:35:35
--- RUNNING (about 850.7Hz since 2018.06.05 22:13:48 for 1307s) ---
16 exprun=00000000 exp 0 run 156 sub 0
17 cmask=00001f9c s3q=0 clk=00 gmask=019c GLOBAL
1f jpll=cc000000 clkain 000D-CLOCK
28192c trg=00000000 none limit 0 <-> last 0
2a2b27 cnt 0 > 0 > 1134002 > 1134002 (0.0 > 0.0 > 867.6Hz)
2d stafifo=10000000 empty trg-enabled
20 reset=80000000 06.05-22:13:48.204(start) no-FIFO
31 err=10000000 06.05-22:13:48.201(error) RUNNING
25 wreg=0=000000 tag=0
393a3b me=19100000 0a114db2 10000003 ready tag=1134002 min=6518
405468 00=22900000 0a114db2 1000000f ready tag=1134002 min=3.0 d=0.00%
415669 01=23000000 0a114db2 1000000f ready tag=1134002 min=3.0 d=0.00%
45596d 05=24500000 0a114db2 1000001f ready tag=1134002 min=4.0 d=0.00%
465a6e x0=17000000 0a114db2 0000000f ready tag=1134002 d=0.00%
9+ limiter=010006429 maxtrig=1 maxtimes=200.00us
a0-a7 dead 0.00% (t=0.00% c=0.00% p=0.00% f=0.00% r=0.00%)
    
```

Recently EKLM was included in global mode with new operational firmware. EKLM looked fine both in the BKLM+EKLM local and global mode with trigger rate 2.5kHz and hold-off 2us.

With HV on a ttlost error continued to occur from one of the backward sectors; The reason — wrong cable connections;

The screenshot shows the EKLM DAQ control interface. On the left, there are control panels for RC_KLM, KLM, RC_ILT_KLM, and STORE_KLM. The main area displays a table of detector statuses. A red circle highlights a section of the table labeled 'EKLM COPPERs'. Below the table, there is a terminal window showing log output and error messages.

HOSTNAME	STATUS	INTERSPACE [PWS]	HMLB-D	HMLB-B	HMLB-C	HMLB-D
exp7000	RUNNING	03120512	0	11500	11500	11500
exp7000	RUNNING	9120512	0	11500	11500	11500
exp7000	RUNNING	12050500	0	11500	11500	11500
exp000	Label	00000	11500	11500	11500	11500
exp000	Label	00000	11500	11500	11500	11500
exp000	Label	00000	11500	11500	11500	11500
exp000	Label	00000	11500	11500	11500	11500

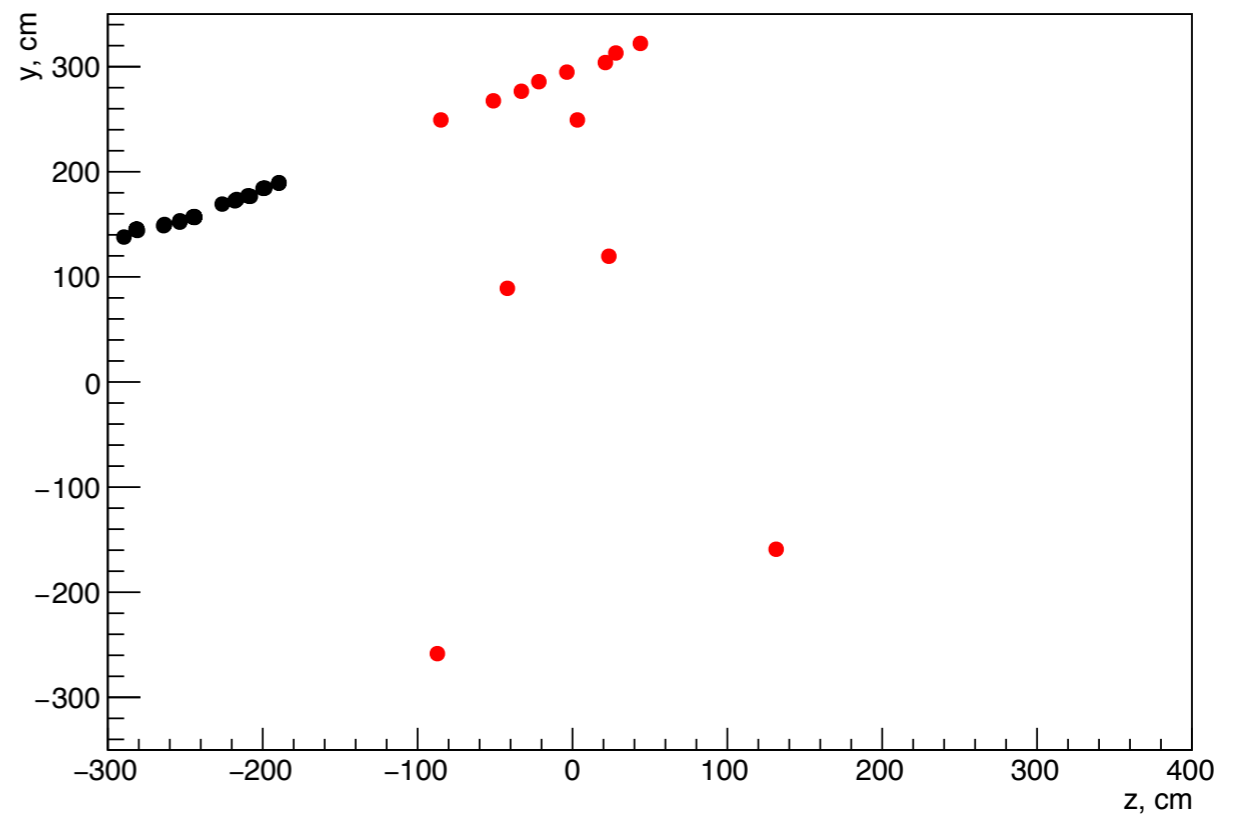
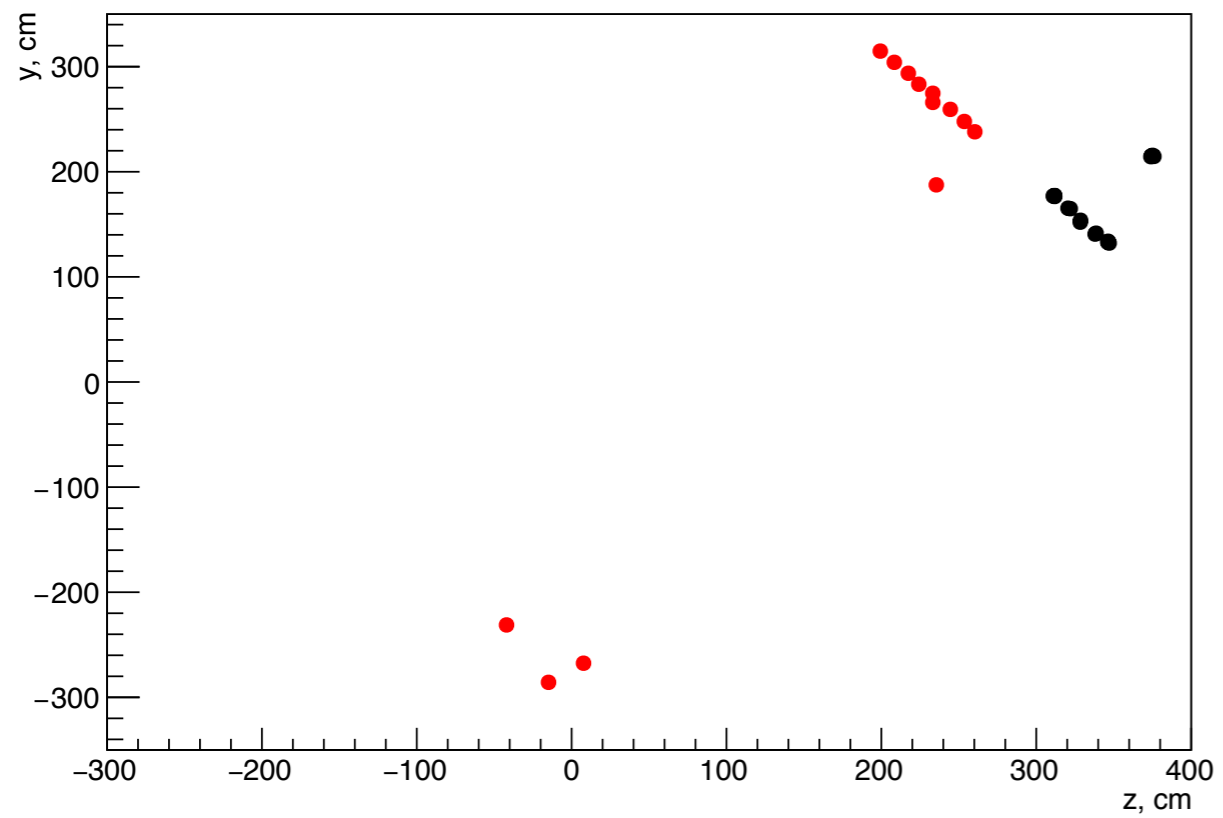
EKLM COPPERs

```

2018-05-05 18:26:04 ERROR: Error 1
org.mozilla.javascript.WrappedException:
2018-05-05 18:26:04 ERROR: Error 1
org.mozilla.javascript.WrappedException:
2018-05-05 18:48:07 ERROR: Error 1
java.lang.IllegalStateException: Co
    
```

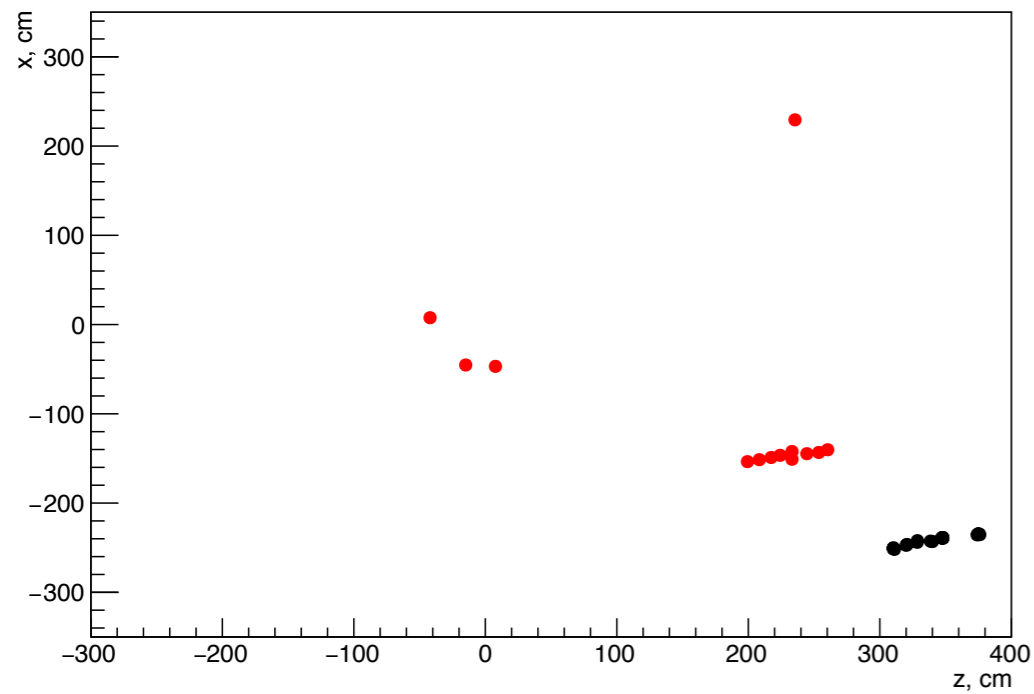
EKLM DAQ status

First EKLM hits show good matching efficiency with BKLM;



Problems:

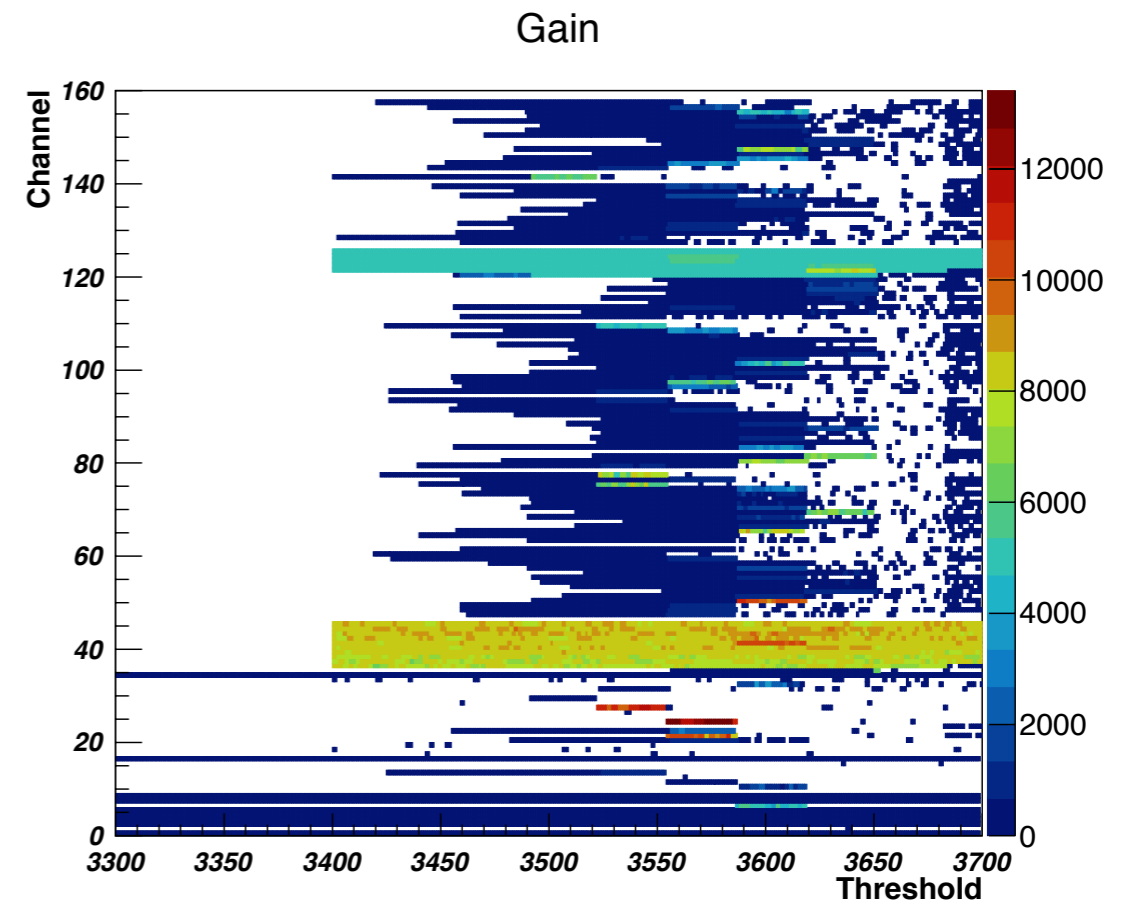
1. Wrong board connections



3. Access to the both crates and layers



2. Noisy boards



4. Power supply for forward crates

