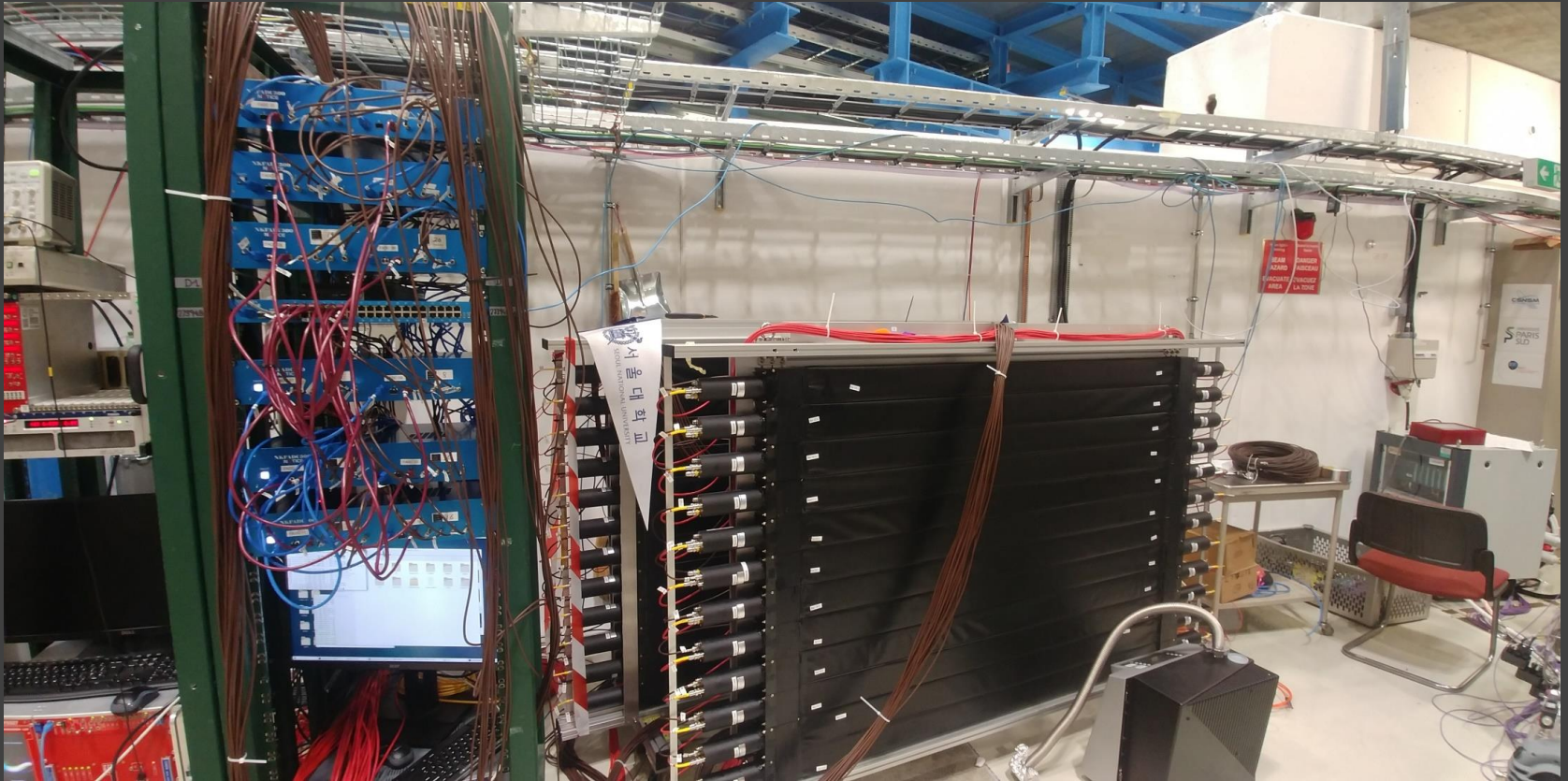


SNU-HEP Lab Meeting Presentation

Date: 2018-08-06

JaeJin Choi

Installed second wall at CERN



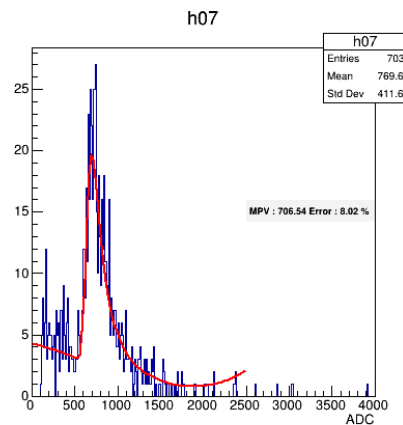
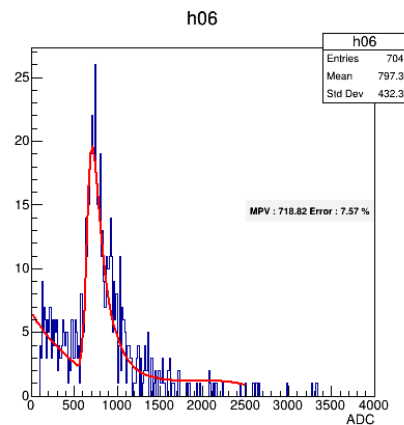
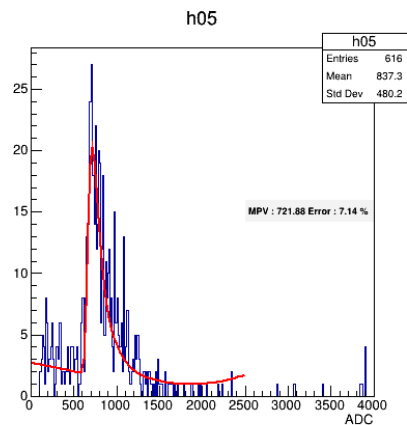
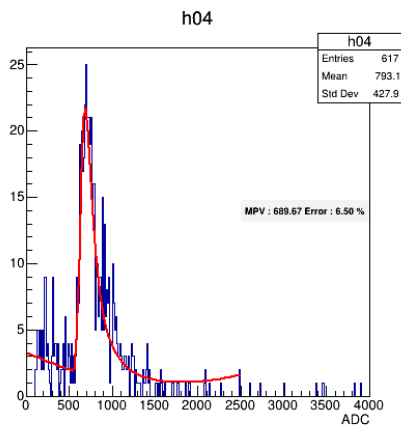
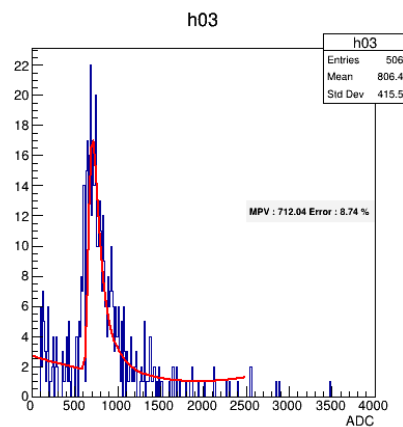
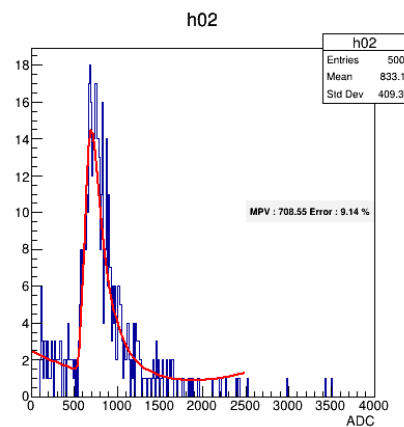
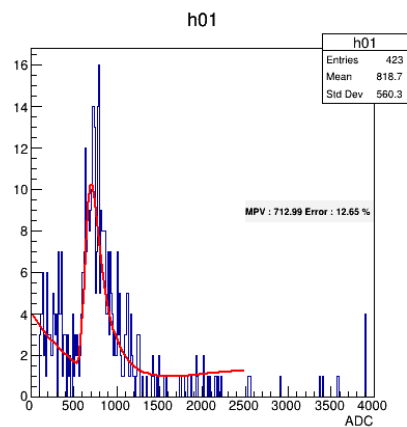
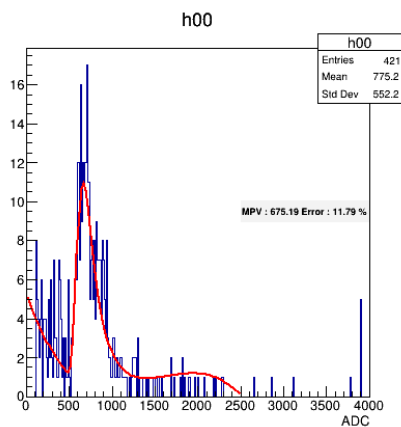
- BAR 13 ~24
- FADC 7~10, 15,16(required numbering setting)

Calibration

- DACOFF setting(each channel in configuration file)
 - Setting to about 3900 pedestal(in TCB log)
- Gain calibration
 - 4 bar grouping(13~16,17~20,21~24)
 - Multiplicity for trigger(MTHR): 8
 - Position cut: ± 5 cm of center
 - Height > 100 [ch]
 - Fitting landau + 3rd polynomial
 - MPV value to be about 680~ 720 [ch]
 - Number of event: 20,000
 - Threshold 100 [ch]

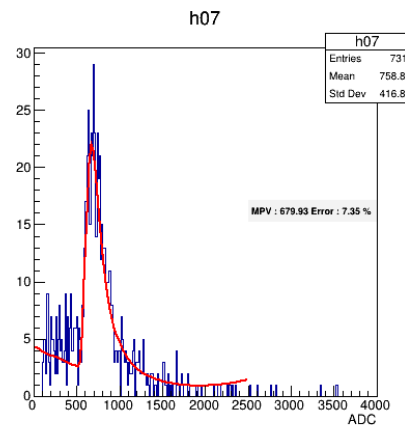
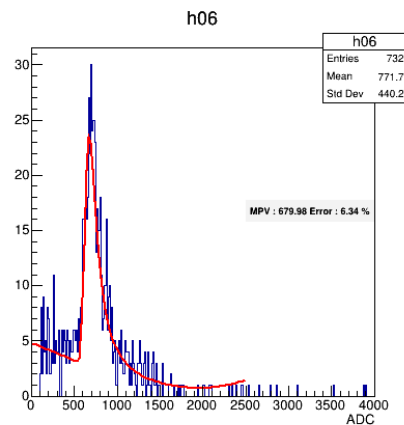
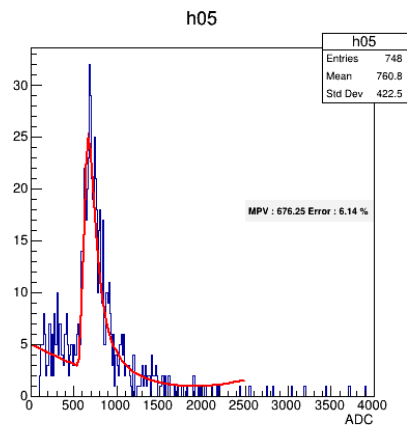
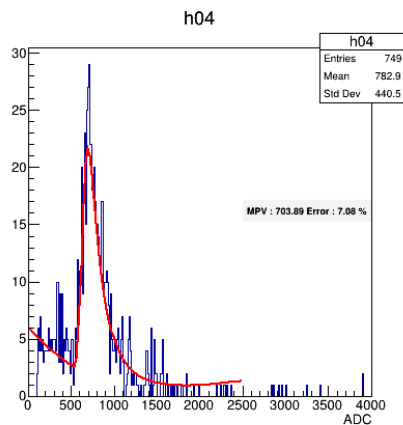
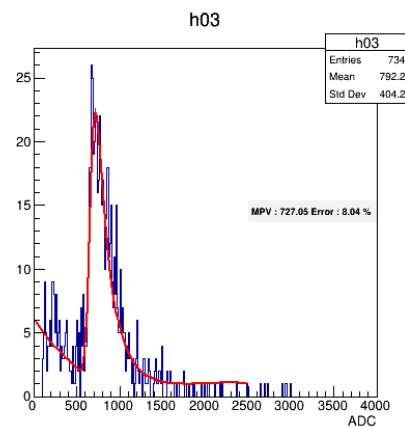
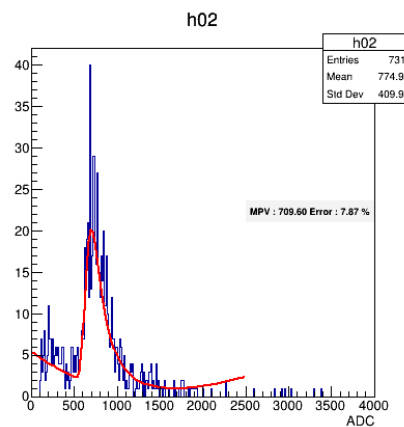
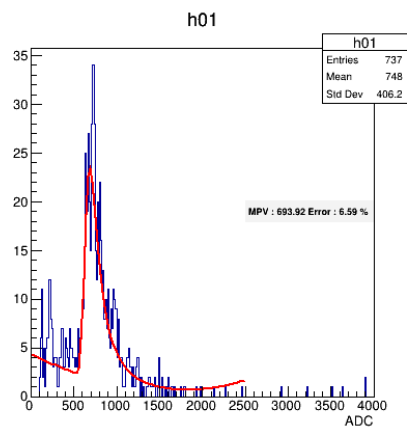
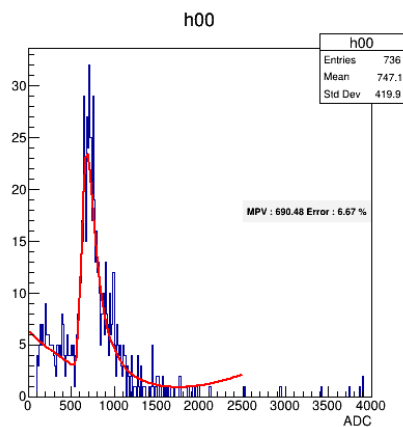
Calibration

- #548: BAR 13~16



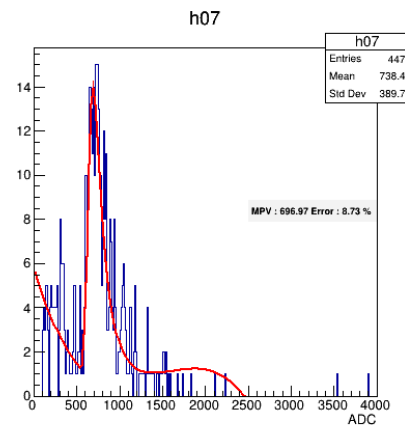
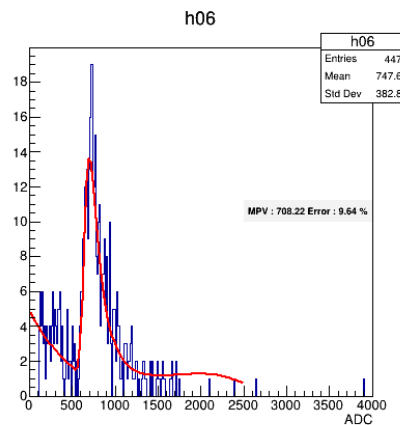
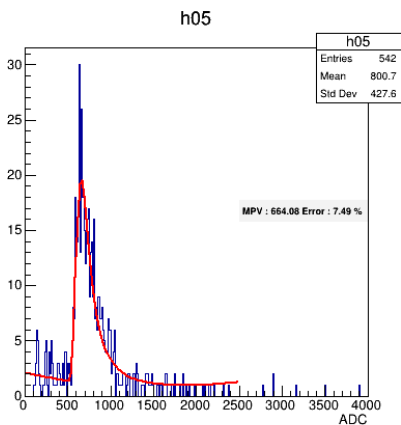
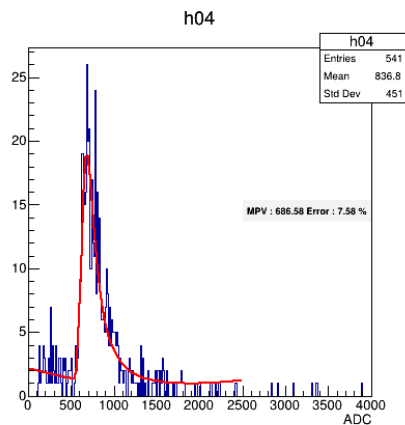
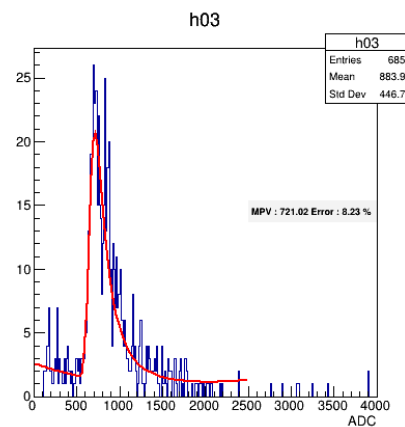
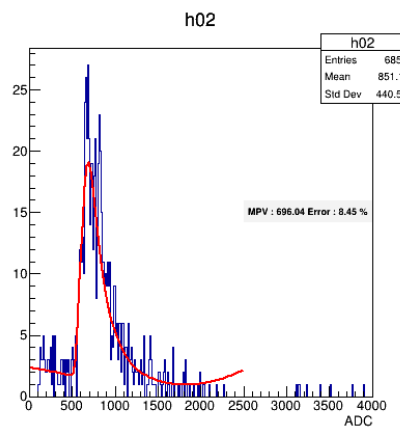
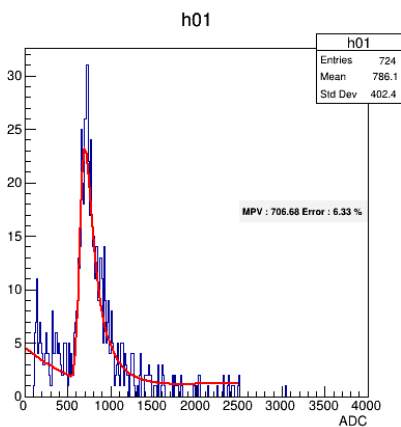
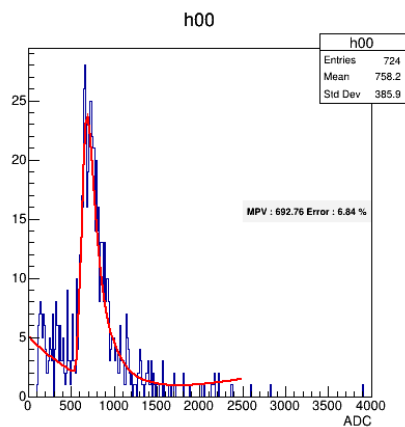
Calibration

- #549: BAR 17~20



Calibration

- #551: BAR 21~24



Calibration

- Voltage of data(#548,#549,#551)

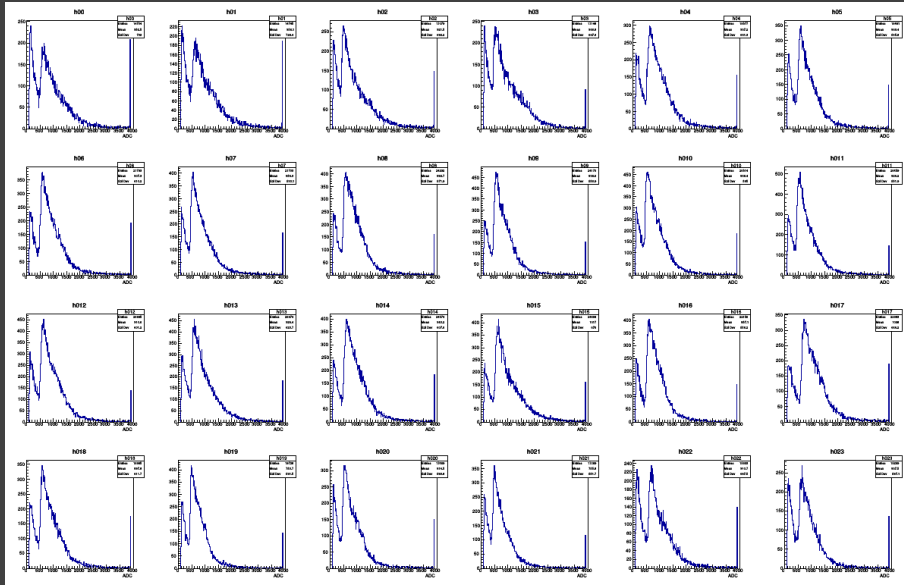
Bar Number	LEFT(V)	RIGHT(V)
13	1570	1540
14	1465	1570
15	1420	1400
16	1450	1420
17	1475	1505
18	1395	1470
19	1495	1470
20	1485	1620
21	1630	1560
22	1460	1440
23	1360	1505
24	1445	1465

Anti proton beam data analysis

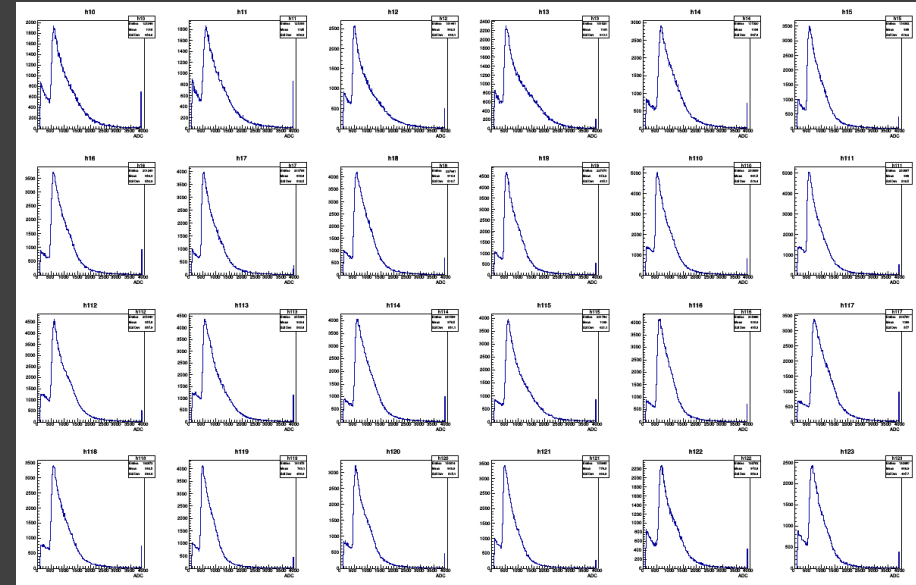
- Anti proton beam data : #460
 - Number of event: about 30000
- Cosmic ray data(no beam): #461
 - Number of event: about 280000
- Configuration files are same
 - MTHR: 12
 - THR: 100[ch]

Anti proton beam data analysis

- Height distribution of each channel(no cut)



#460

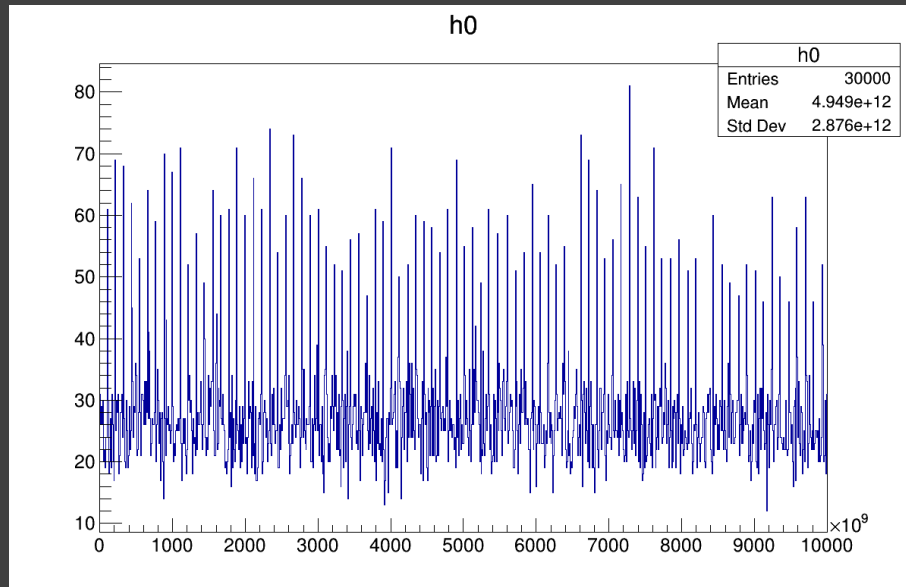


#461

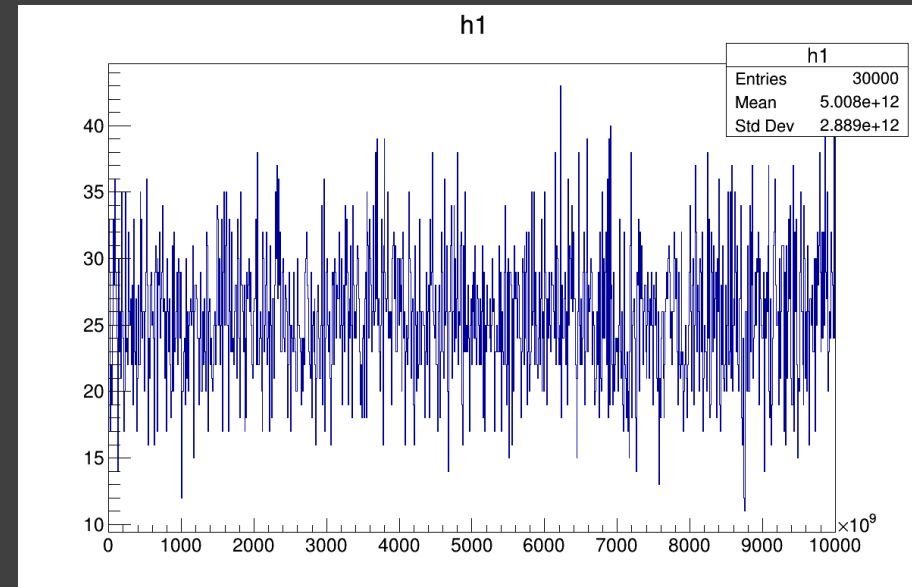
- Low peak of #460 is higher than #461

Anti proton beam data analysis

- Trigger time



#460

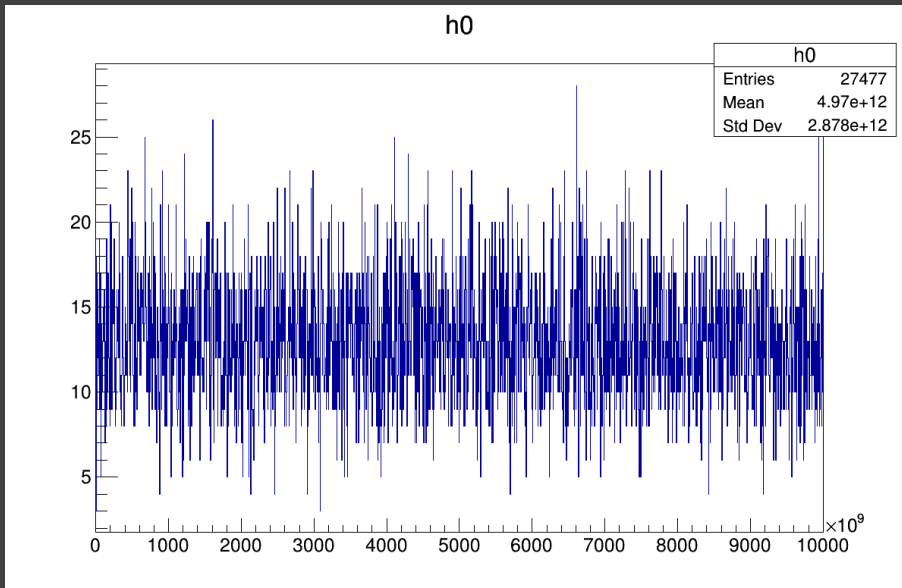


#461

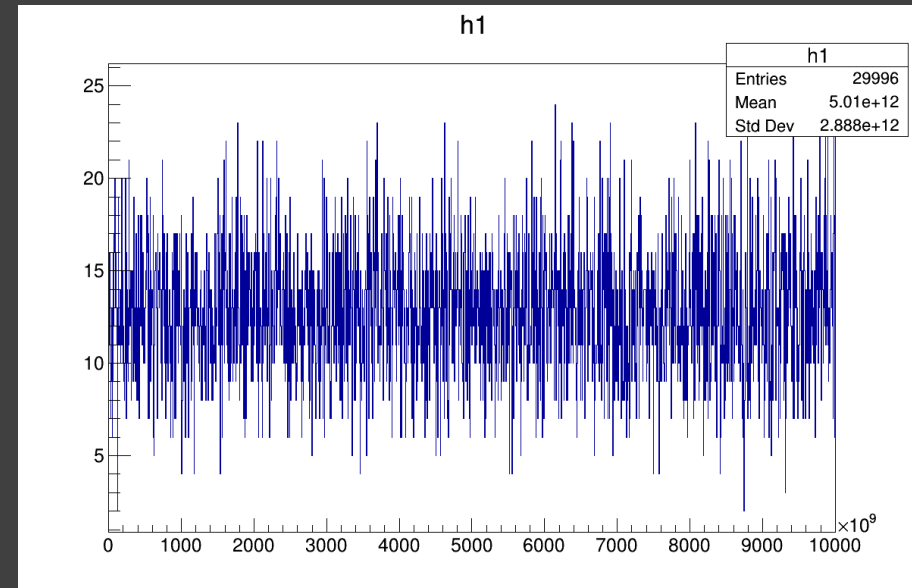
- AD ejection in #460

Anti proton beam data analysis

- Trigger time Cut(AD ejection cut)



#460

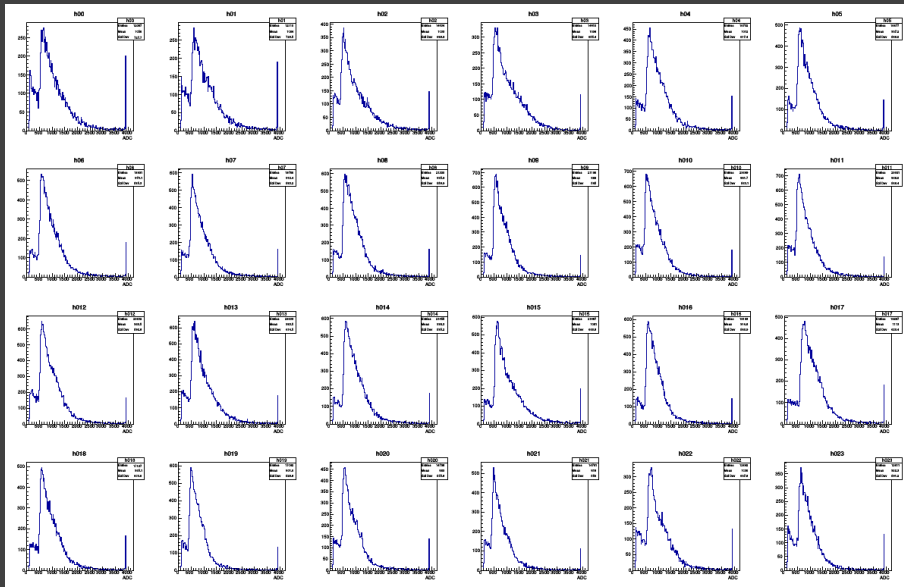


#461

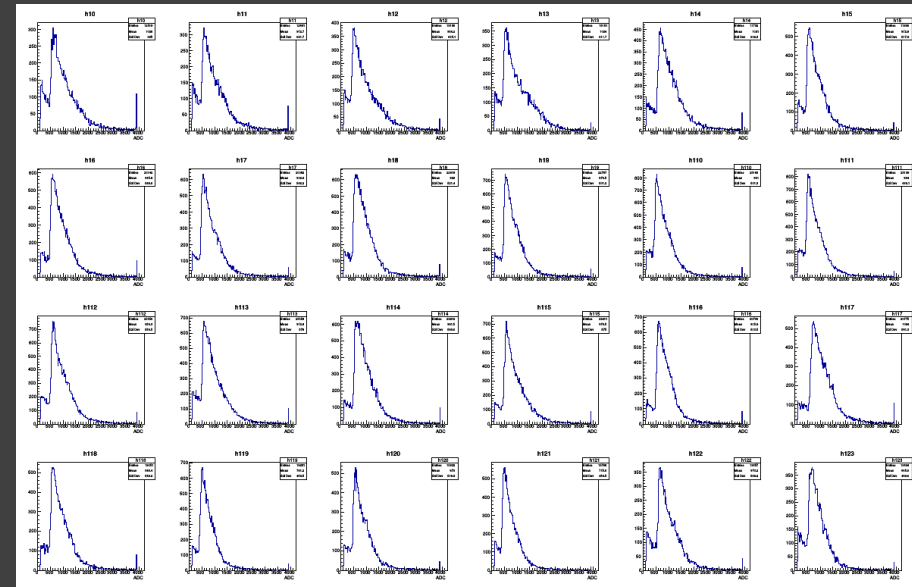
- More than 10 events per second -> CUT!
- Regular interval of AD ejection(about 111sec)

Anti proton beam data analysis

- Height distribution(AD ejection cut)



#460

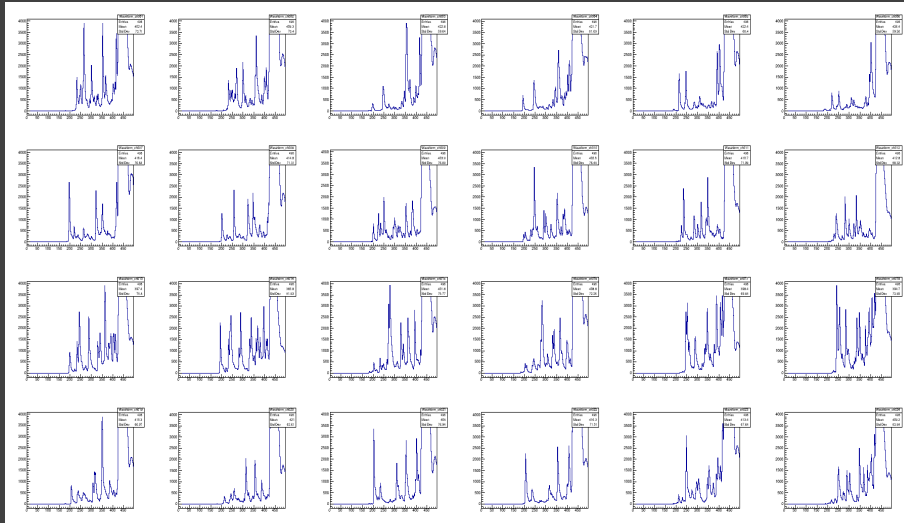


#461

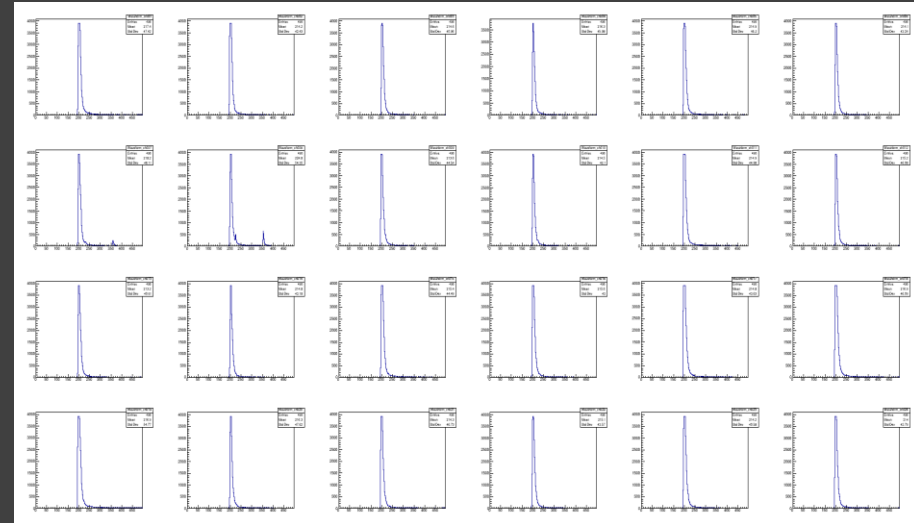
- Low peaks are similar
- Saturated events in #460 are more than twice #461 → Anti-proton beam event

Anti proton beam data analysis

- Waveform(Case of all channel saturated)



#460(event number: 8043)

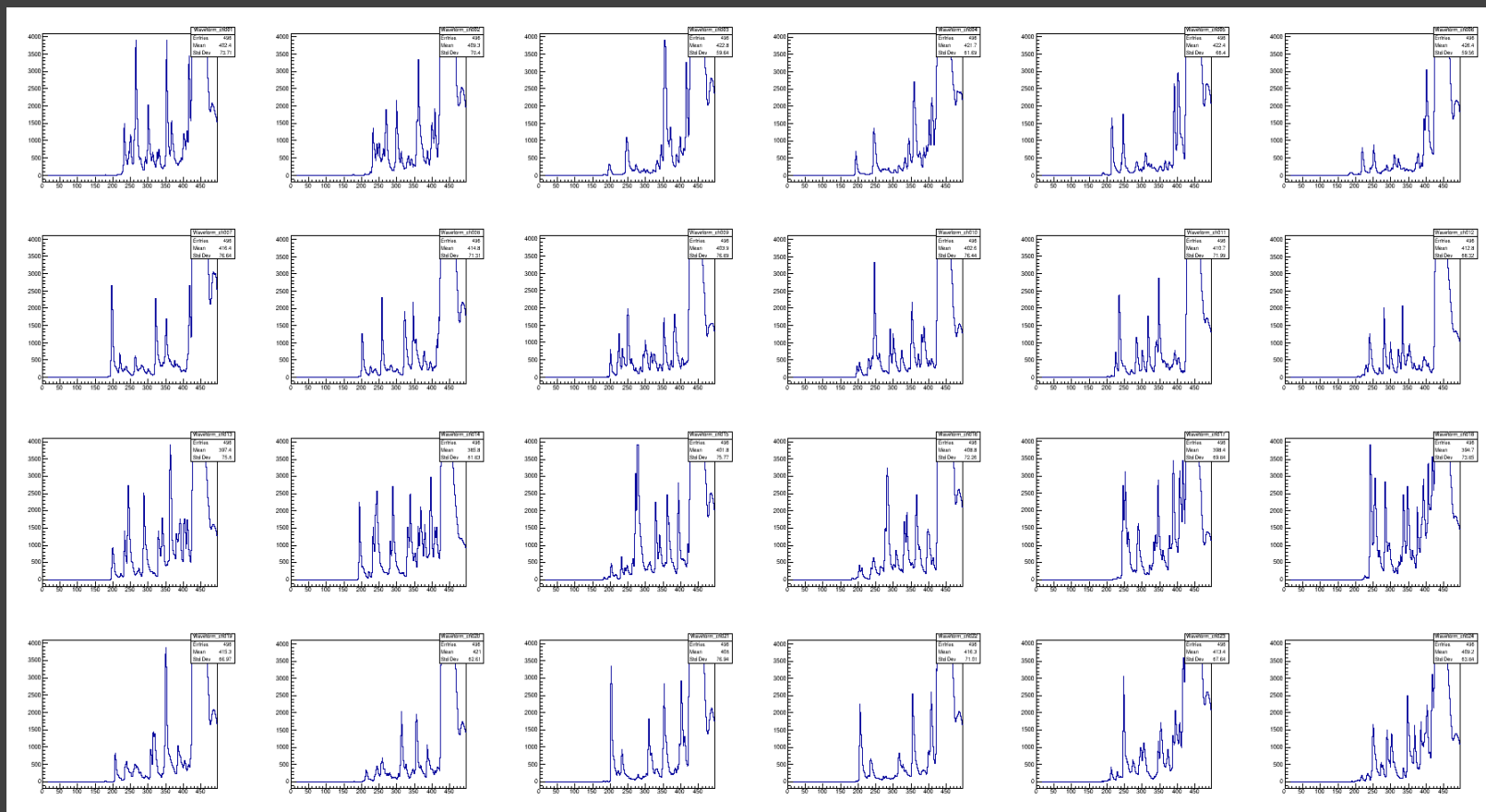


#461(event number: 6945)

- The number of events all channel saturated in #460 : 127
- The number of events all channel saturated in #461 : 17

Anti proton beam data analysis

- Waveform(Case of all channel saturated)



#460(event number: 8043)

To do list

- **Anti proton beam Analysis**
 - Considering wall position to take single anti proton
 - Acceptance
 - Condition of Configuration
- **FADC**
 - Firmware upgrade(1.2.0->1.3.0)
 - USB reading error
 - Threshold(100 [ch])
 - FADC numbering(15,16->11,12)
- **TOF wall**
 - Compare to gain between two wall
 - Gain stability