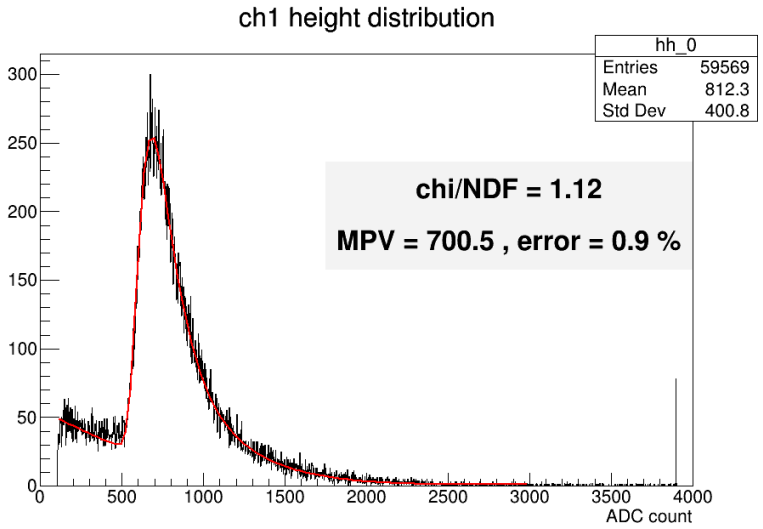
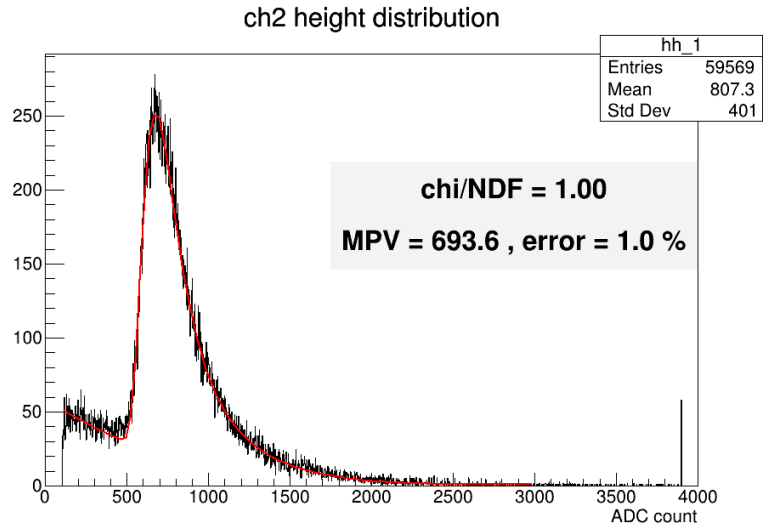
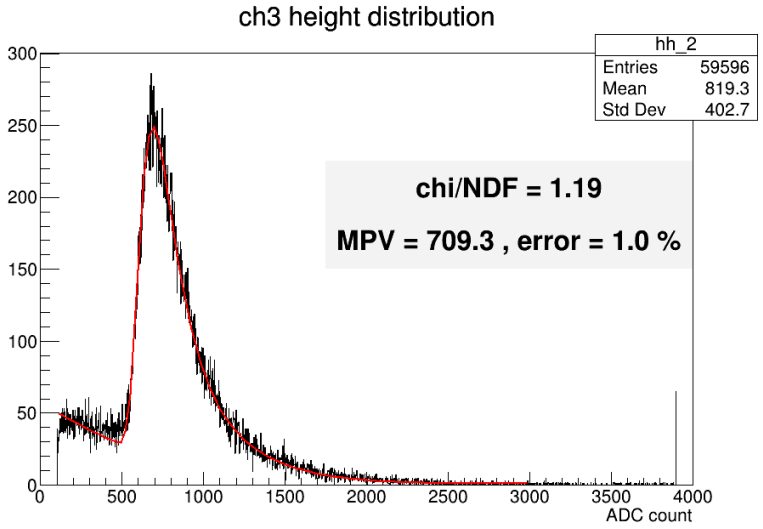
Gain Adjustment

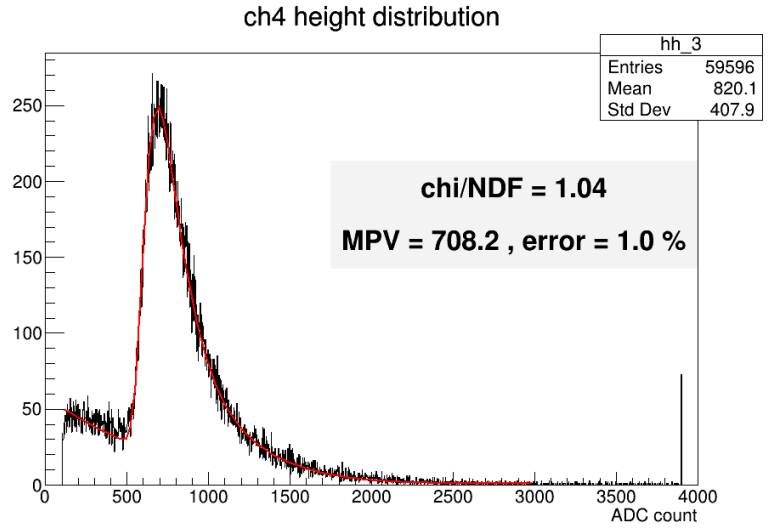
- Bar C L, R(above)
- Bar D L, R(below)
- MPV ~ 700ch
- Center cut
- Threshold 100ch

- HV = 1515, 1620
  1610, 1670



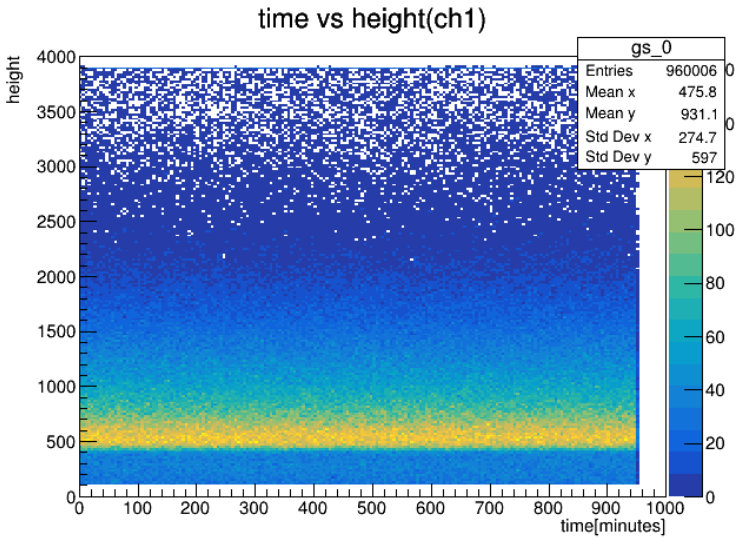


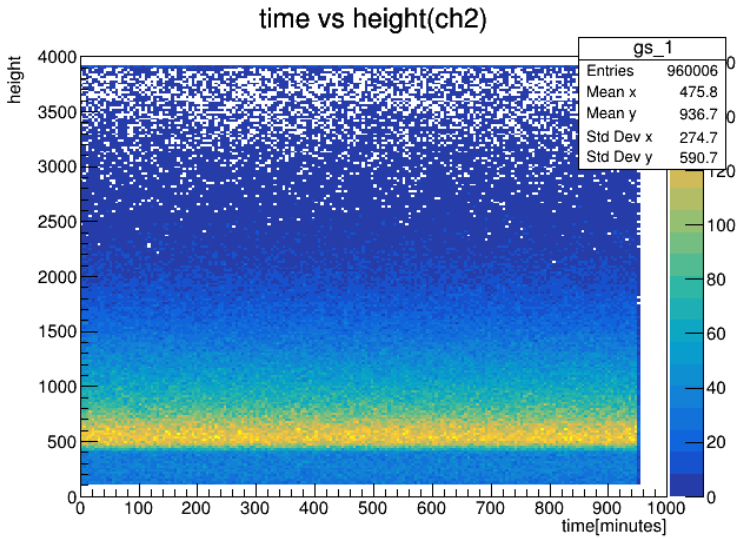


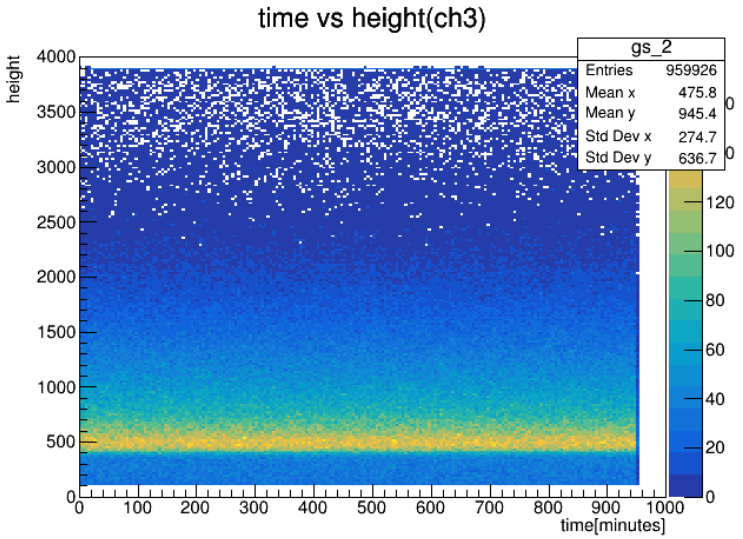


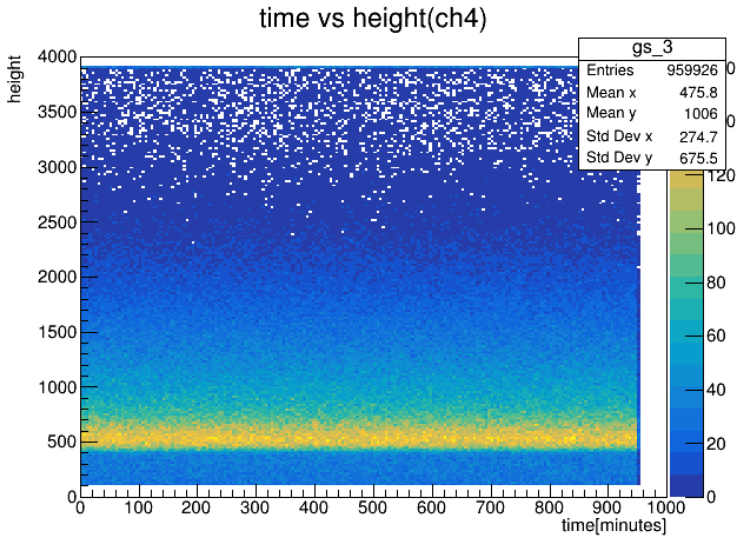
Gain Stability

- For about 15 hours
- Seems to be stable



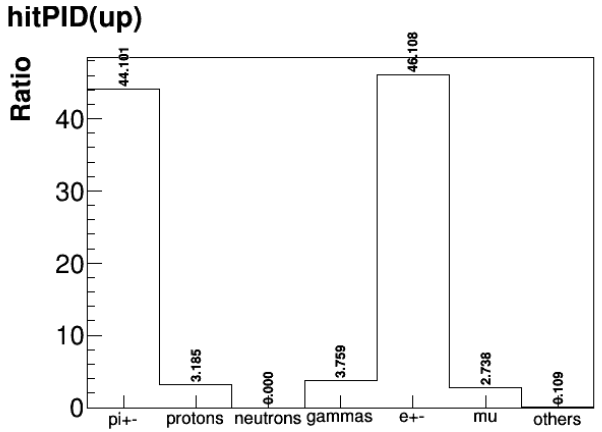


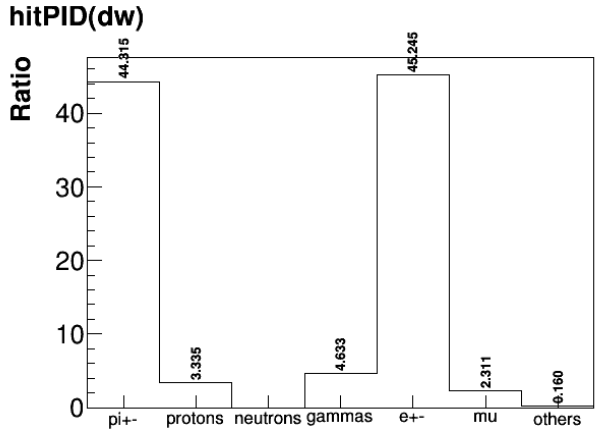


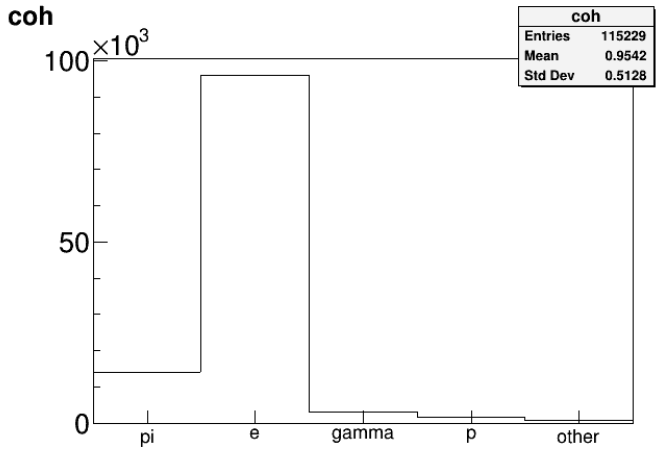


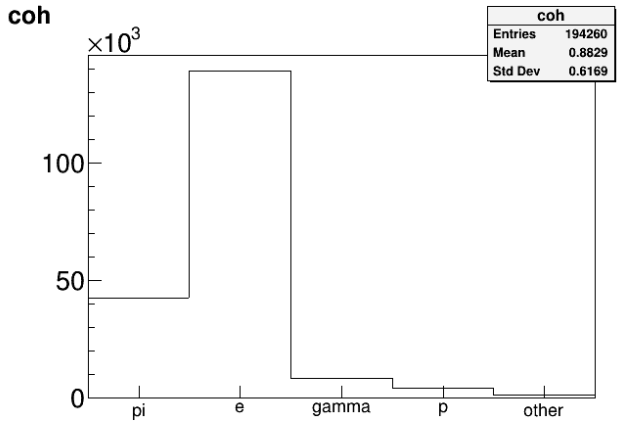
In the last lab meeting

- Both are threshold 5MeV
- PIDs for all hits(above) within a trigger and PIDs for the same bar hits(below) within a trigger



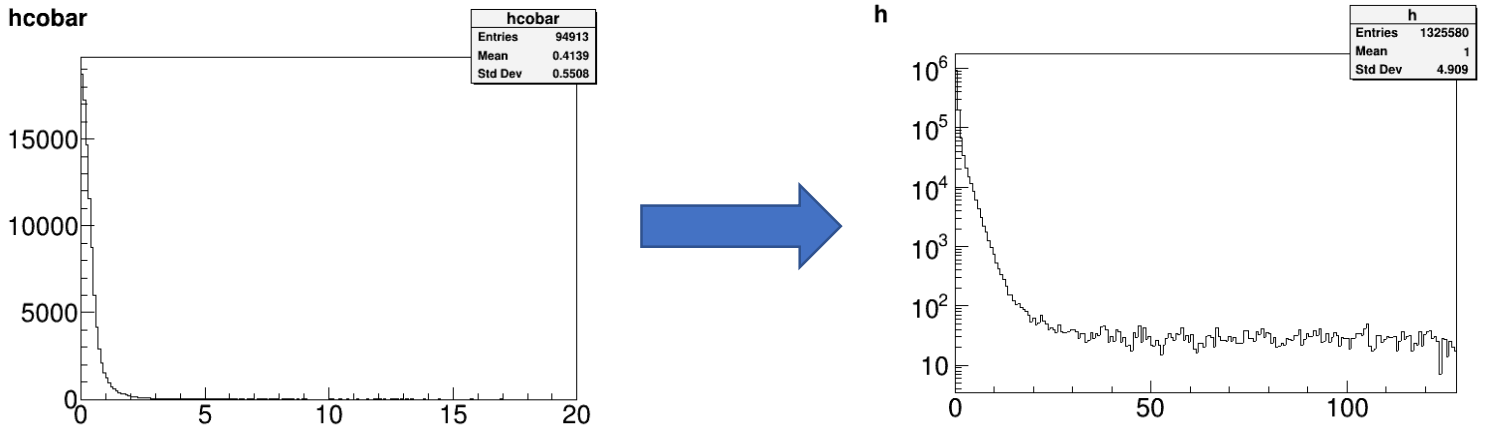






In the last lab meeting

- I have only considered the selected trigger to see the time difference between the same bar hits.
- Change the code to see every trigger.
- But pile-up is still dominant after the anticipation of the code.
- So, using the fastest hit with summed deposit energy in the same bar through a trigger seems to be still valid.



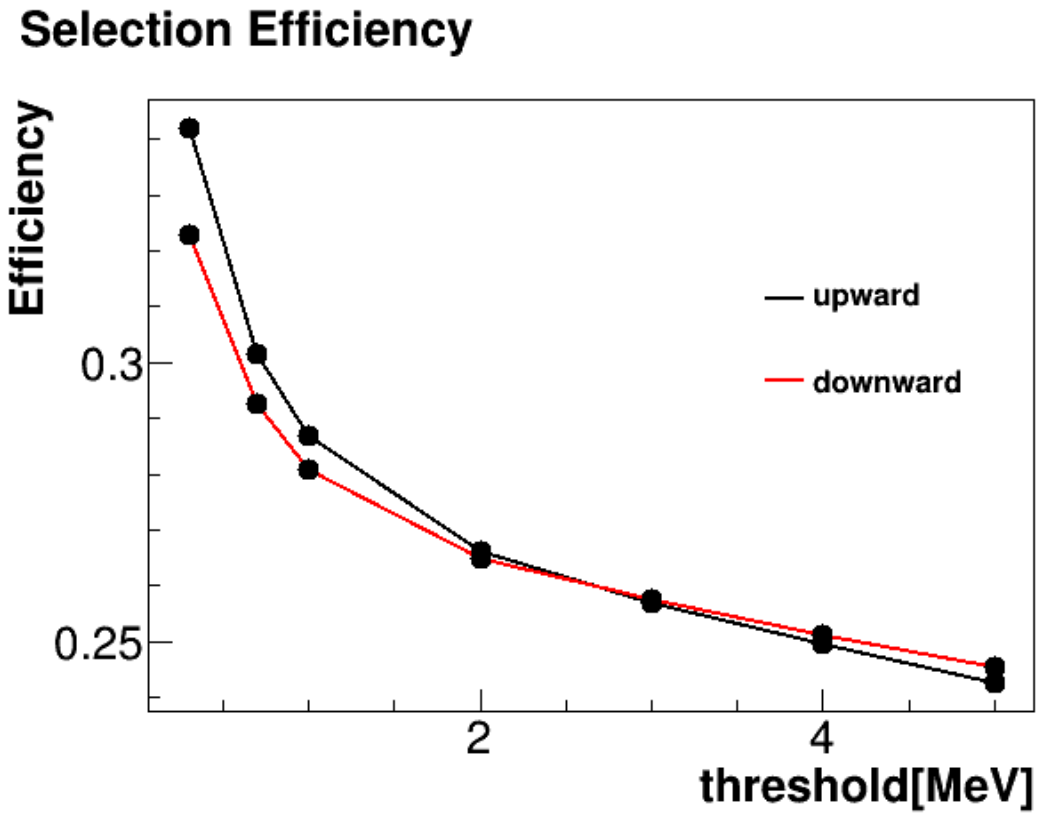
After Pile-up treatment

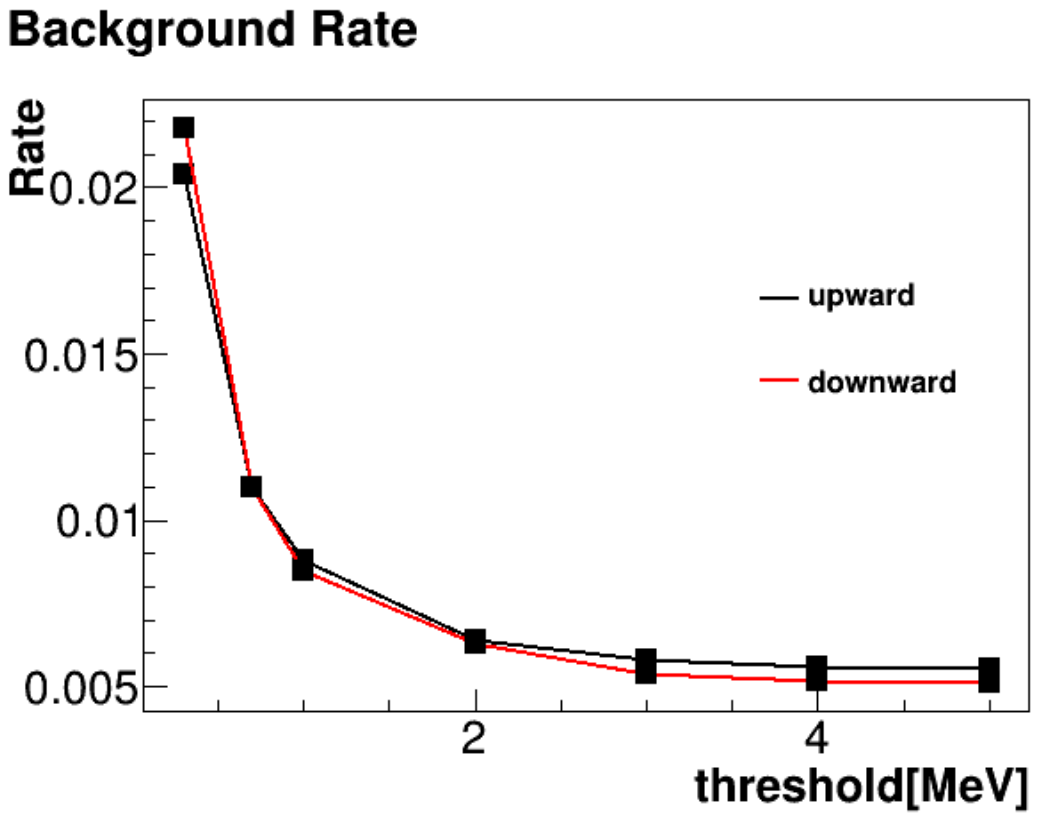
- In the last lab meeting, the only 3rd algorithm was introduced.
- With the 1st ,2nd and 3rd algorithms
- Threshold = 0.3 MeV

		1 S.E (B.R)	2	3
Before	Upward	0.381 (0.030)	0.346 (0.033)	0.337 (0.021)
	Downward	0.337 (0.037)	0.327 (0.036)	0.322 (0.022)
After	Upward	0.383 (0.030)	0.353 (0.032)	0.342 (0.020)
	Downward	0.334 (0.037)	0.330 (0.036)	0.323 (0.022)

Threshold dependence

- There is not much difference of dependence behavior before and after pile-up treatment.





Back up

- The word “event” means the annihilation of one antiproton event.
- If a hit occurs, a trigger is started.
- Selection efficiency =

  (# of event whose # of selected trigger is one)/(# of total event)
- Background rate = False trigger rate =

  (# of false trigger)/ (# of event whose # of selected trigger is one)

Back up

- 1) First, we select the triggers having Top-Bottom combination with two or more hits, which have at least one hit at Top and Bottom, each. Then, by checking the time difference between the earliest top hit and earliest bottom hit, we reject the trigger with a condition of $\Delta t = T_{bot} - T_{top} > 2$ ns according to the distributions of cosmic-rays.

- 2) This algorithm is almost same as 1) but checking that the time differences of all possible combinations of a top hit and a bottom hit are less than 2 ns. If one of them, at least, is more than 2 ns, that trigger is rejected.

- 3) This algorithm is almost same as 2) but select the trigger with more than two hits at first.