

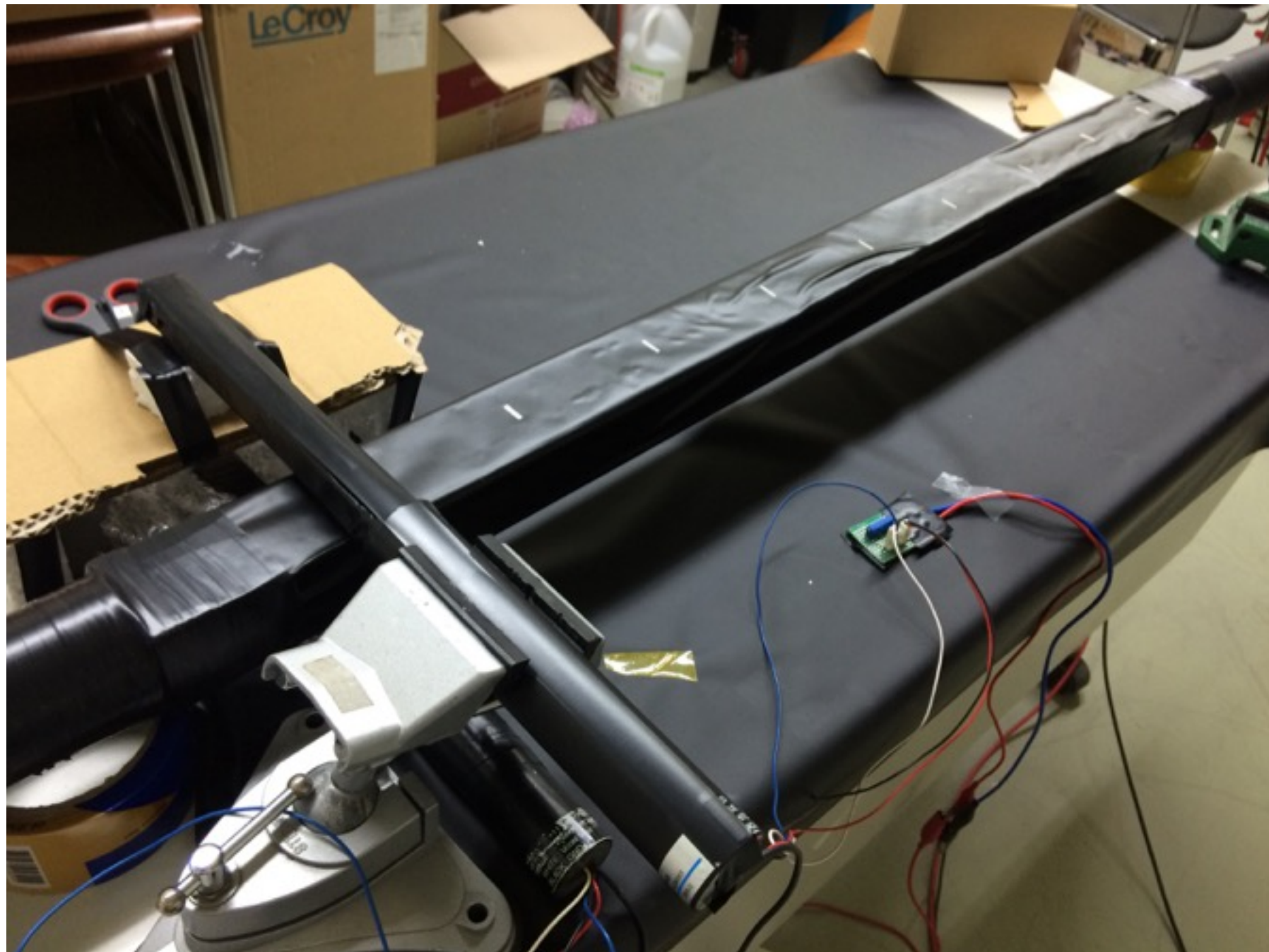
Lab Meeting (8 June 2016)

Jongwon Hwang

Test of the DAQ system with PWO scintillation crystal

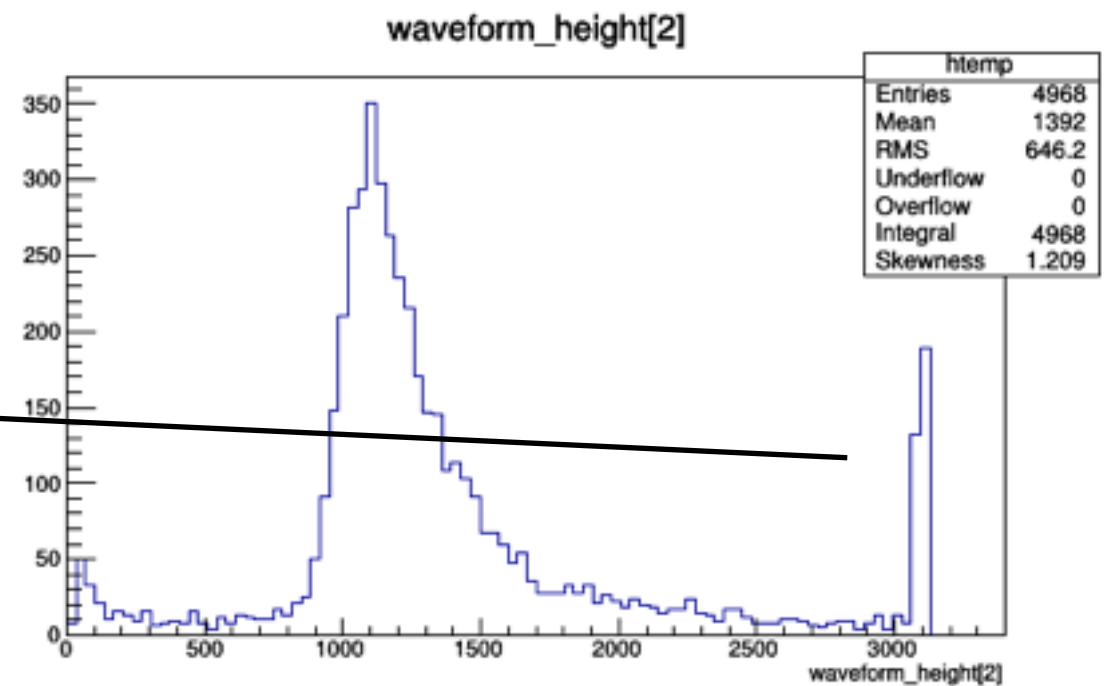
- Scintillation bar ($5 \times 5 \times 200 \text{ cm}^3$) with 2 PMTs
- Trigger
 - 2 PWO cubes ($2 \times 2 \times 2 \text{ cm}^3$) with a PMT ($\sim 15 \text{ May}$)
 - 2 PWO bars ($2 \times 2 \times 20 \text{ cm}^3$) with a PMT ($26 \text{ May} \sim$)
- Setup: Triggers locates above and below the bar.
- DAQ: FADC500-IBS (Ch 1, 2 (trig.) / 3, 4 (bar)) (4-coin.)

Test of the DAQ system with PWO scintillation crystal



Raw data

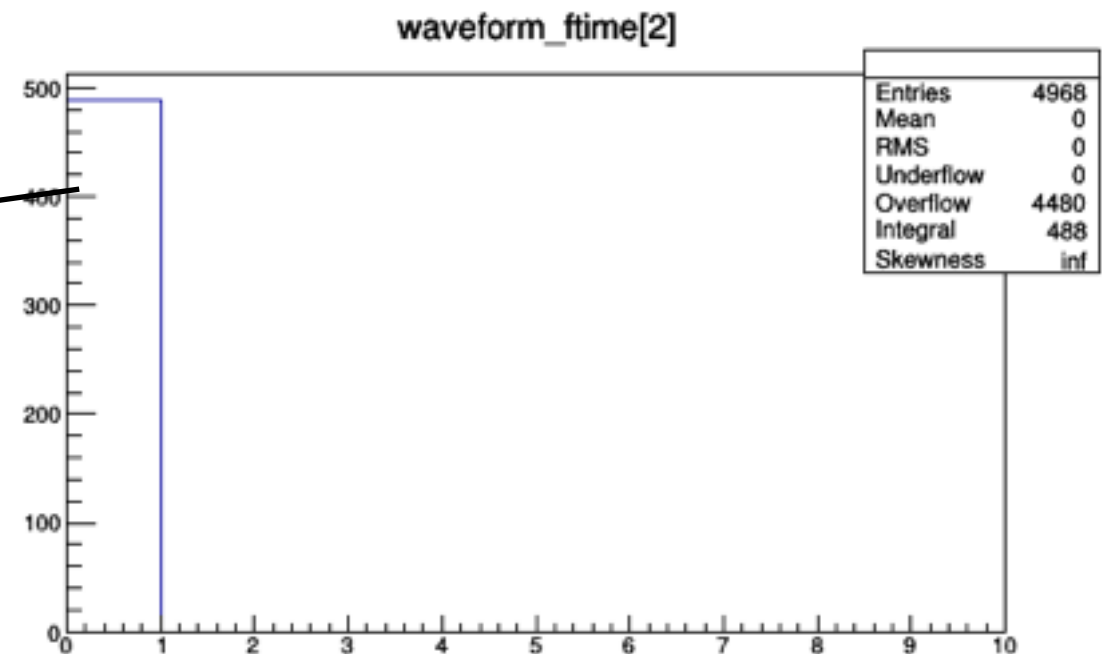
- ADC overflow peak (~ 3,100 [ch])



- 12 bit-ADC (4,096 channels)

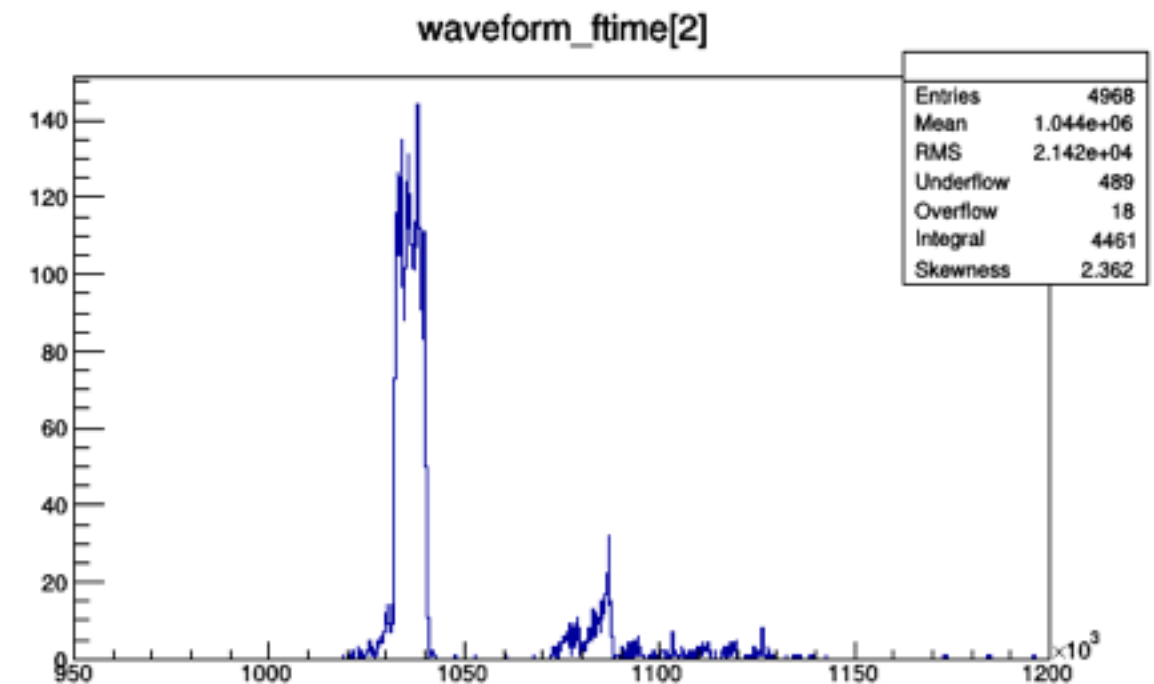
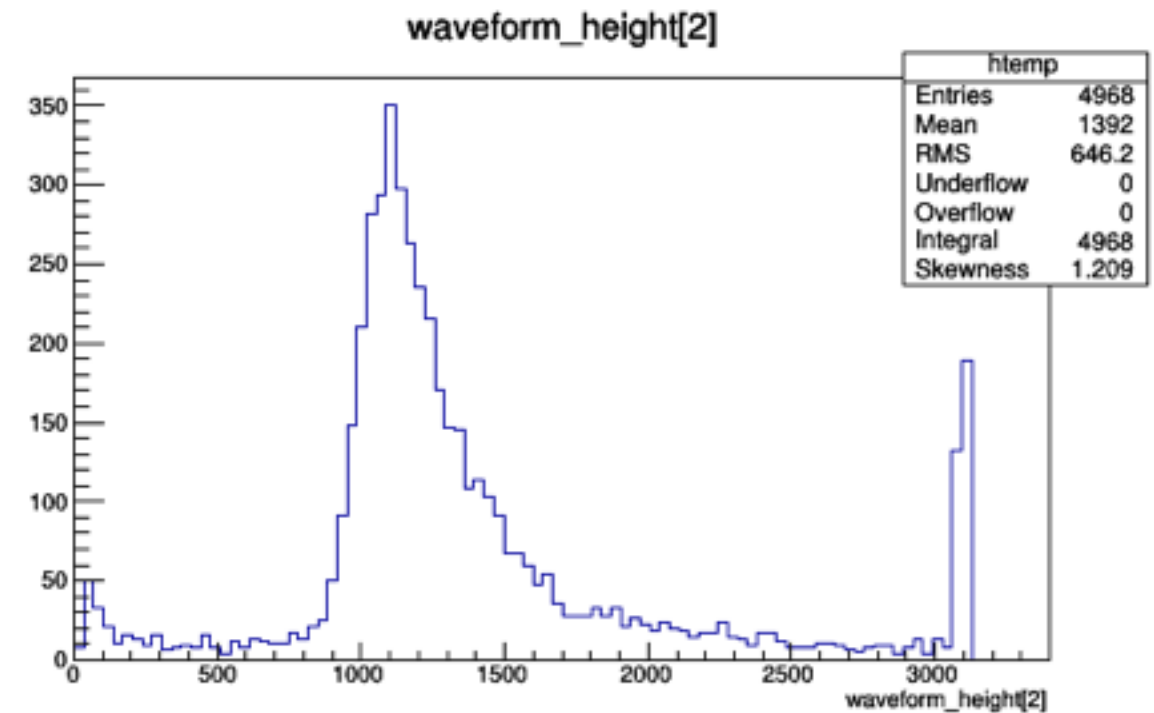
- Pedestal ~ 1,000 ch

- TDC zero peak

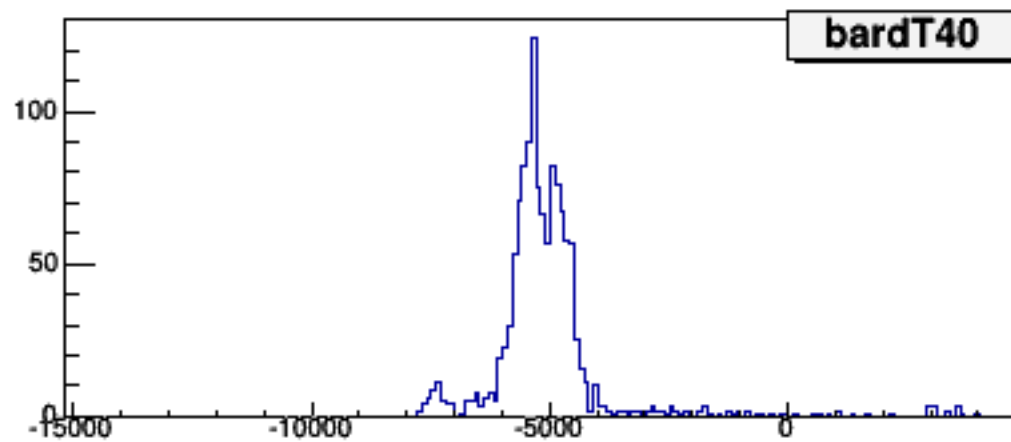
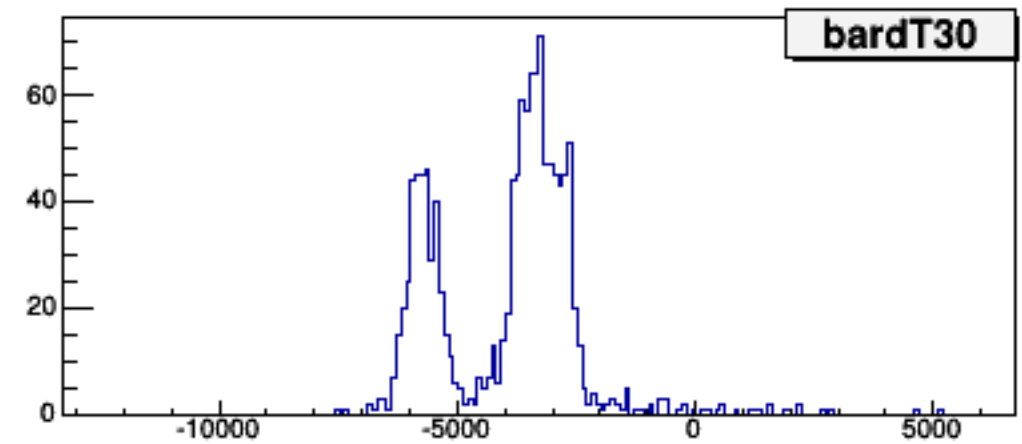
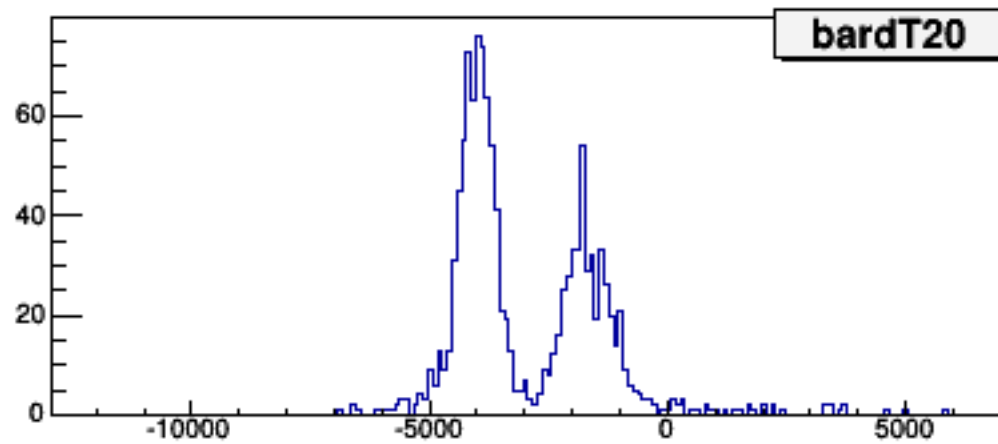
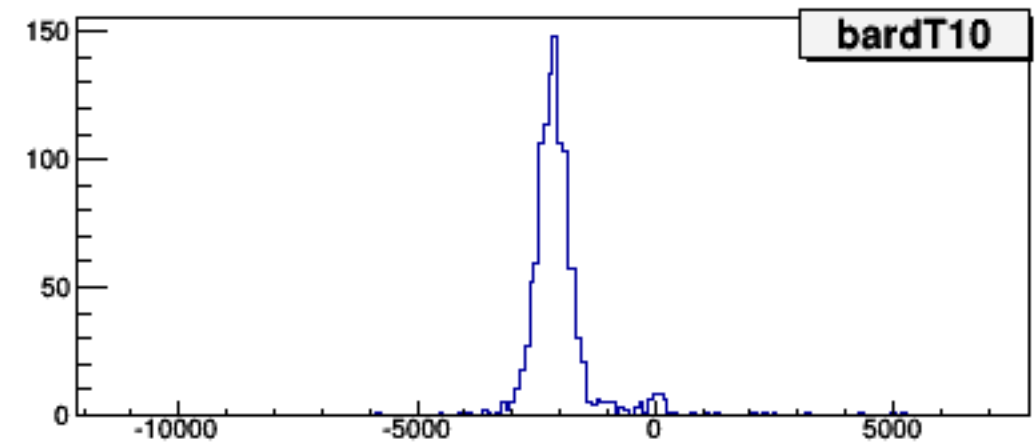
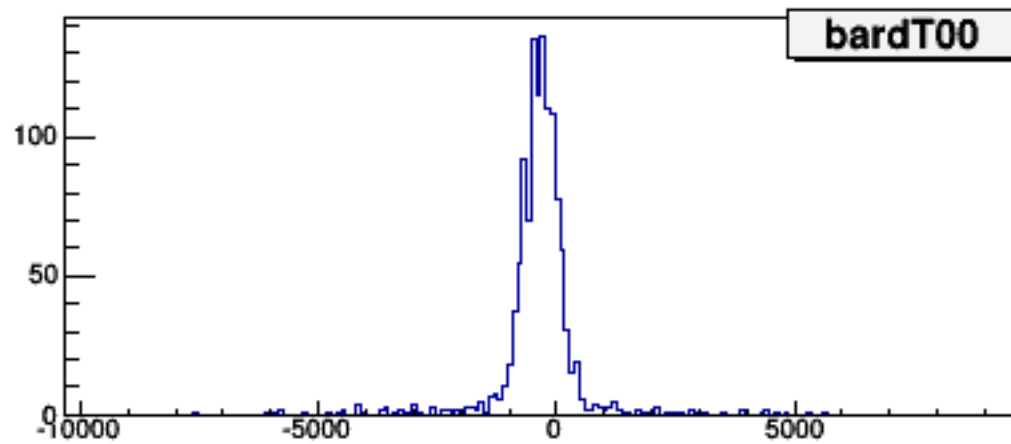


Cut

- TDC Cut: around main peak (about 1,000 ns ~ 1,050 ns)
- ADC Cut: around main peak (about x ch ~ x ch)
- for all channel (trig. & bar)



ΔT of bar



Double peaks?

GEANT4 simulation

- Got the code from Dr. Kim.
- Succeeded to compile.
- Failed to run. (Segmentation fault)
 - Might be a memory-related problem.