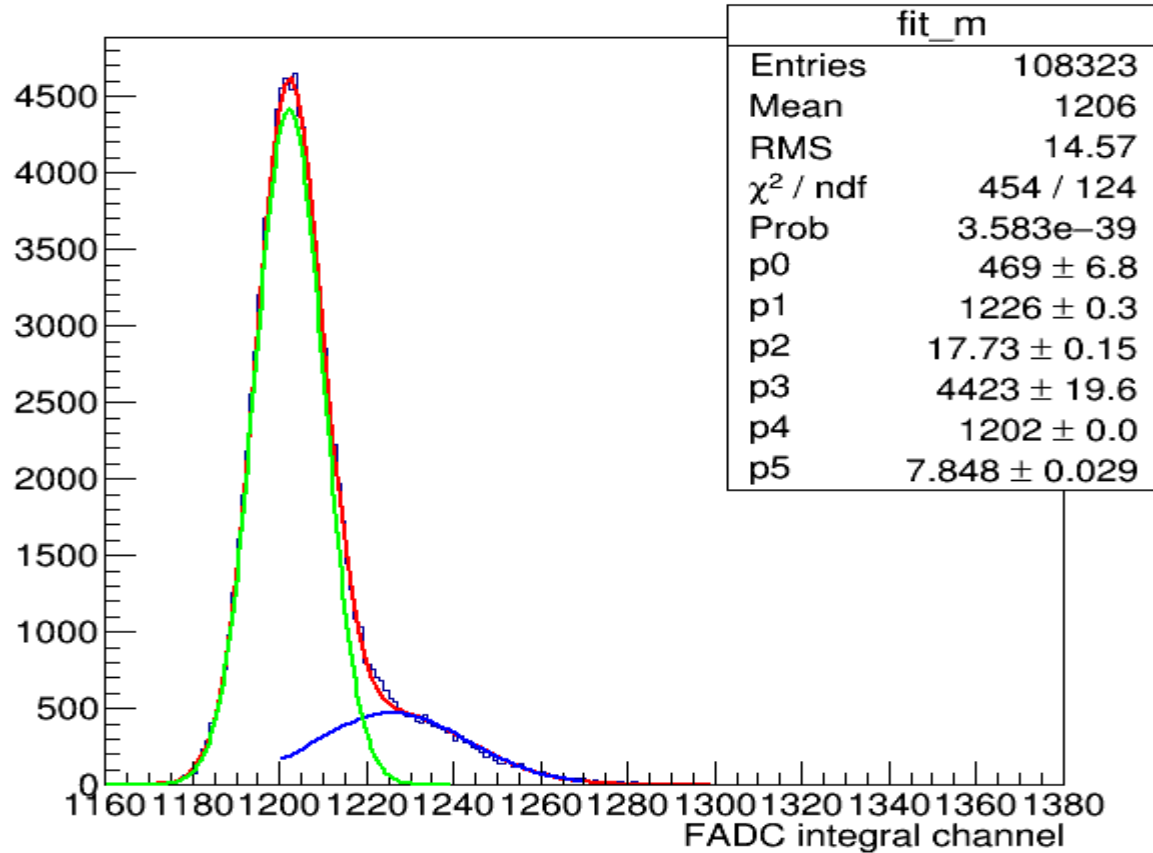


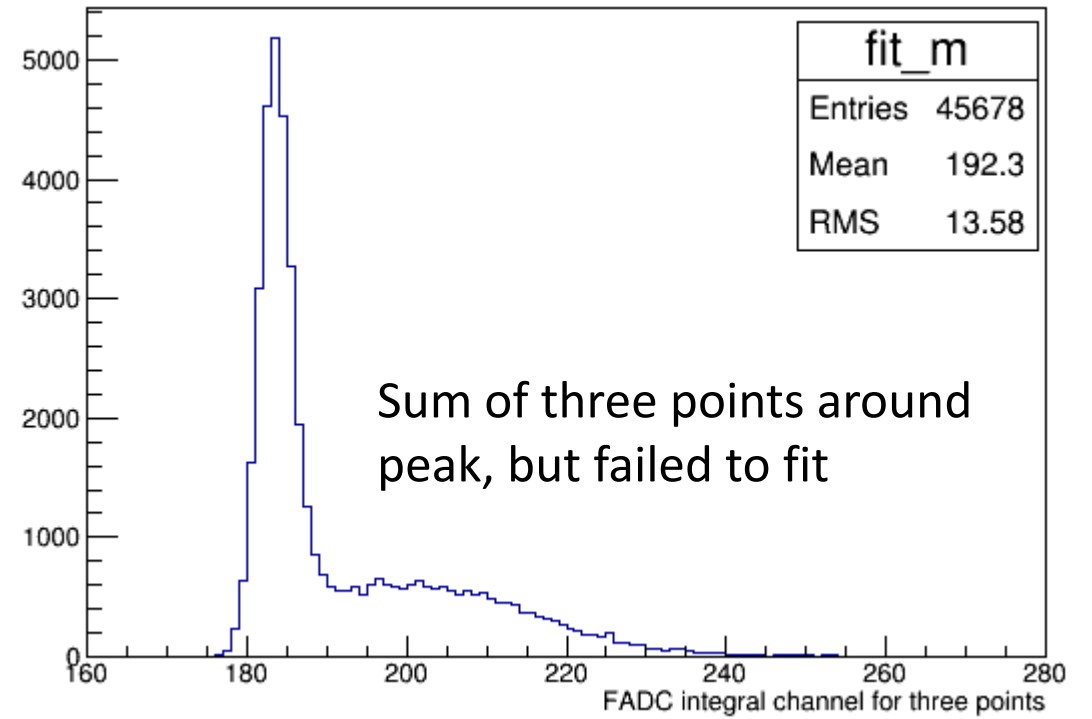
Outline

- SPE test and SPE fit
- SPD analysis for June data(finished)
- Time resolution get worse problem (not real problem)
- JLab SPD cosmic test status

SPE fit

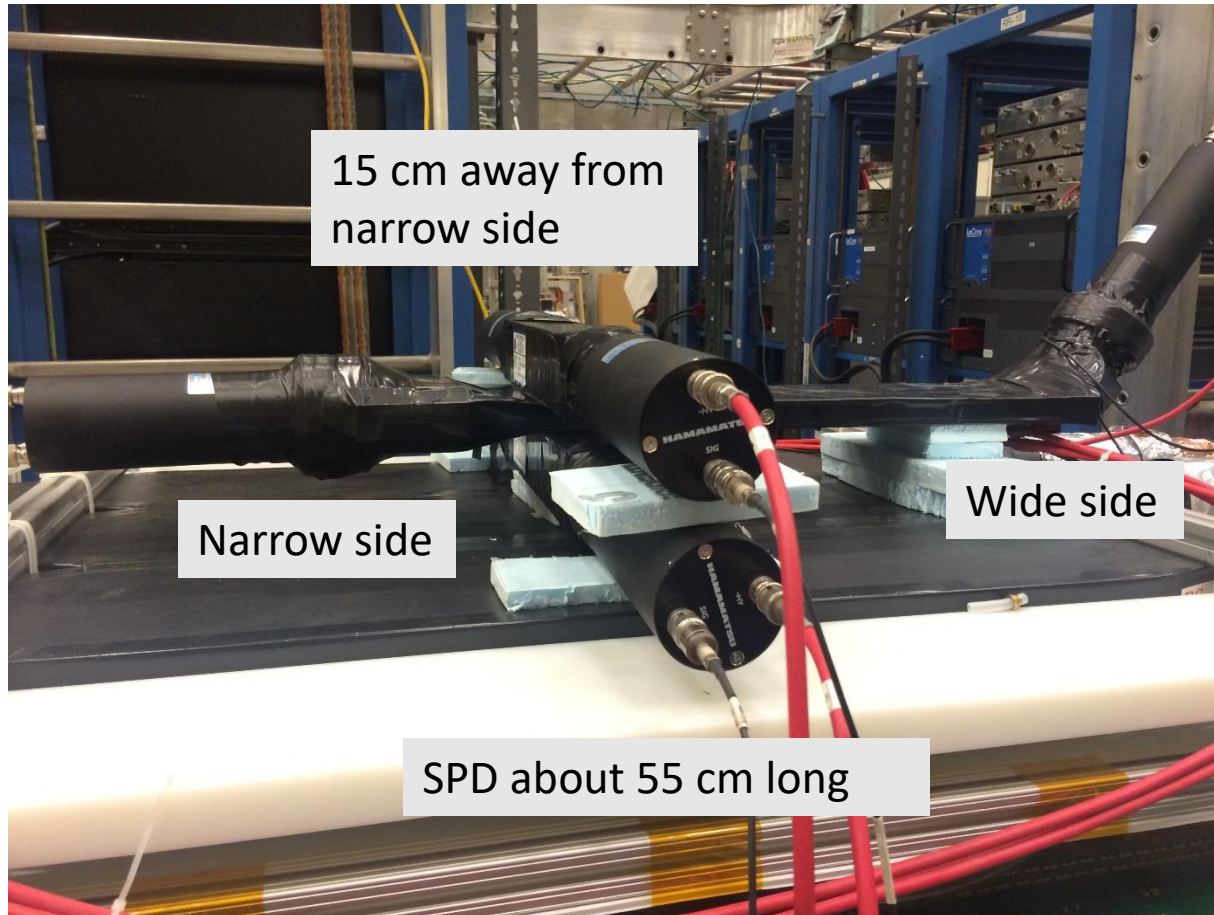


$$\text{Gain} = \frac{1V}{50\Omega * 4000(\text{bin})} * \frac{4ns}{e} * 24 = 3.125 * 10^6$$

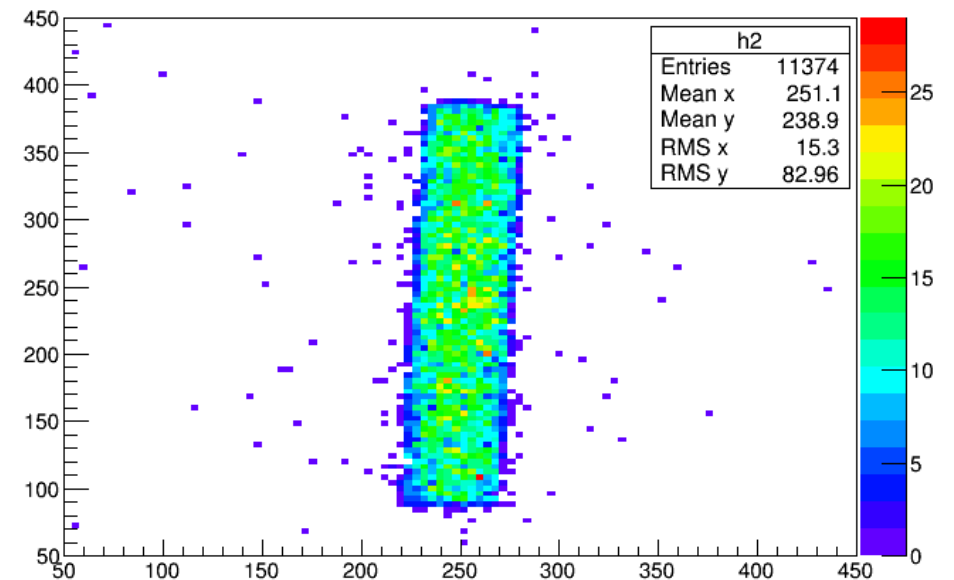


- Try to use lower range of FADC to get more accurate data.
- We will not test the gain of SPD PMT until we finish all the test, which would save time to obtain more data.

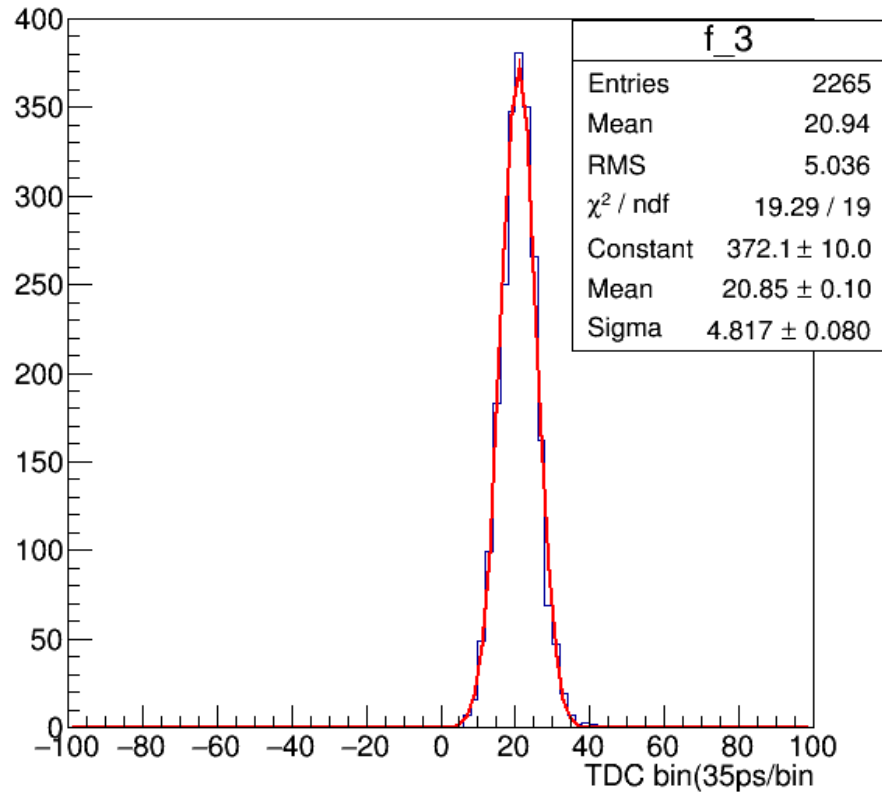
FASPD time resolution test in June



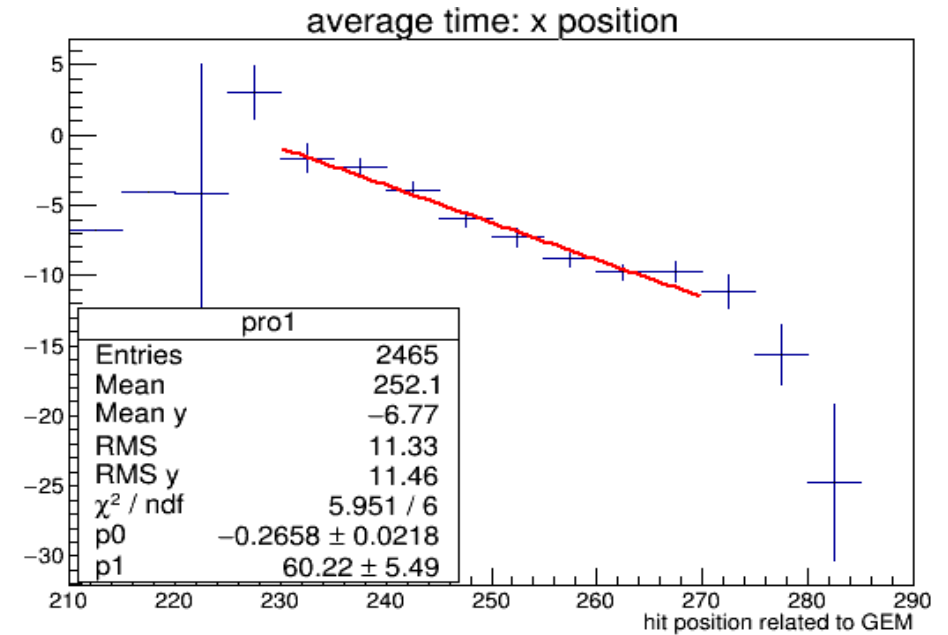
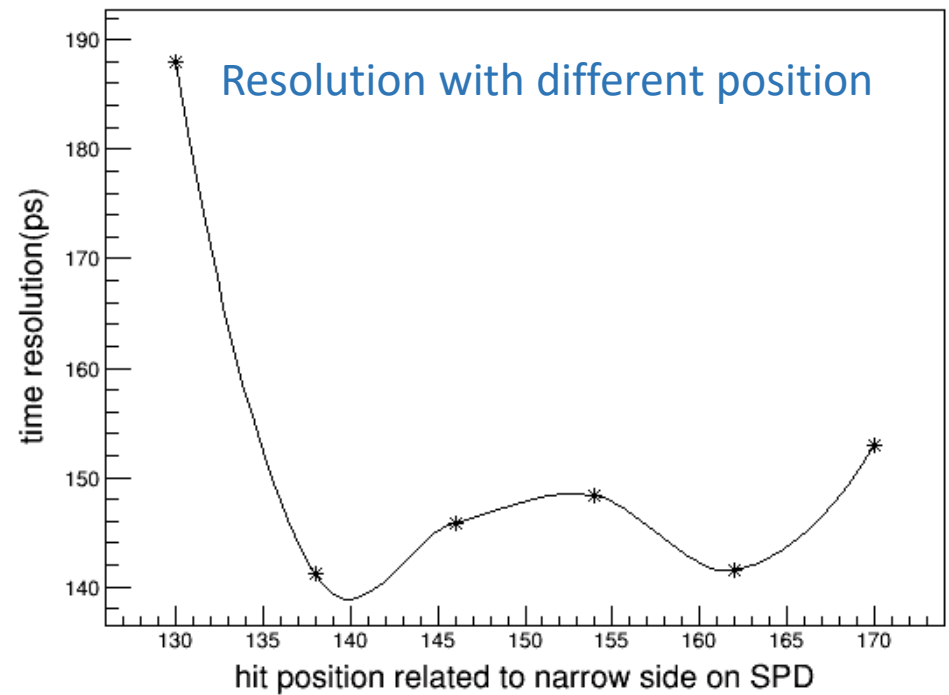
- Follow Xiaochao's suggestion to combine all position to one bin, not separated by different hit position in X axis



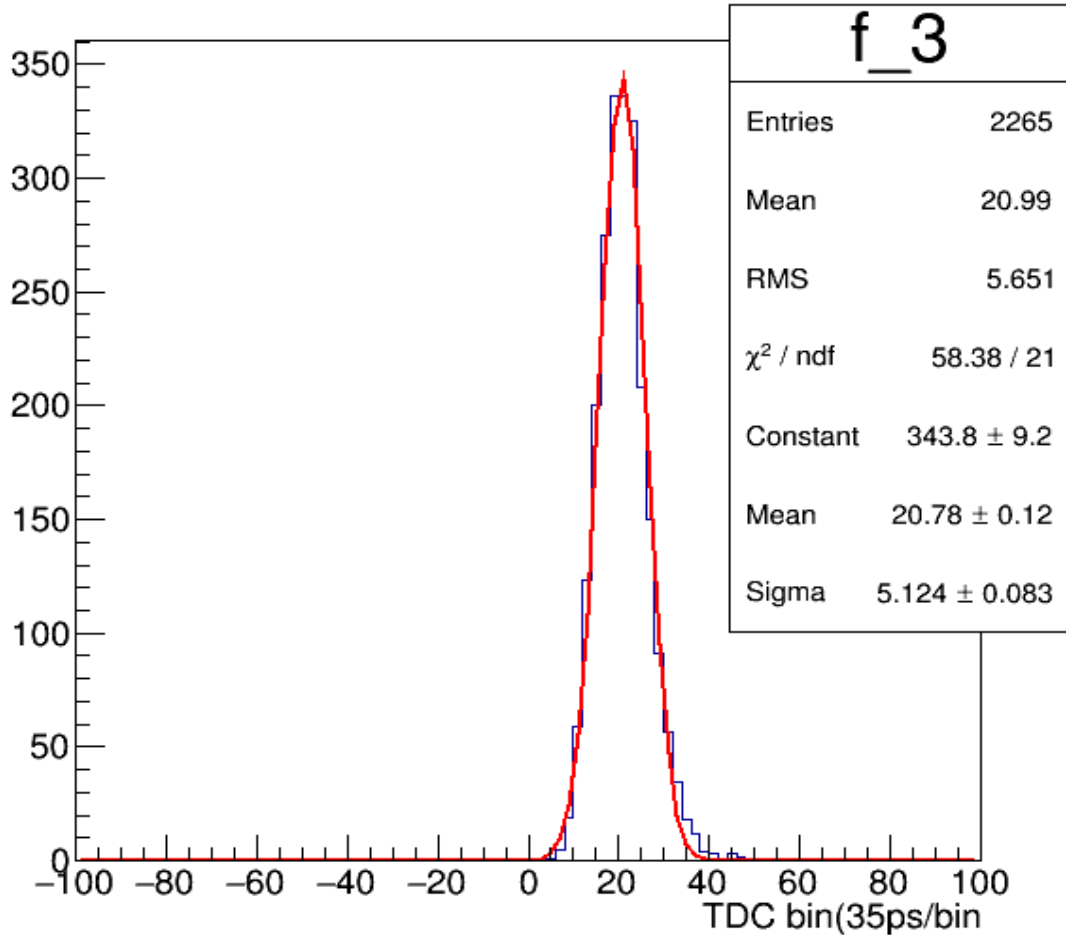
Readout from wide side PMT(far)



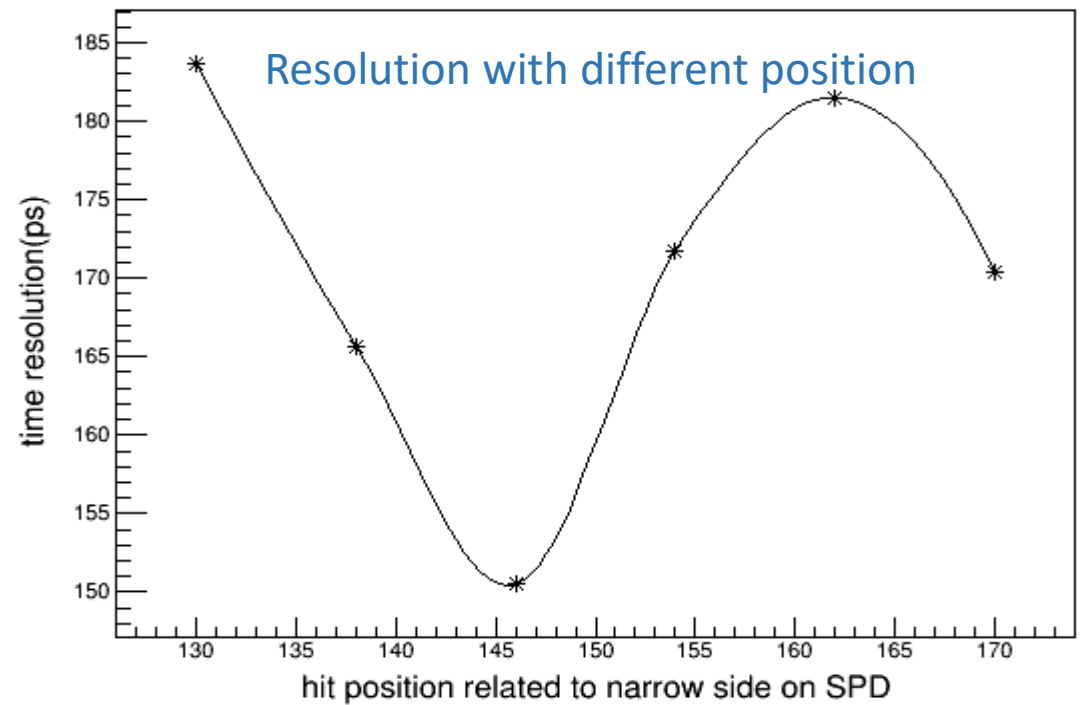
Resolution: $\sqrt{(4.81 * 35)^2 - 0.5 * 88^2} = 156 \text{ ps}$



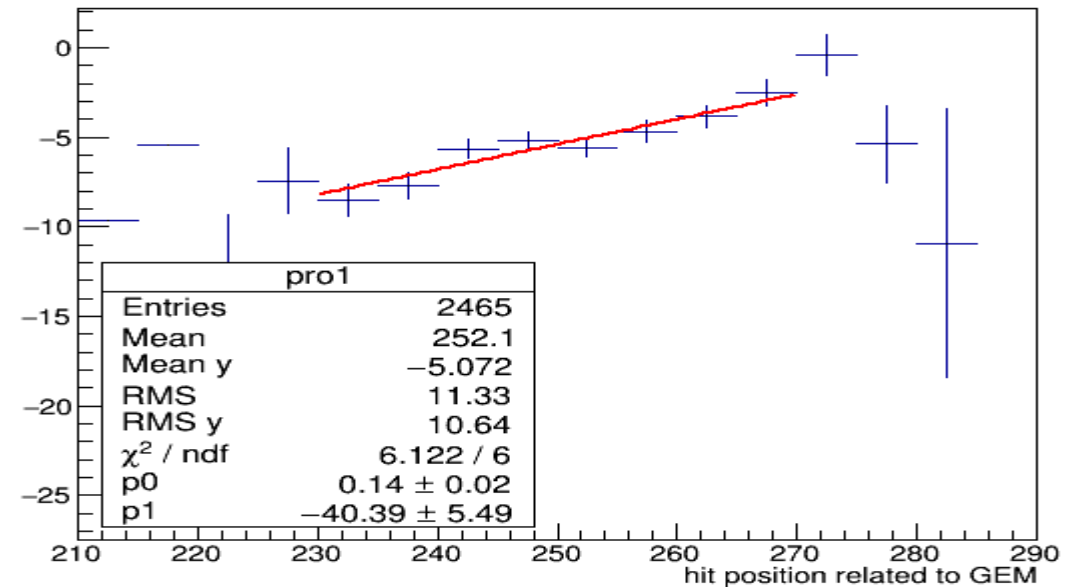
Readout from narrow side PMT(near)



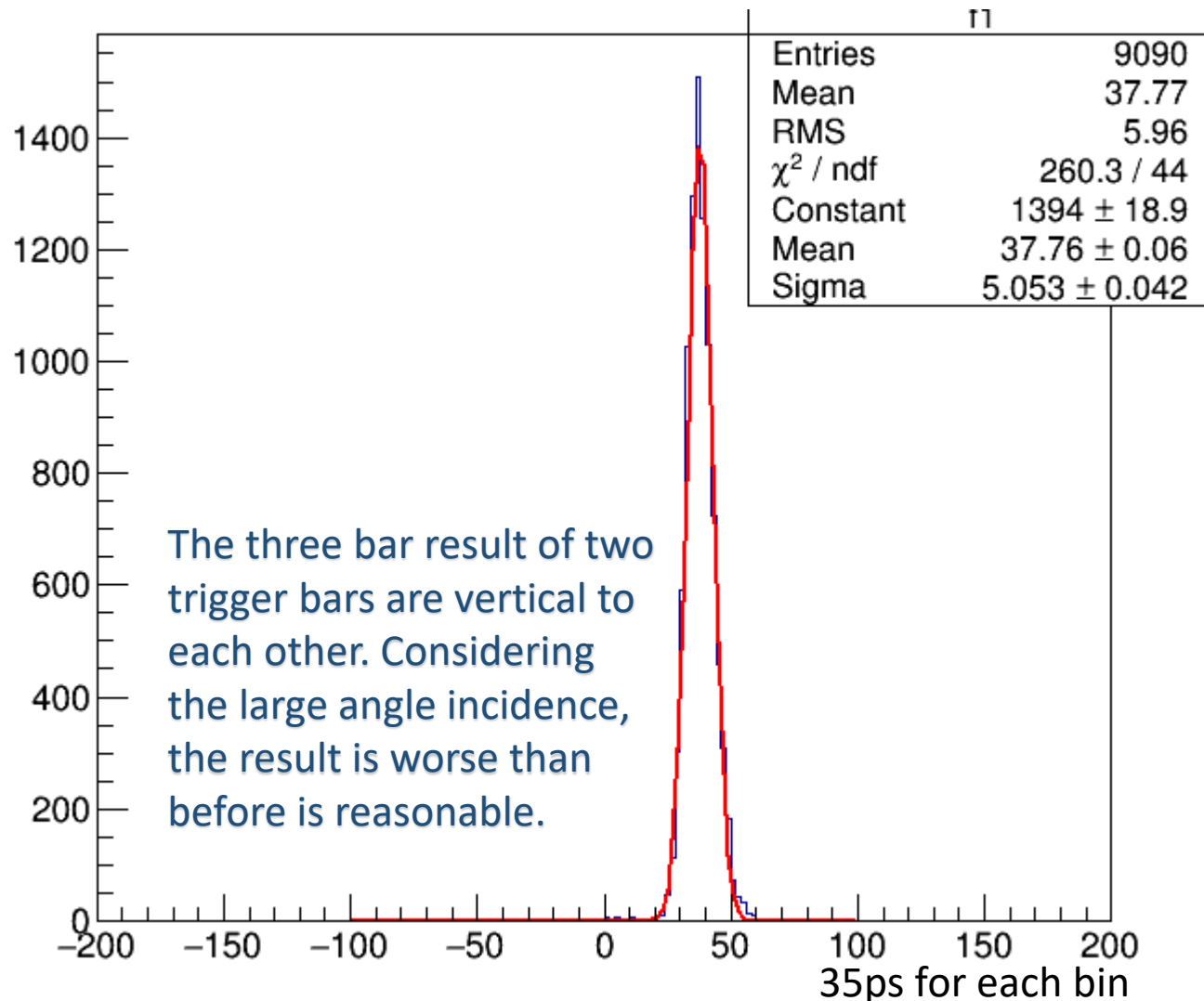
Resolution: $\sqrt{(5.12 * 35)^2 - 0.5 * 88^2} = 168 \text{ ps}$



average time: x position



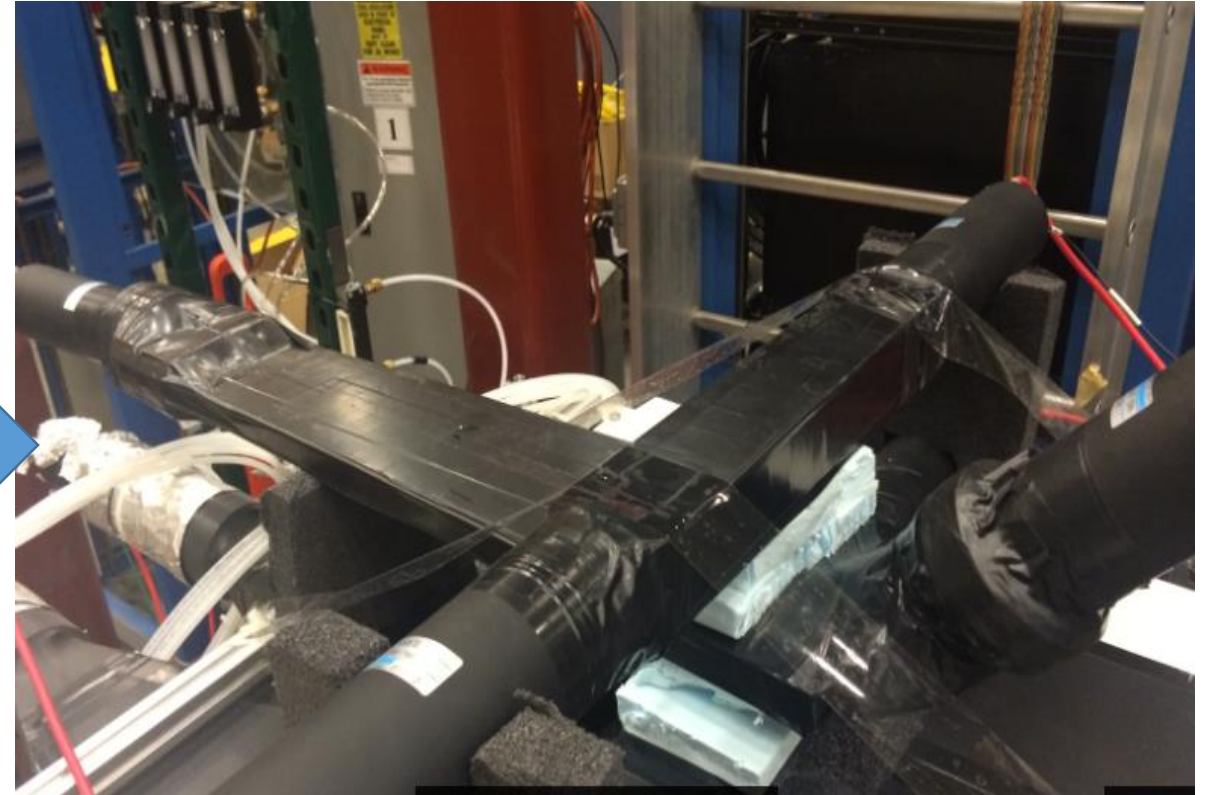
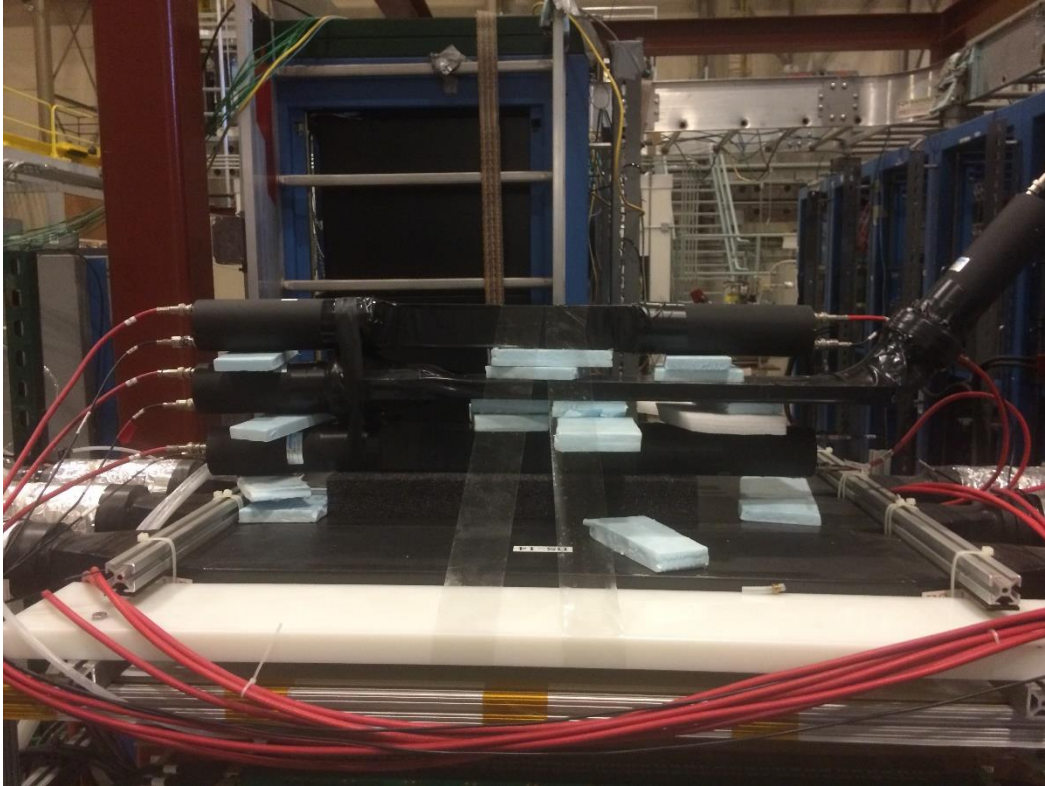
Time resolution get worse since new setting(not real)



Only have the data that trigger bar vertical SPD.

- The time resolution from three bar method get worse, sigma changed from 3bin to 5bin.
- Including both the tests of trigger bar is vertical and parallel.
- ~~The only difference is adding more channel(cross talk?) and add another logic module~~
- Need to check again

SPD cosmic test status



- The setting for last week, about one week data

- To cover the wide side of SPD, move the trigger bar to the wide side of SPD.
- Start to test from last Friday, some run only a part of events have GEM data. Still not find the reason.