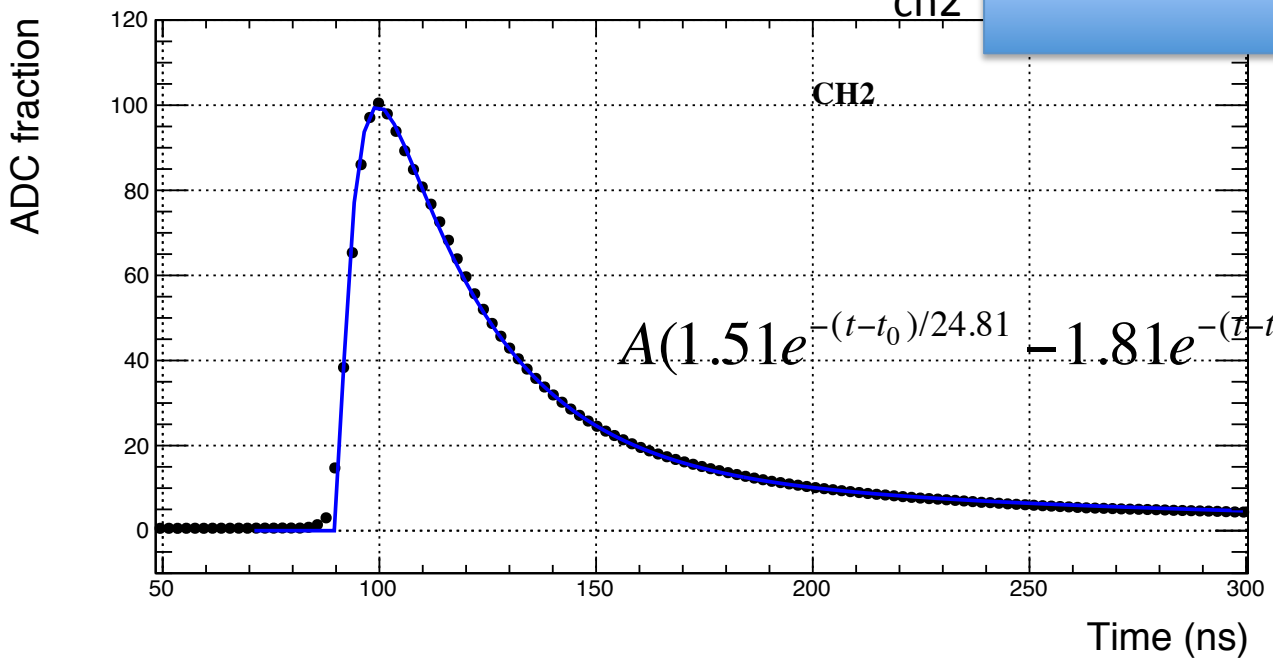
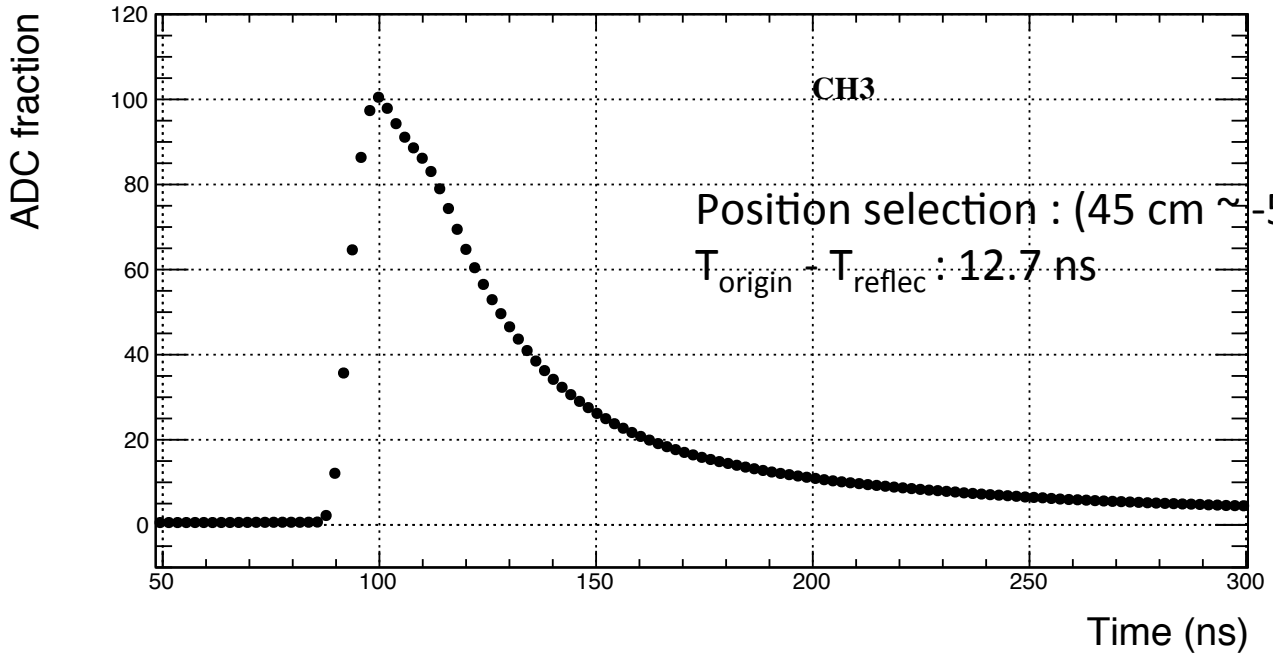
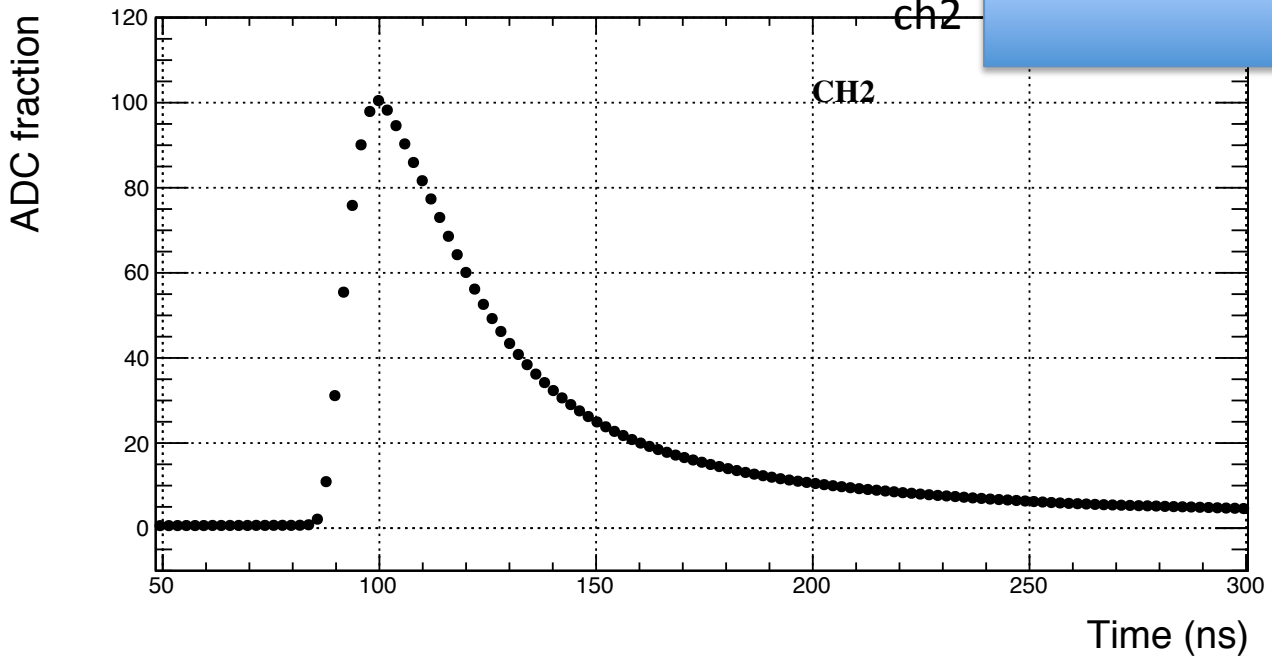

ch2
ch3

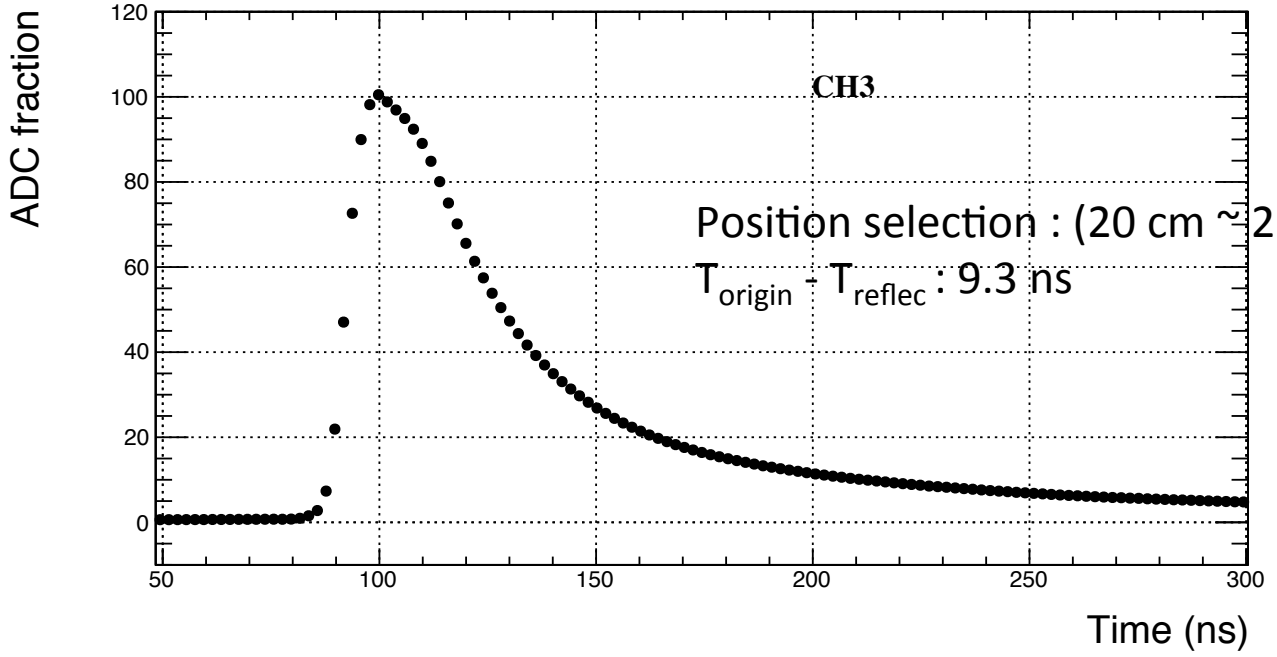
1m Detector


CH2
ADC fraction
Time (ns)
$A(1.51e^{-(t-t_0)/24.81} - 1.81e^{-(t-t_0)/4.154} + 0.159e^{-(t-t_0)/169})$


CH3
ADC fraction
Time (ns)
Position selection : (45 cm ~ -50 cm)
$T_{origin} - T_{reflec}$: 12.7 ns

1m Detector

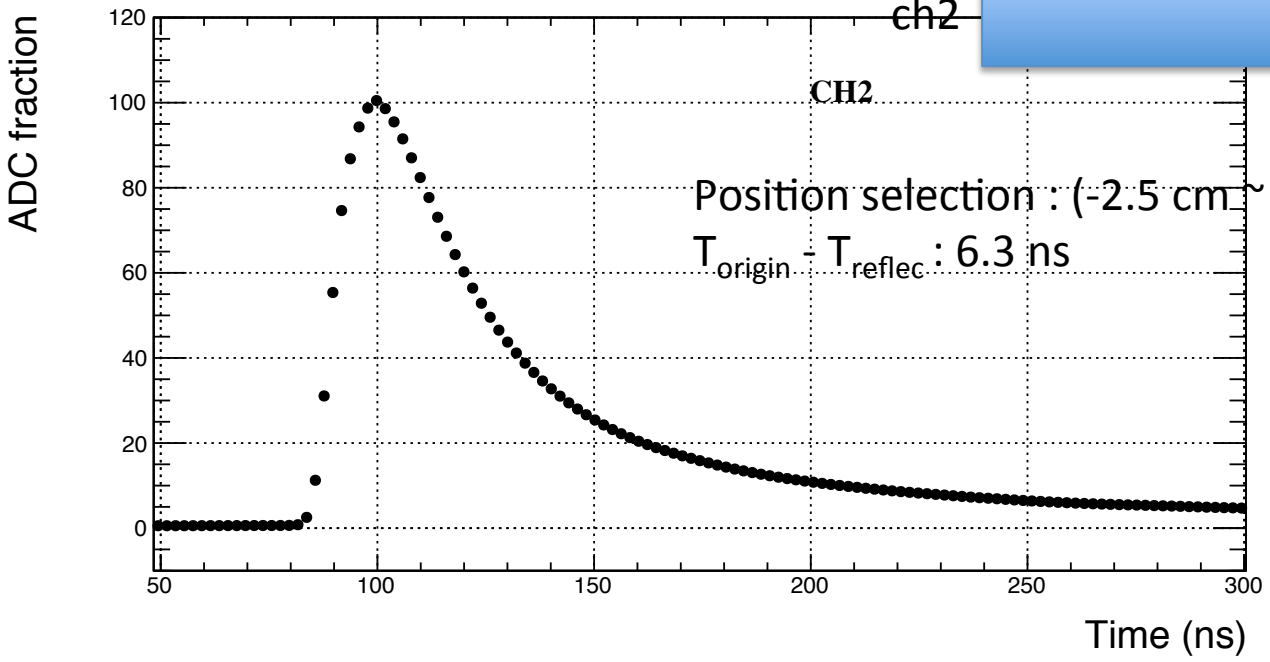




Position selection : (20 cm ~ 25 cm)

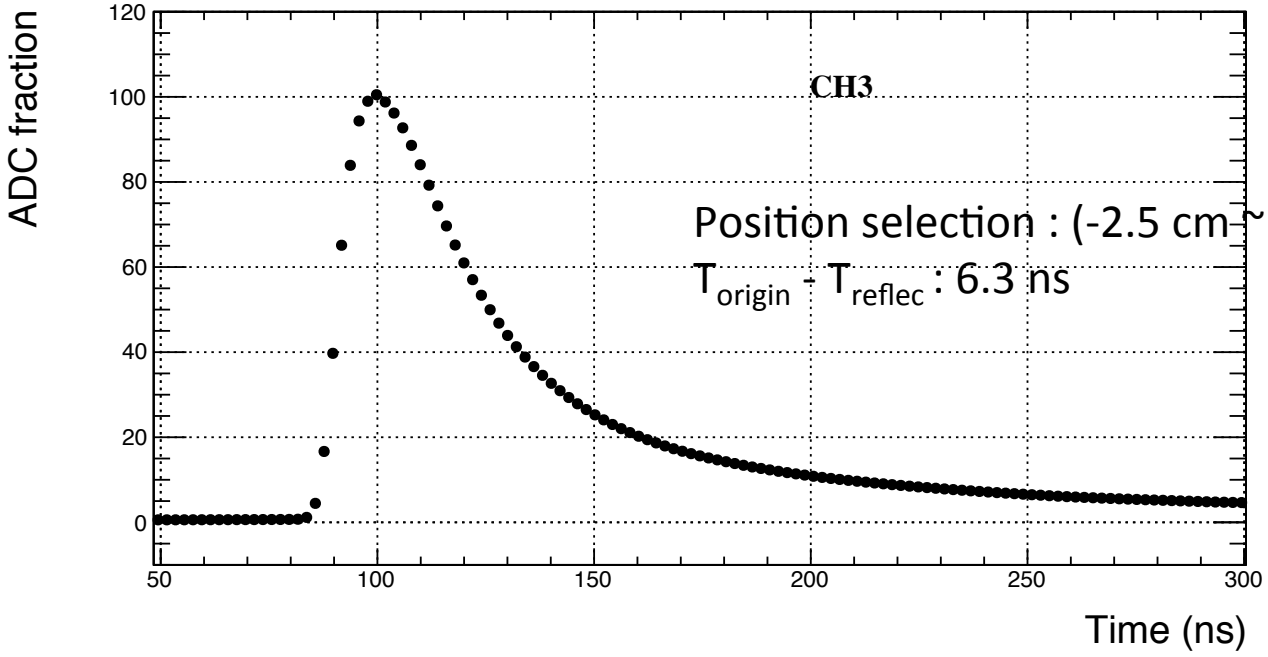
T_{origin} - T_{reflec} : 9.3 ns

1m Detector



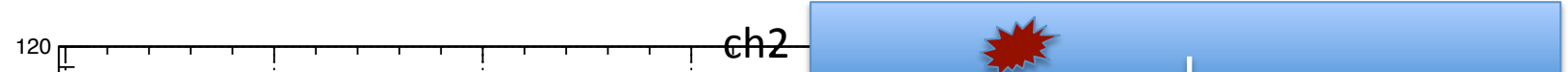
Position selection : (-2.5 cm ~ 2.5 cm)

$T_{origin} - T_{reflec}$: 6.3 ns

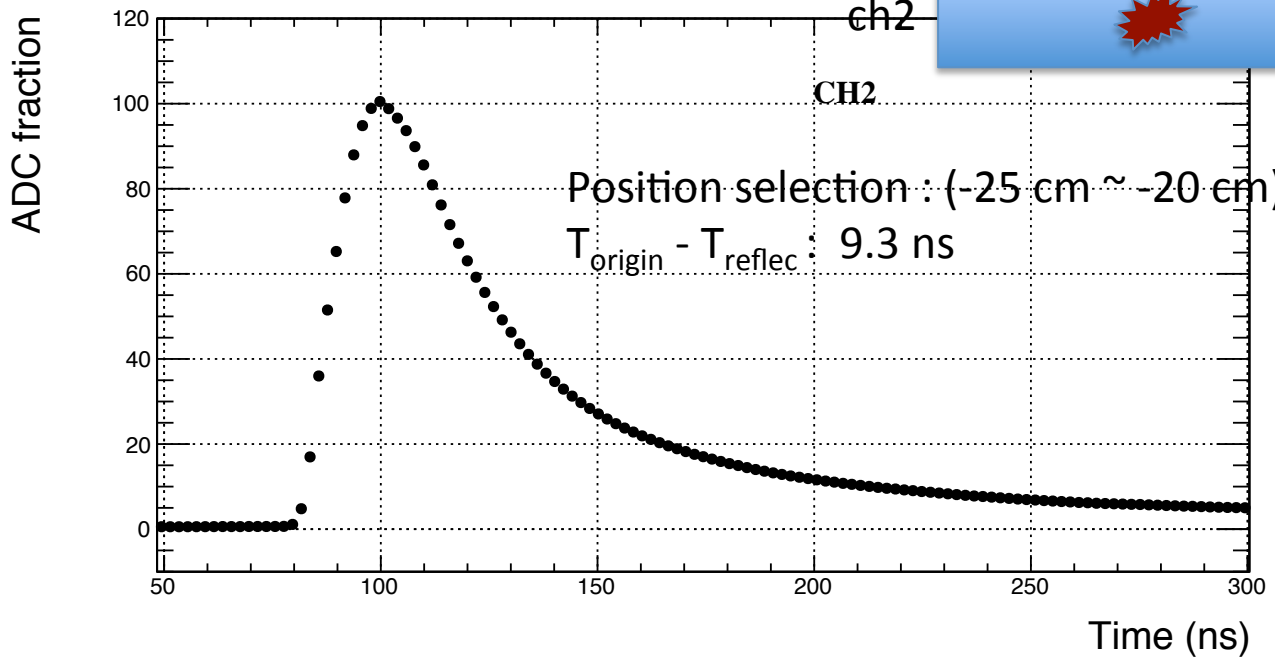


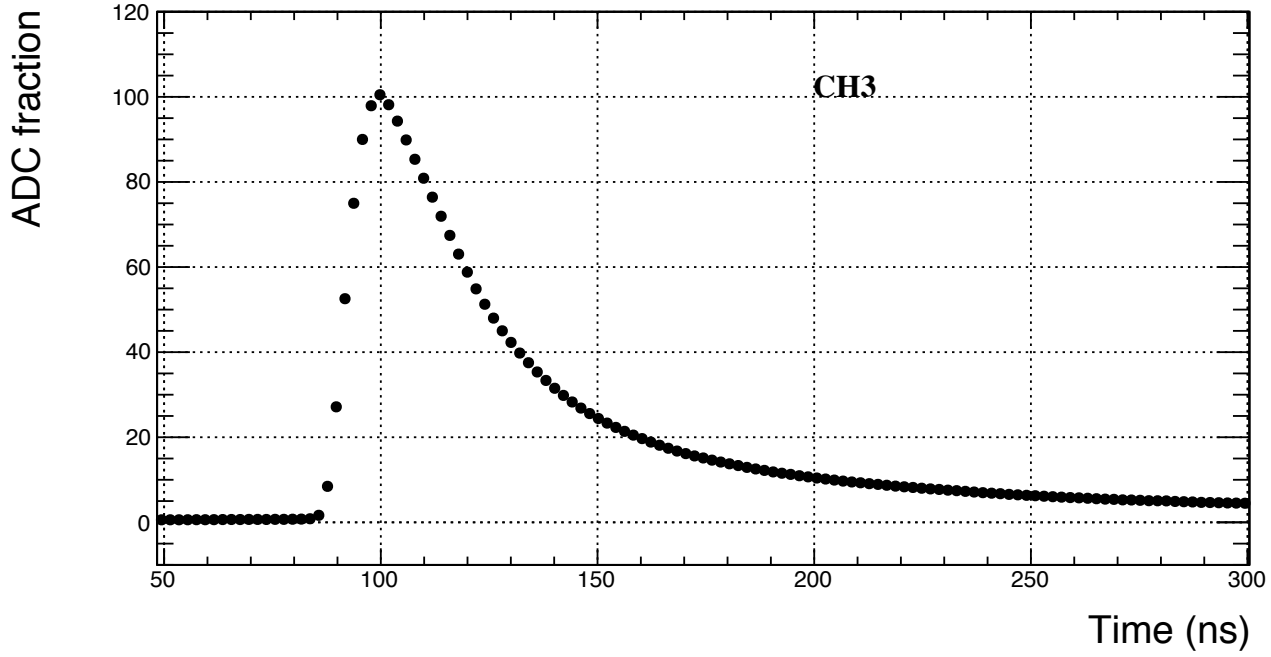
Position selection : (-2.5 cm ~ 2.5 cm)

$T_{origin} - T_{reflec}$: 6.3 ns

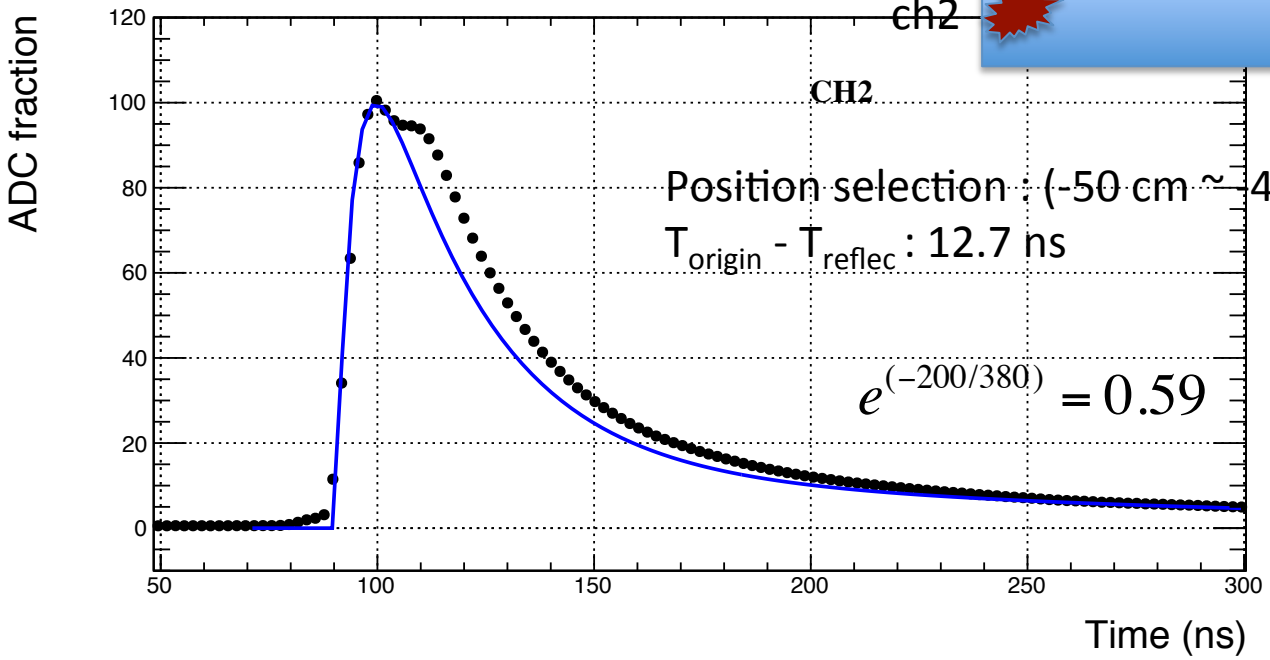

ch2
ch3

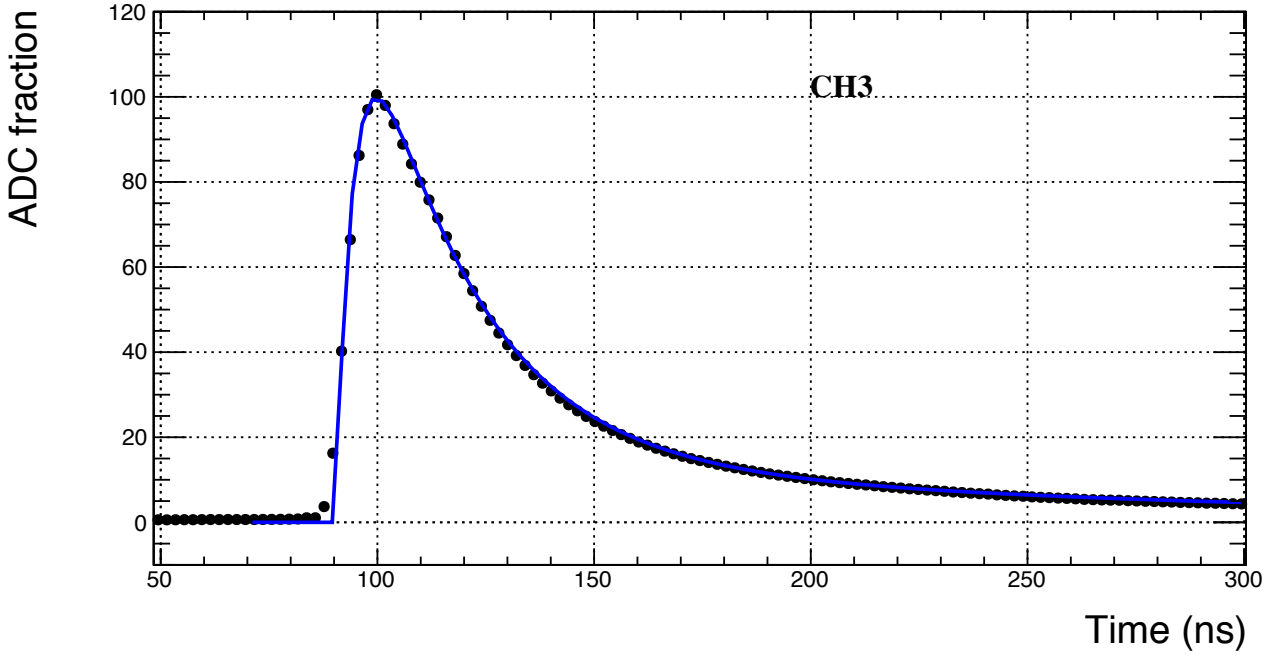
1m Detector


CH2
ADC fraction
Time (ns)
Position selection : (-25 cm ~ -20 cm)
T_{origin} - T_{reflec} : 9.3 ns


CH3
ADC fraction
Time (ns)

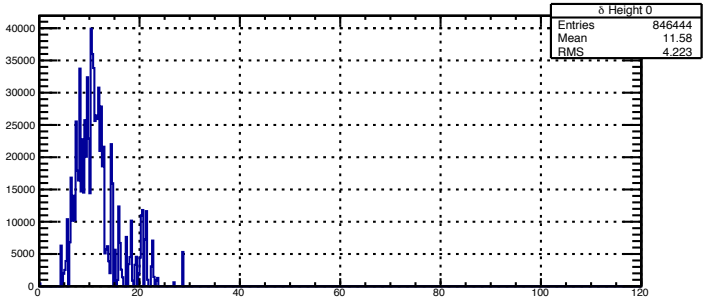
ch2 ch3

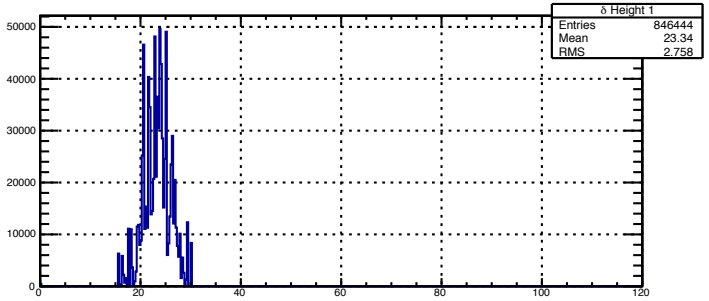

CH2
ADC fraction
Time (ns)
Position selection : (-50 cm ~ -45 cm)
T_{origin} - T_{reflec} : 12.7 ns
$e^{(-200/380)} = 0.59$

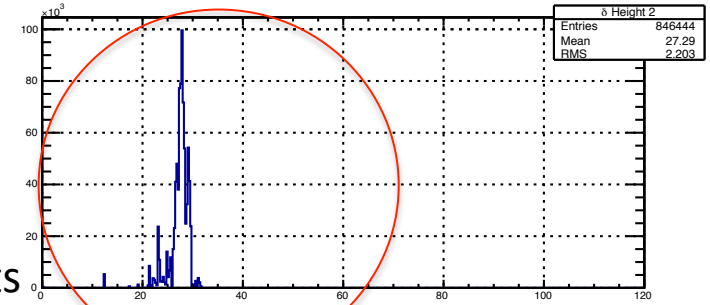

CH3
ADC fraction
Time (ns)

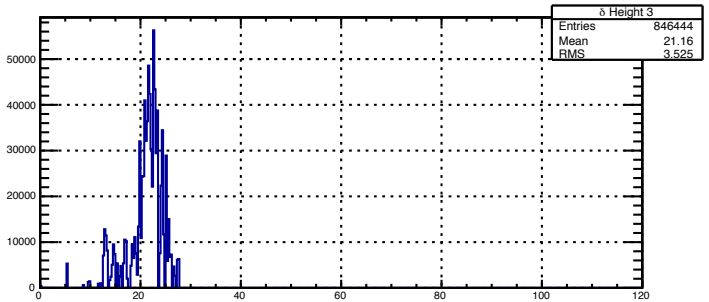
How separate original pulse and reflected pulse in a integrated waveform

Simple test : copy original pulse , delay time ~6ns , regulate 0.2 ~ 0.8 pulse height of original pulse height



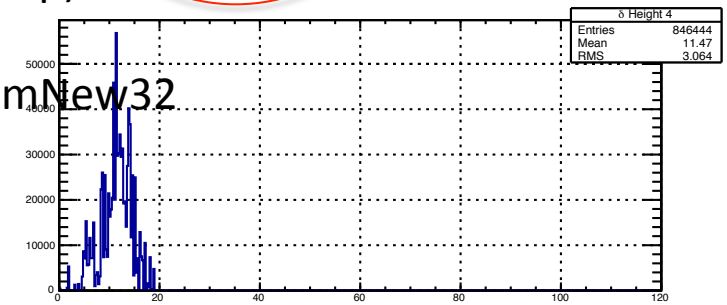


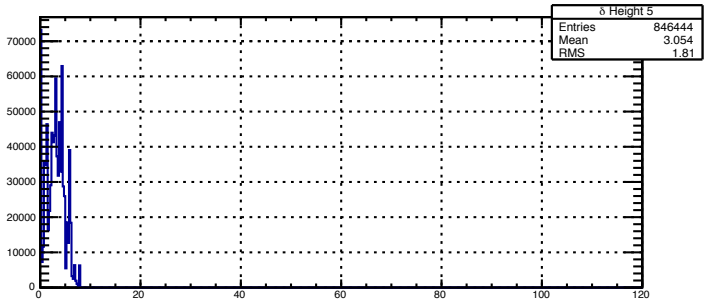




Height difference between datapoints (0 to maximum ~6dp)

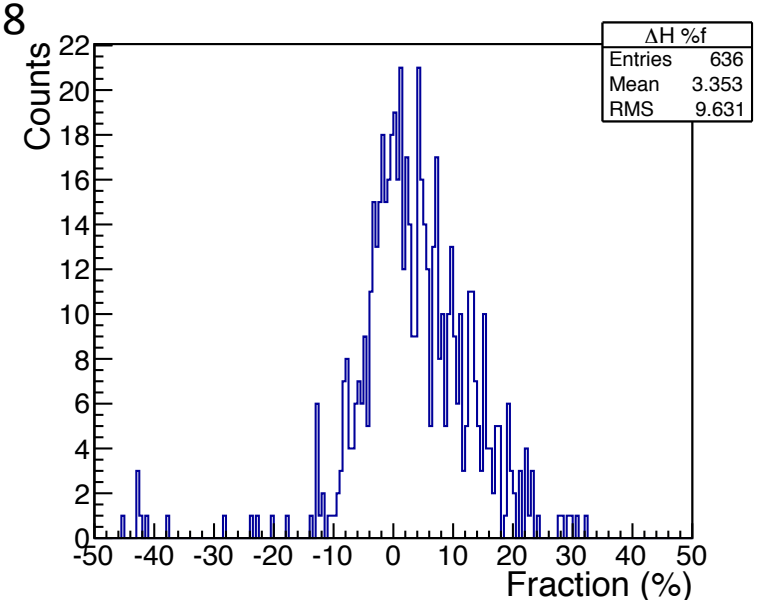
Selection : beamNew30 –beamNew32





Pulse separation test

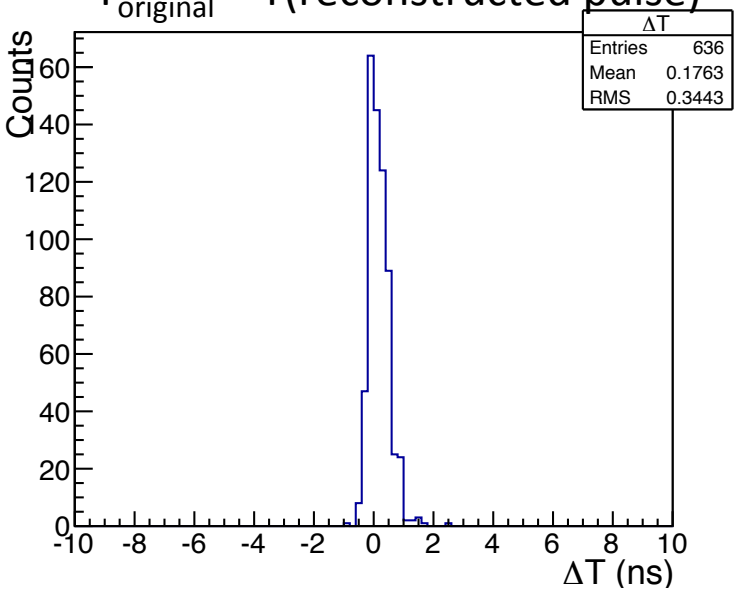
copy original pulse , delay time ~6ns , regulate 0.2 ~ 0.8



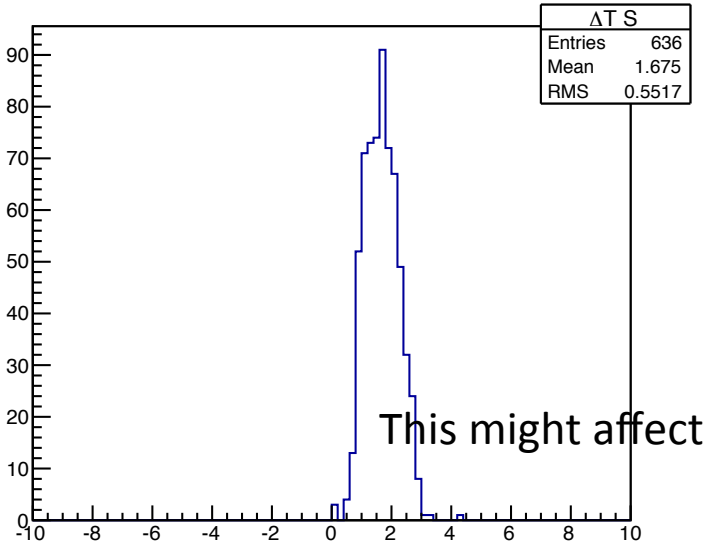
Height difference fraction of
Original pulse and reconstructed pulse

After pulse separation

$T_{original}$ – T(reconstructed pulse)

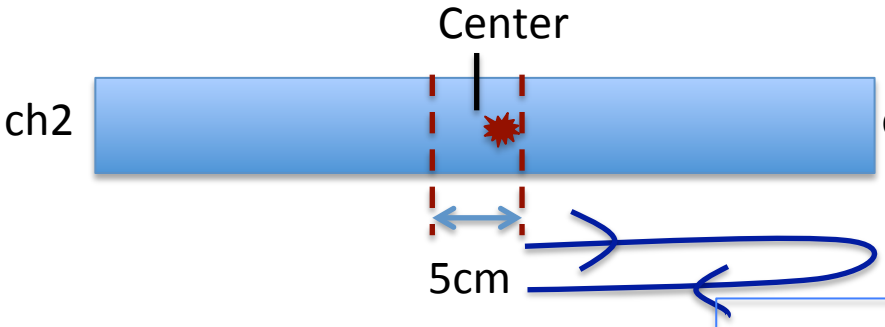


T(summed pulse) – T(reconstructed pulse)



This might affect Etof?

Q) How reflected pulse affect timing decision?



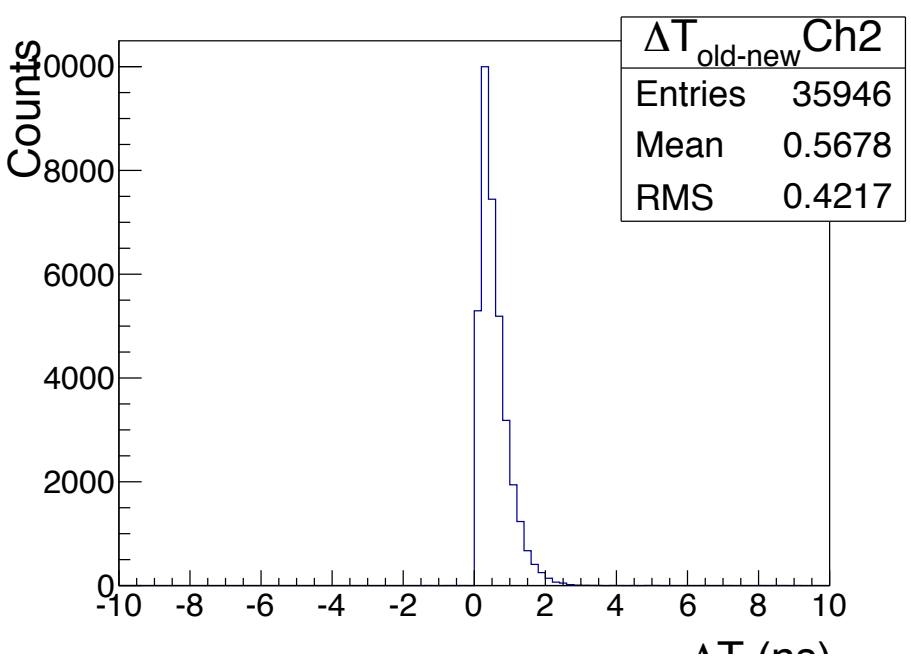
CH2

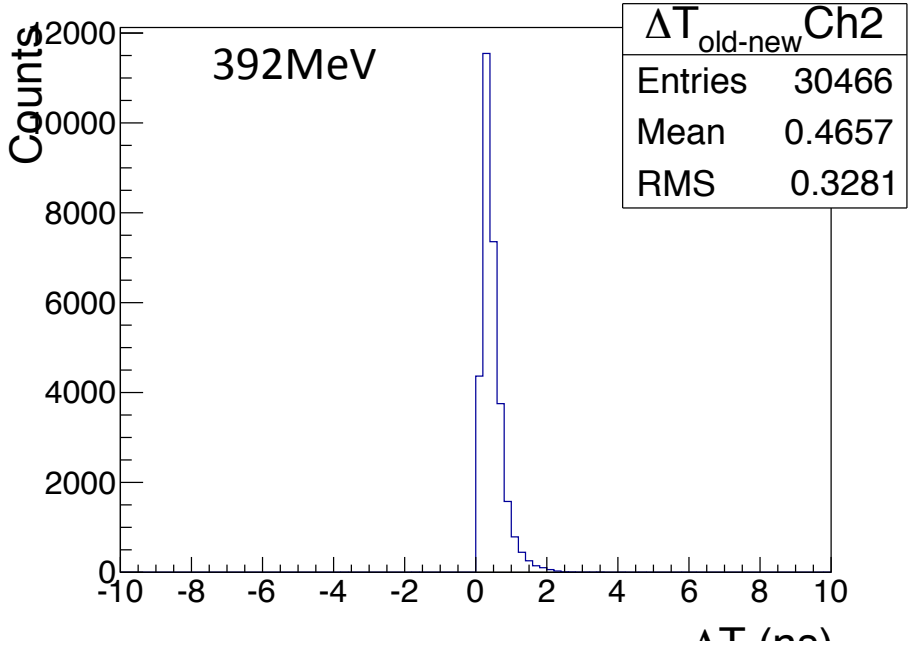
$$\Delta x \approx 95cm$$
$$\Delta t \approx 6.3ns$$

CH3

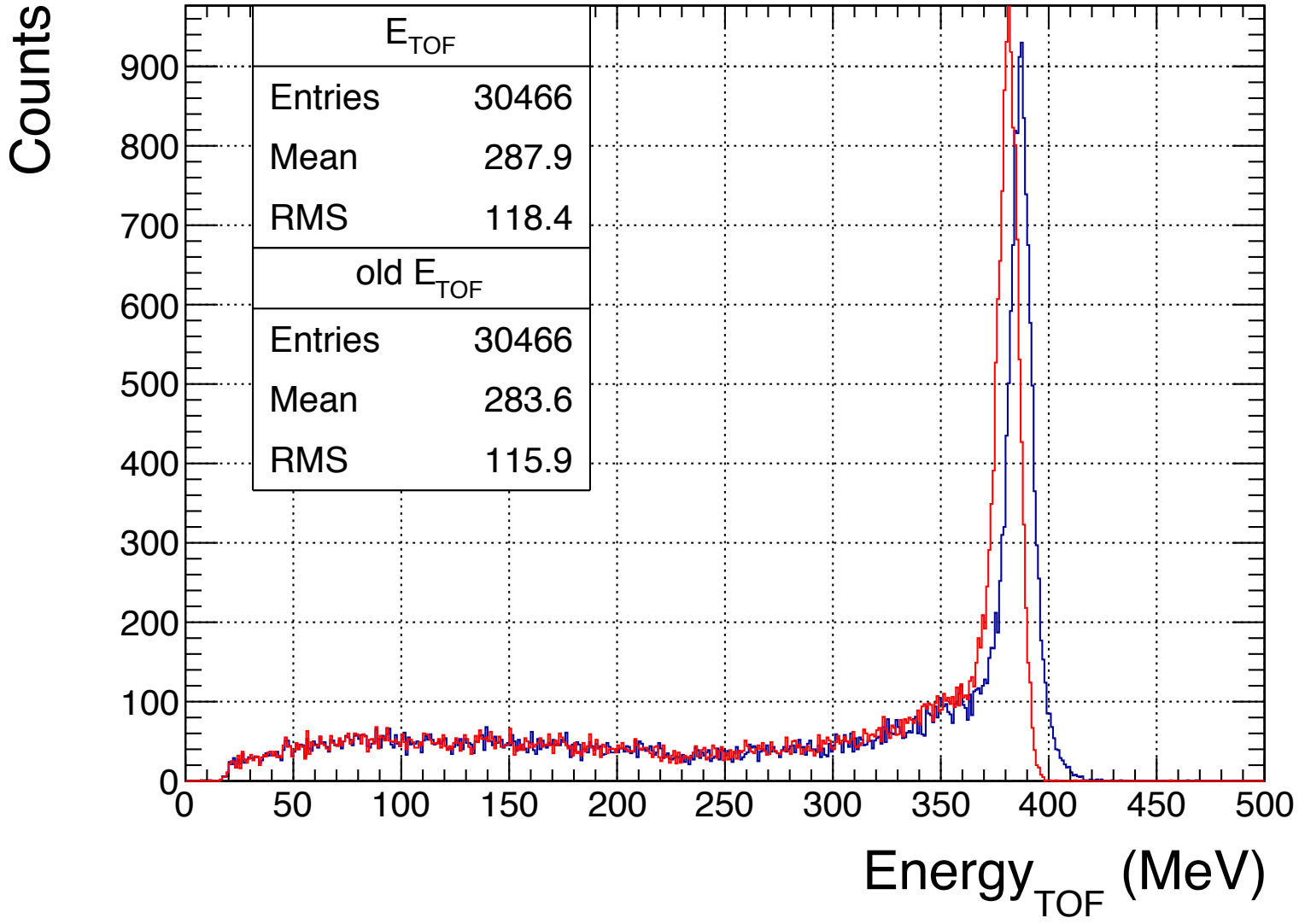
$$\Delta x \approx 105cm$$
$$\Delta t \approx 7ns$$

65MeV

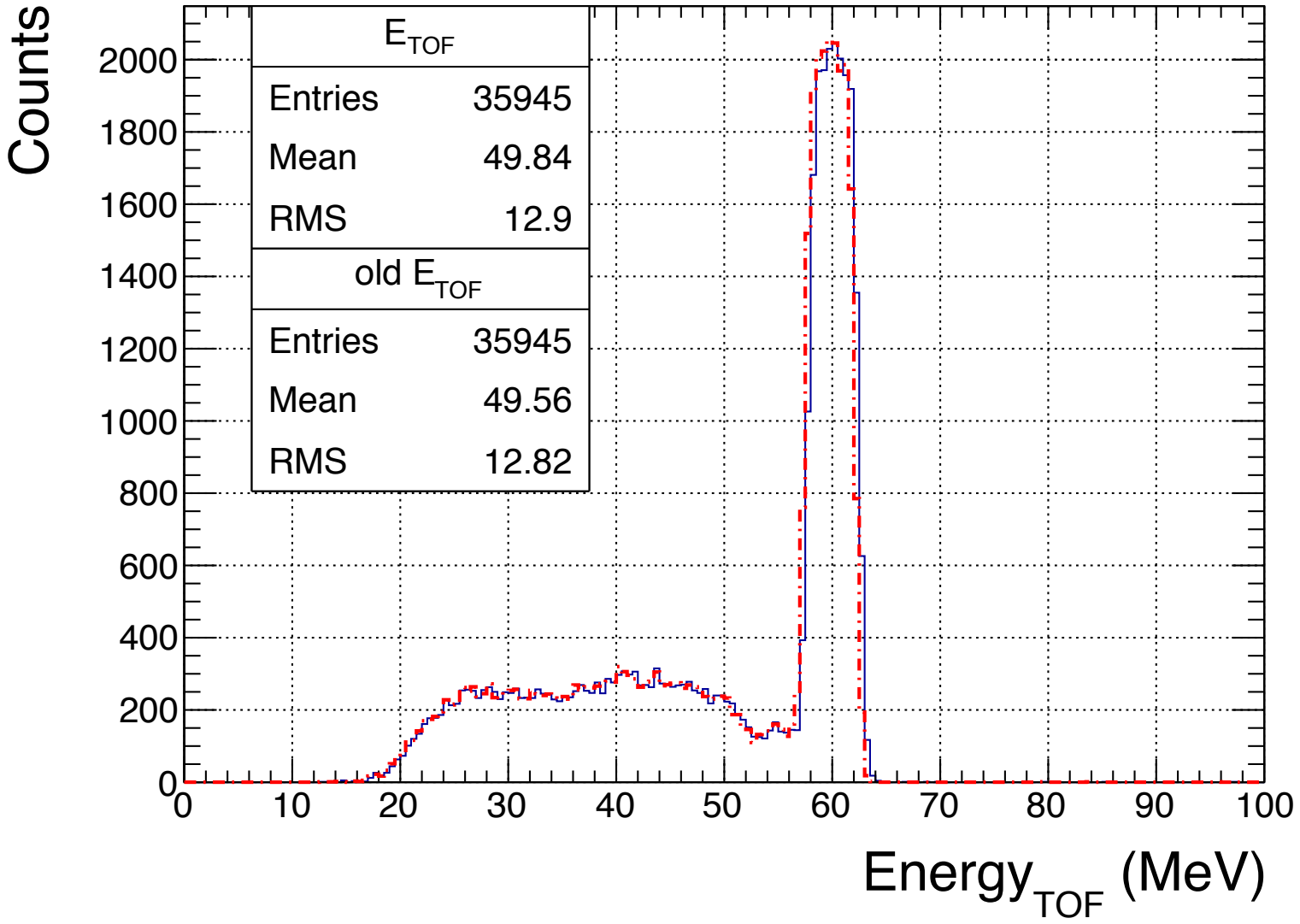




코드 오류 : (2017/04/04)
Time of flight 계산시에 gamma 의 15m arrival time 50ns
기준 시간으로 생각했는데 검출기 Etof 계산시는 15m + detector thickness/2 로 놓로 계산해줌
Gamma가 15.05m 를 이동할때 걸리는시간은 50.17 임

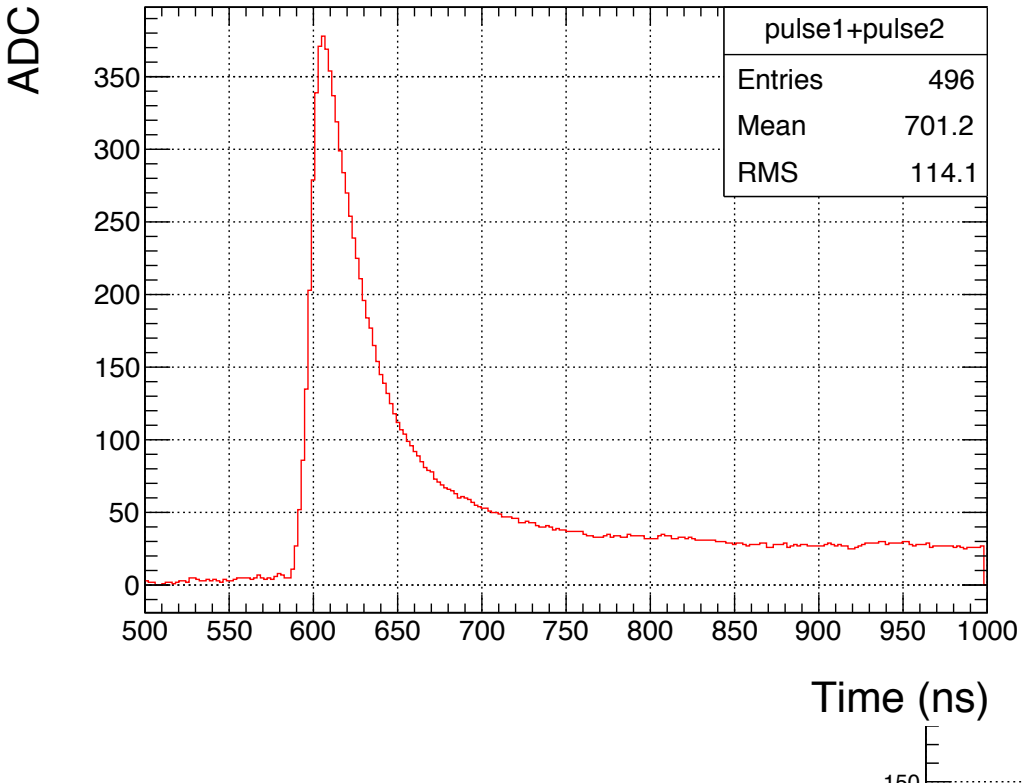


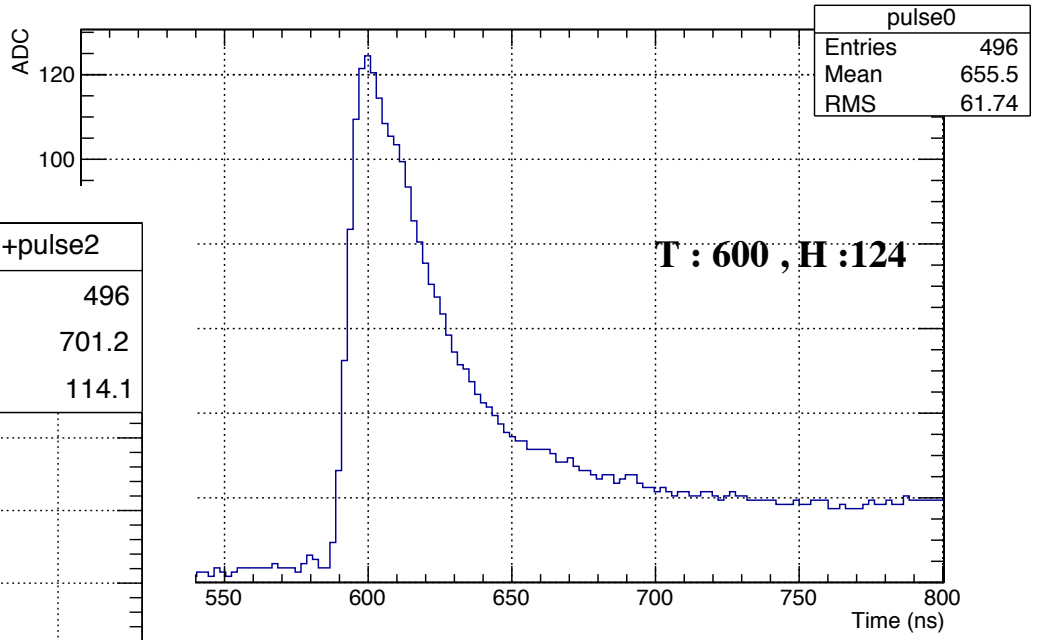
Comparison E_{tof} with old, new time decision method

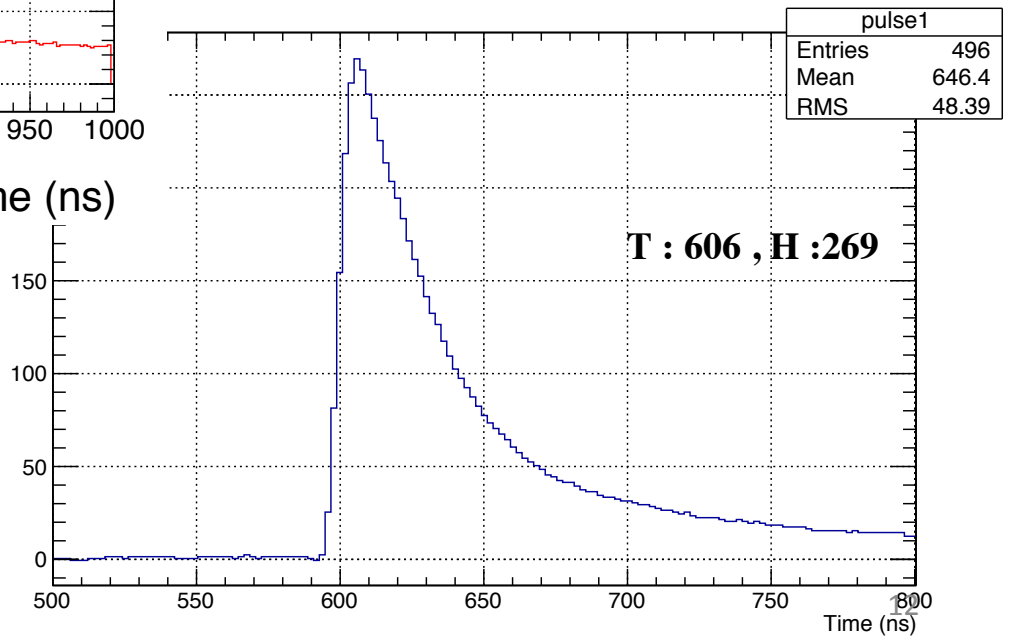


BACK UP

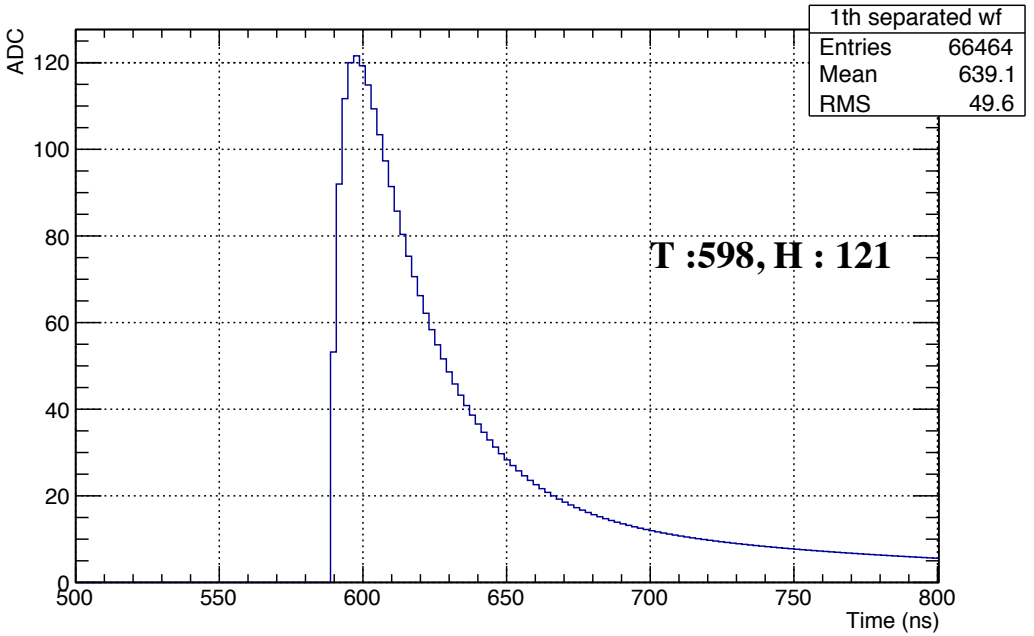
EventNum_16022_65652

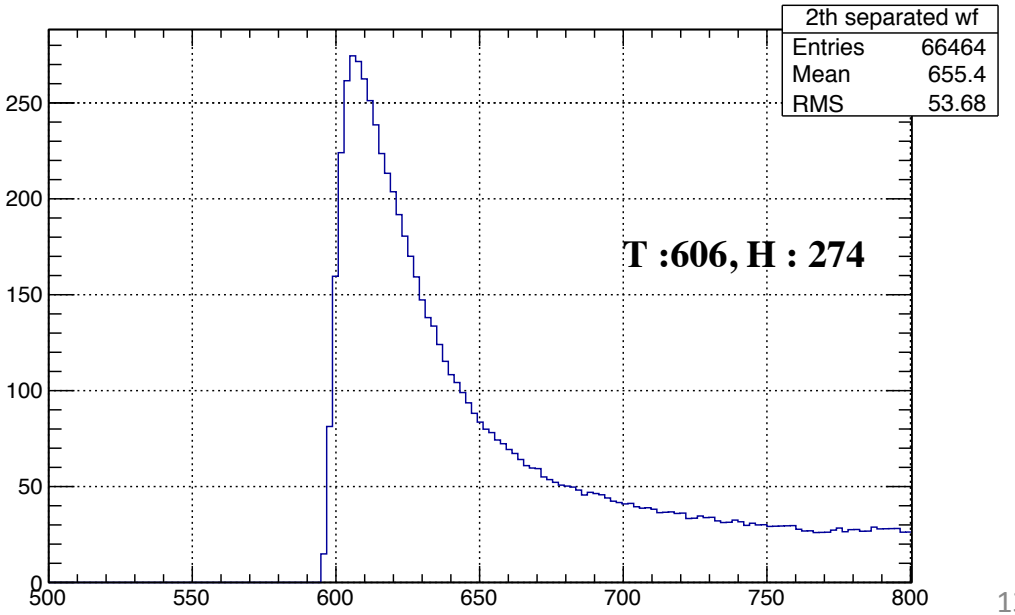






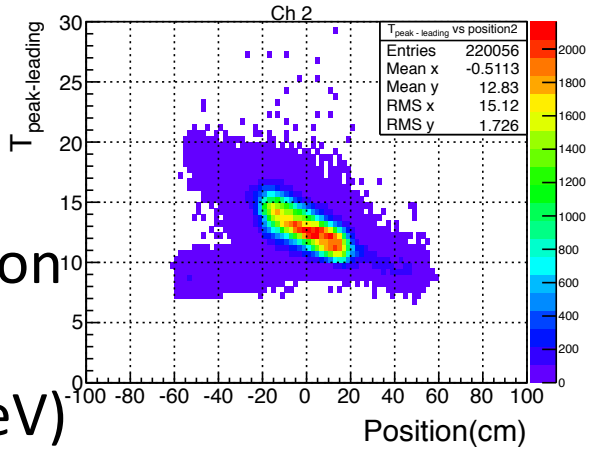
EventNum_16022_65652

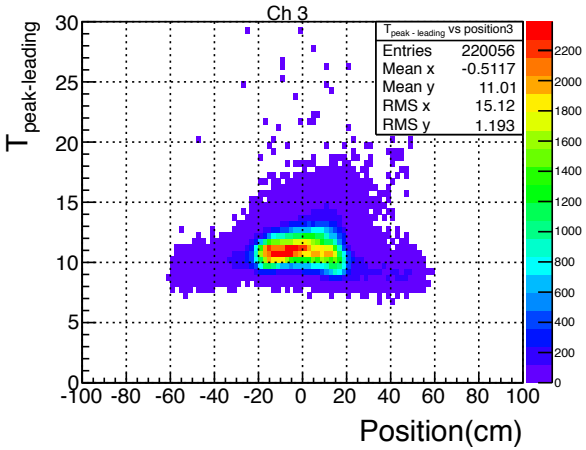


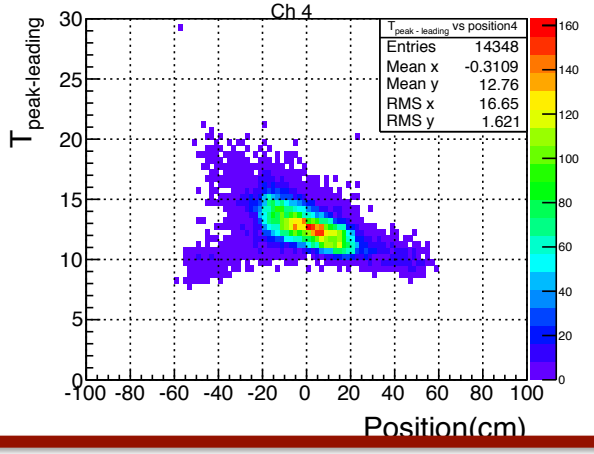


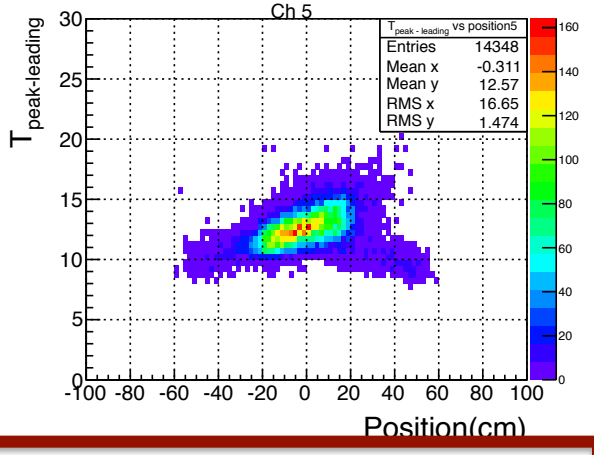
$T_{peak} - T_{50\%(leading)}$ vs Position

Data : beamNew30(392MeV)









2m detector