

20160817

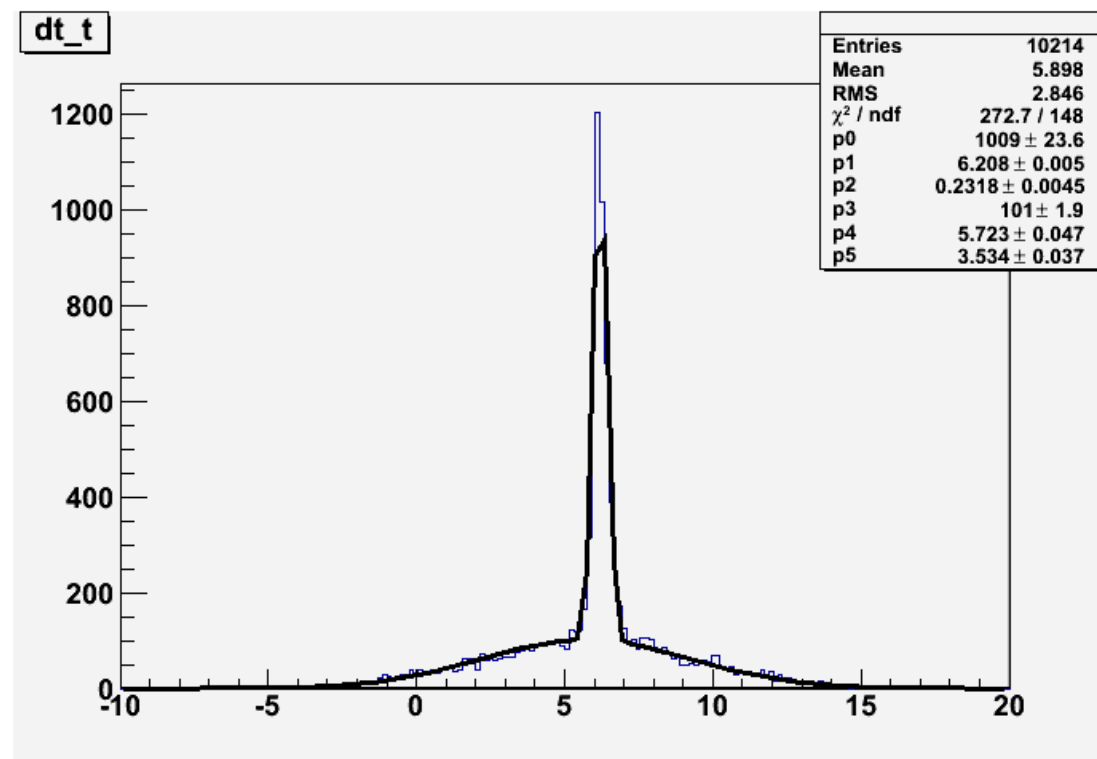
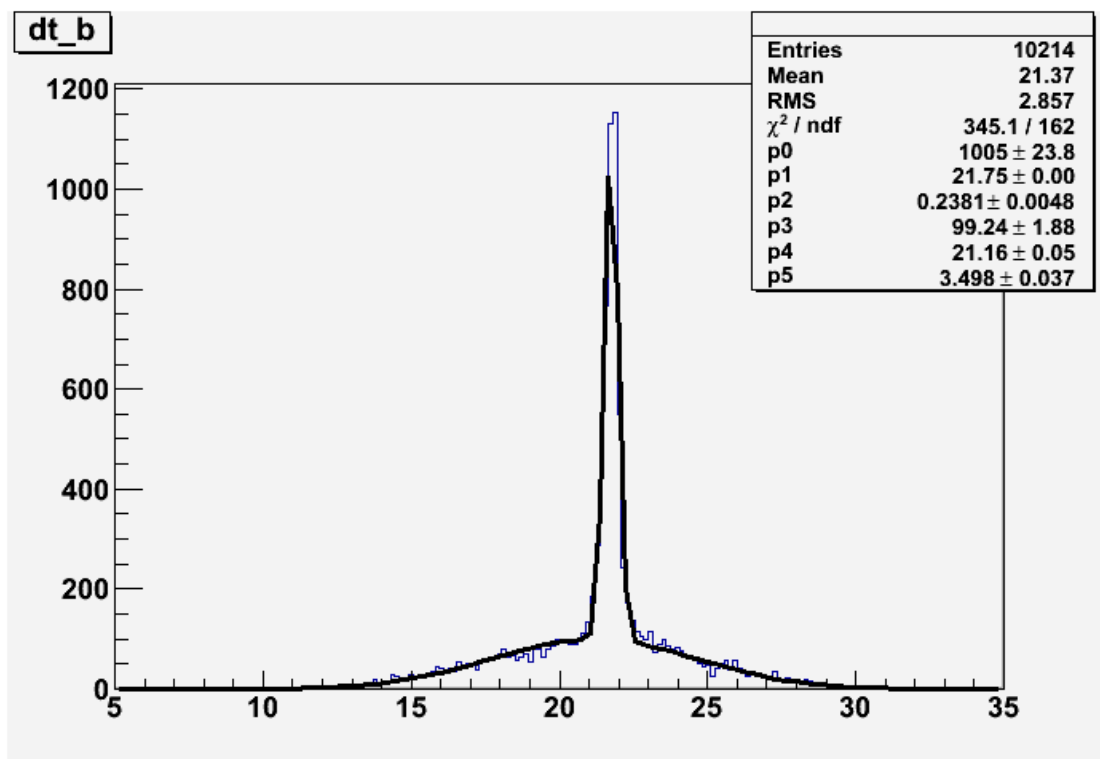
TOF counter test status

Aram lee

1. Improvements
2. Mean time analysis
3. To do

about Broad Gaussian

last meeting, there were broad peaks in dt_b and dt_t histograms.

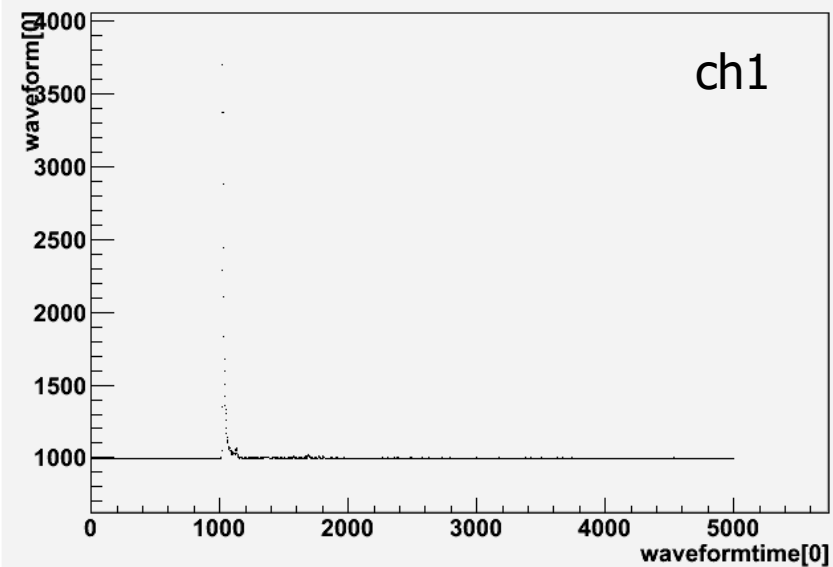


(triggers at center)

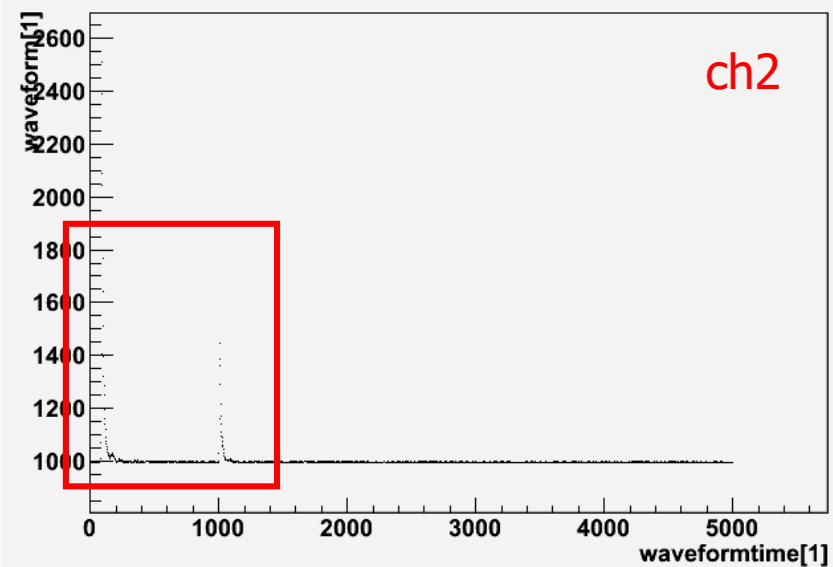
<Raw data>

Double peak
exists

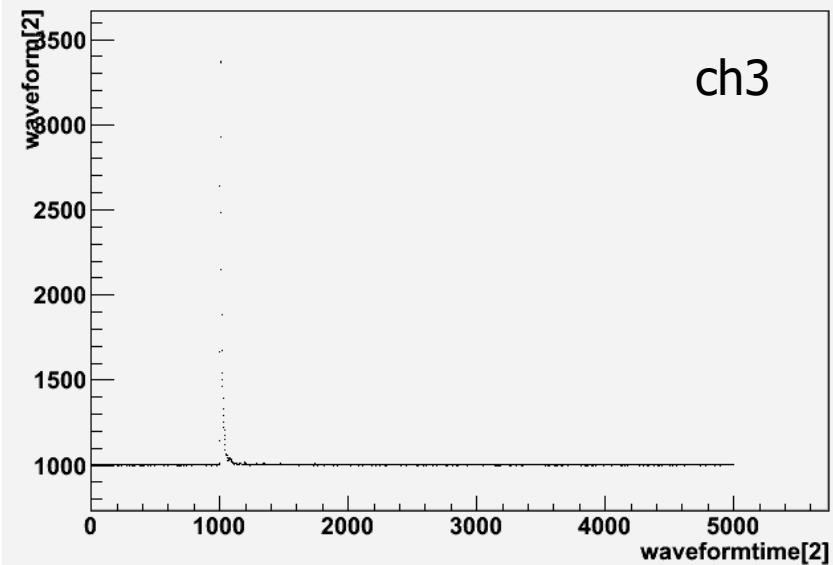
waveform[0]:waveformtime[0] {trig_num==252&&waveformtime[0]<5000}



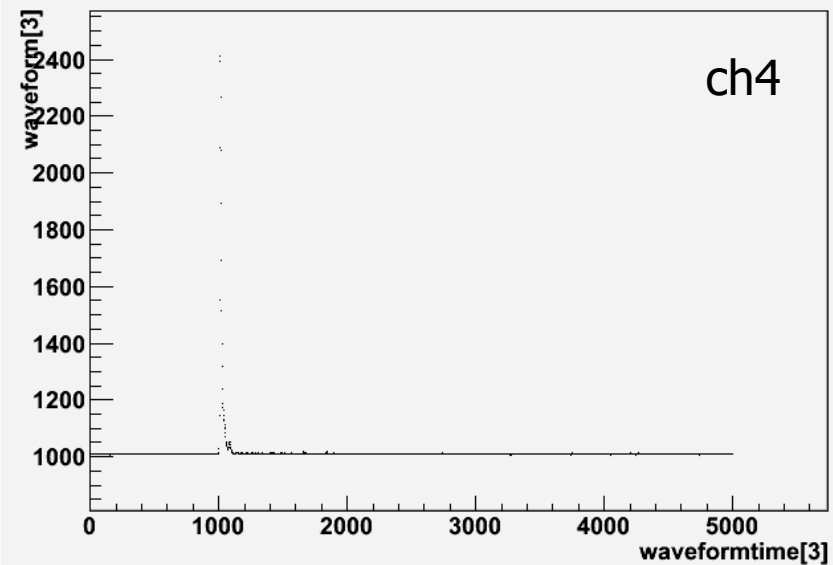
waveform[1]:waveformtime[1] {trig_num==252&&waveformtime[1]<5000}



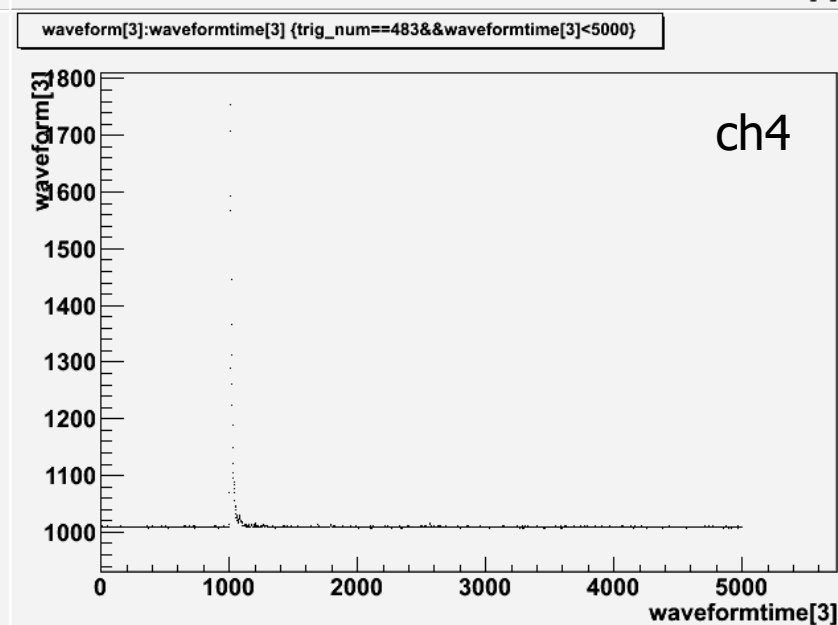
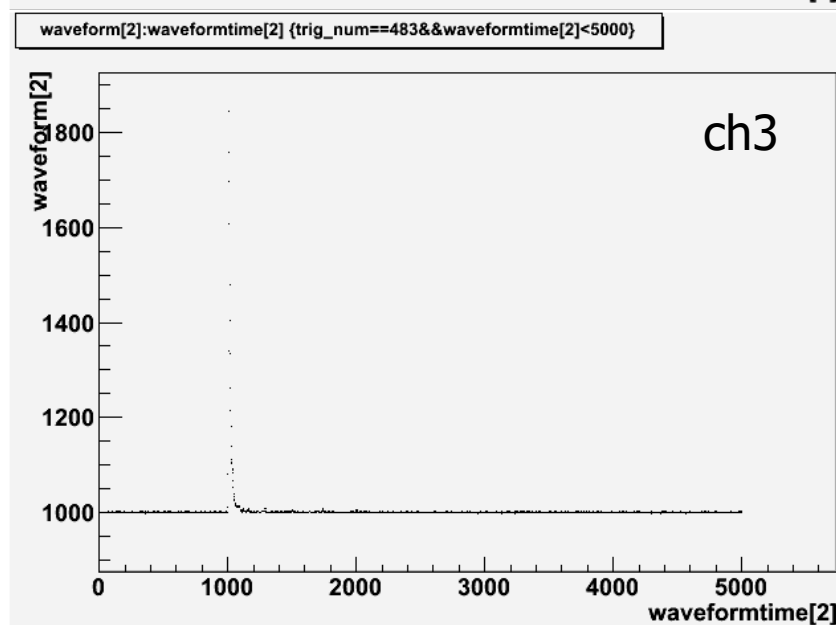
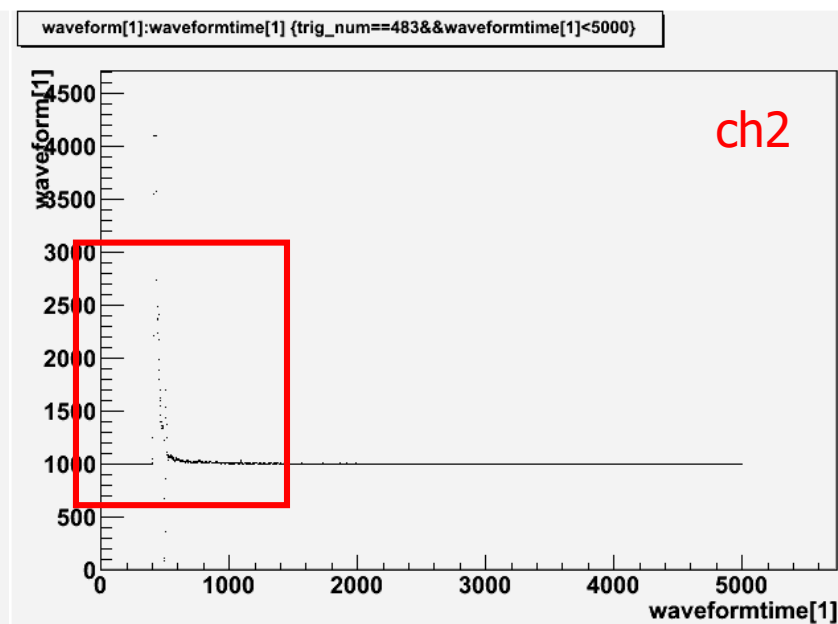
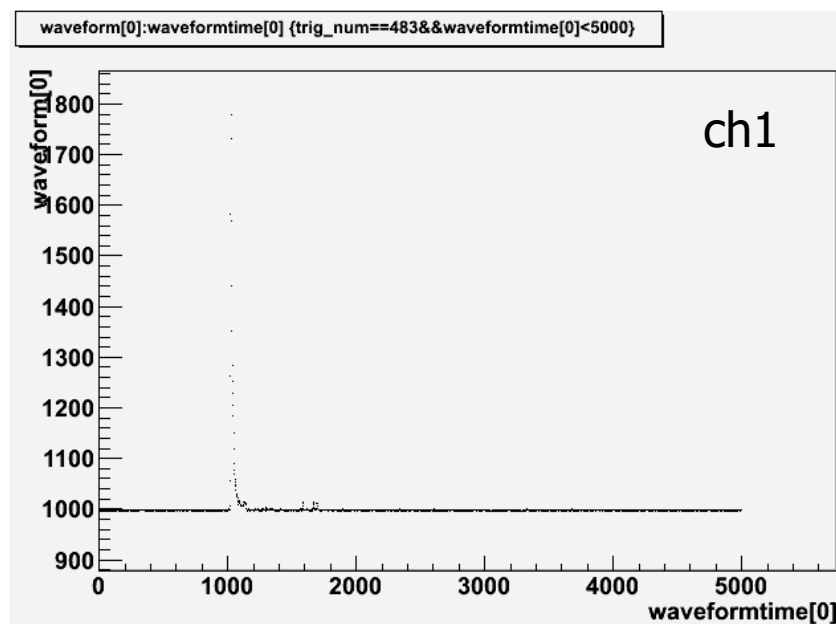
waveform[2]:waveformtime[2] {trig_num==252&&waveformtime[2]<5000}



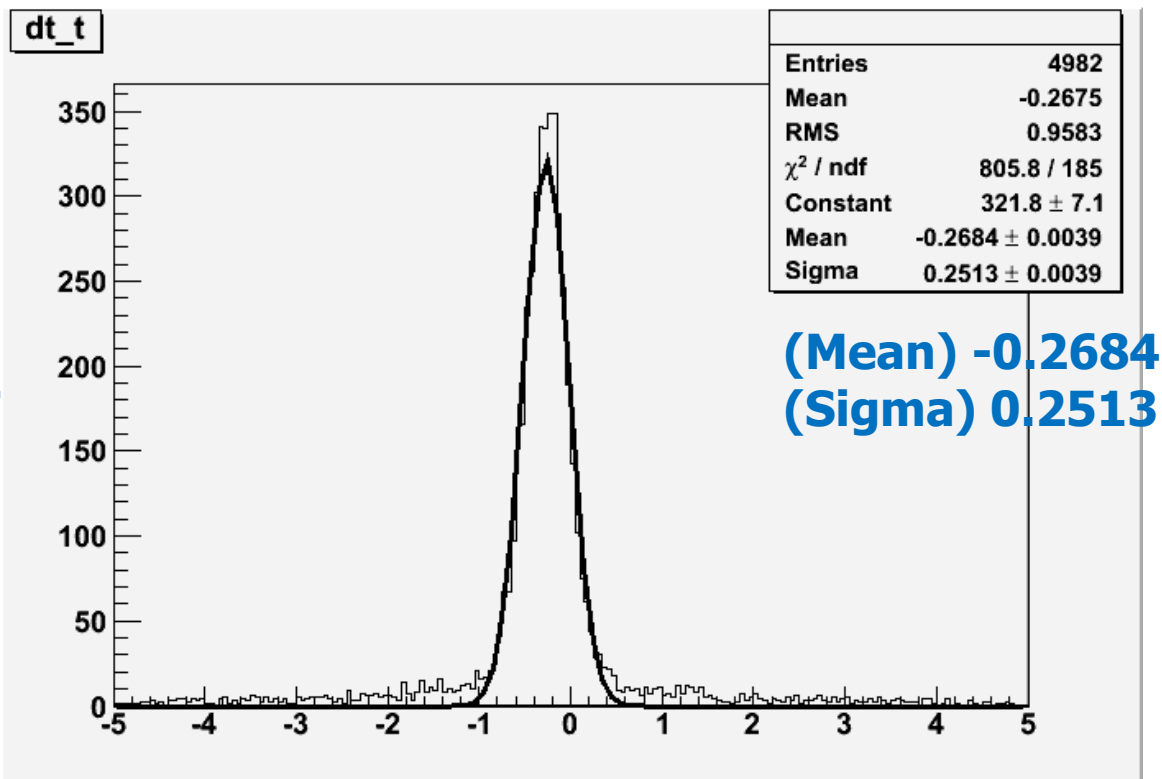
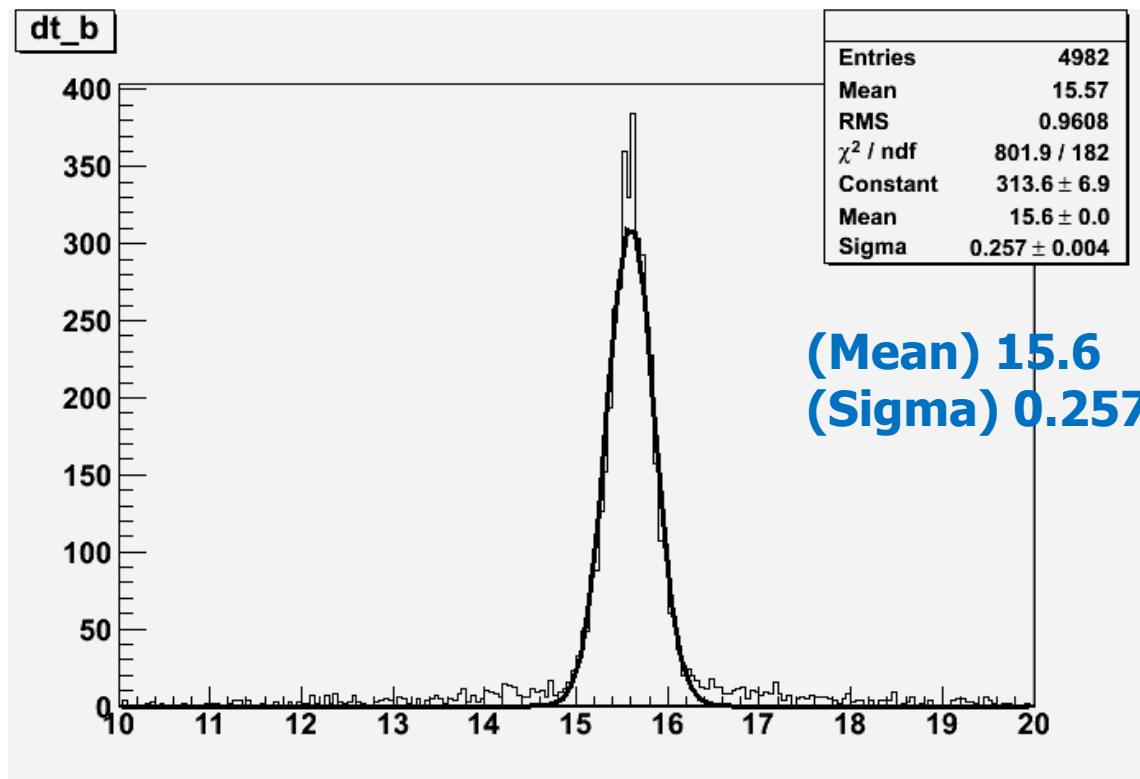
waveform[3]:waveformtime[3] {trig_num==252&&waveformtime[3]<5000}



<Raw data>
No double peak

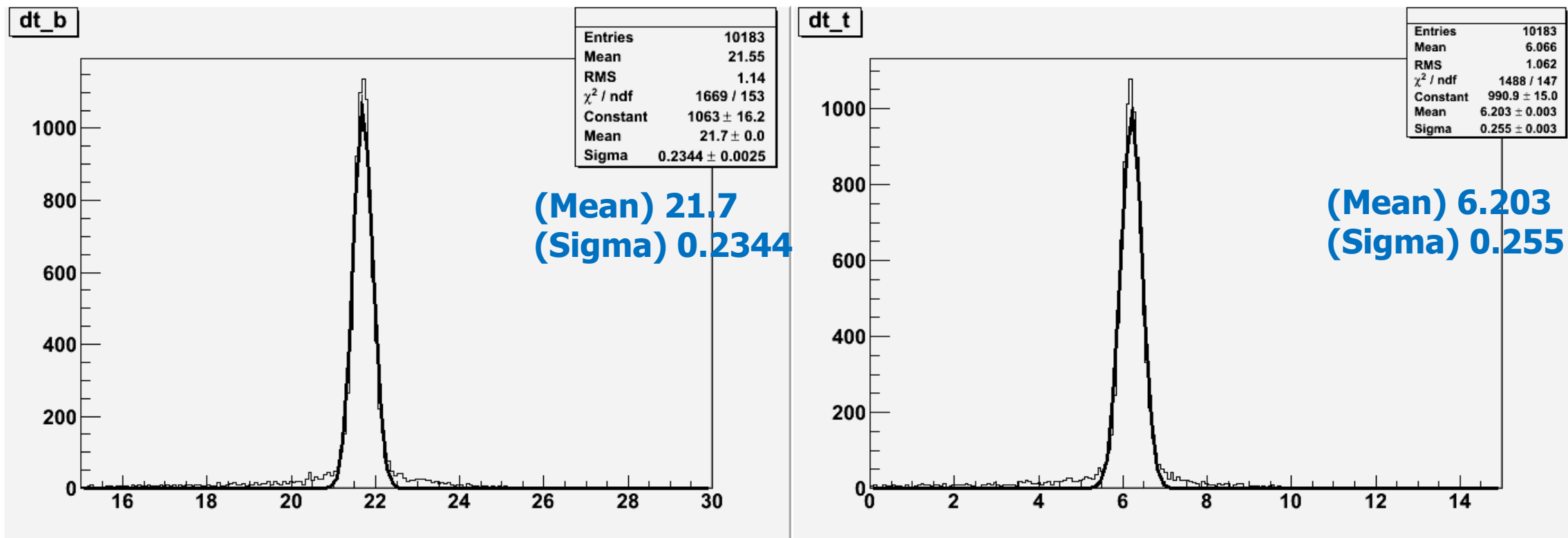


about Broad Gaussian



(triggers at center)

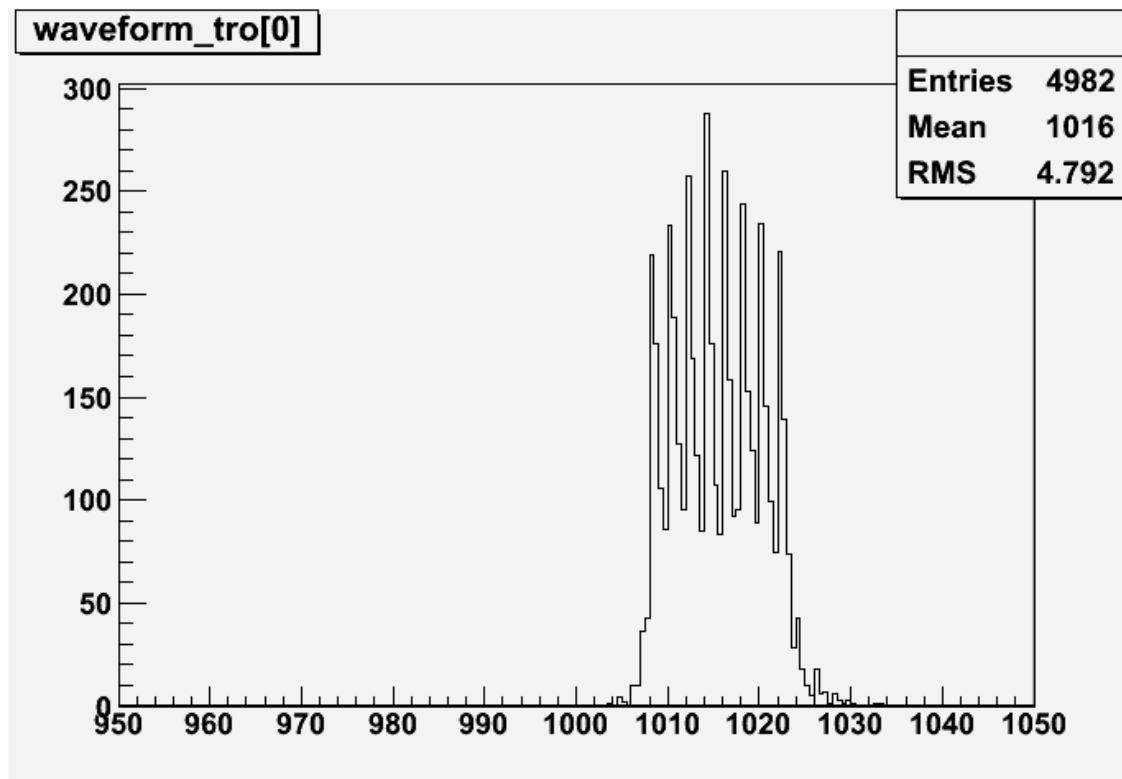
about Broad Gaussian



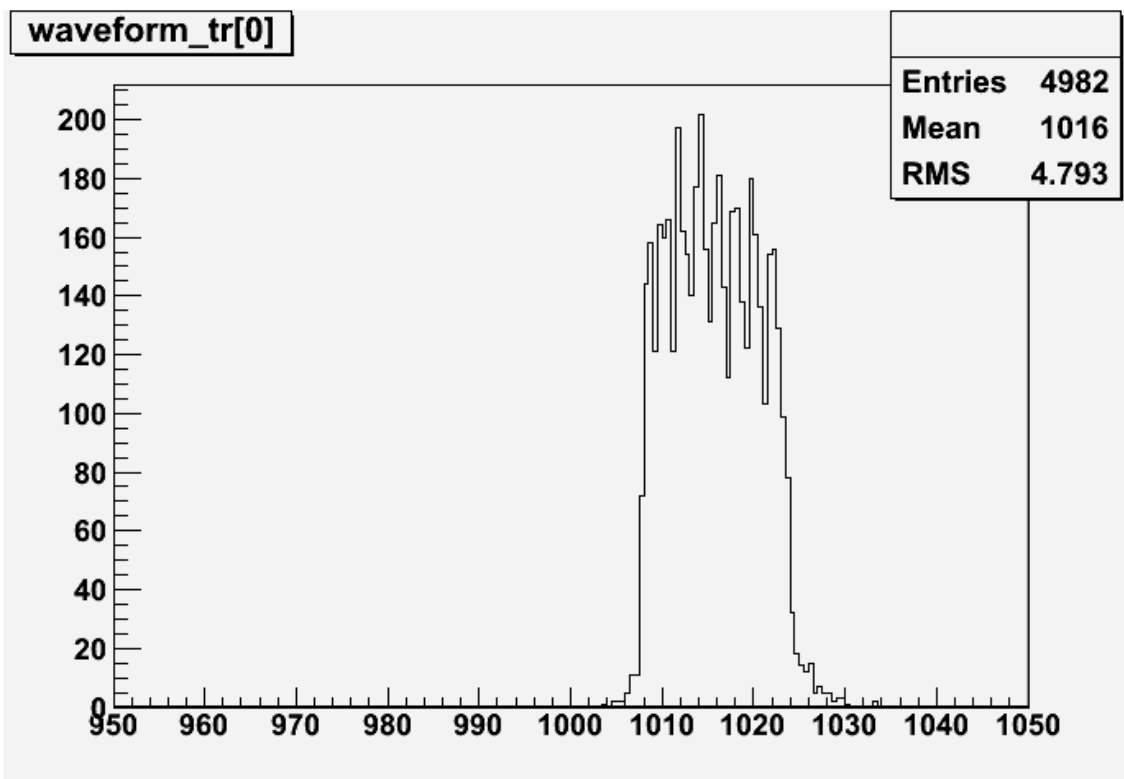
(triggers at $x=40$ from right)

Another improvement

< 2-point interpolation >

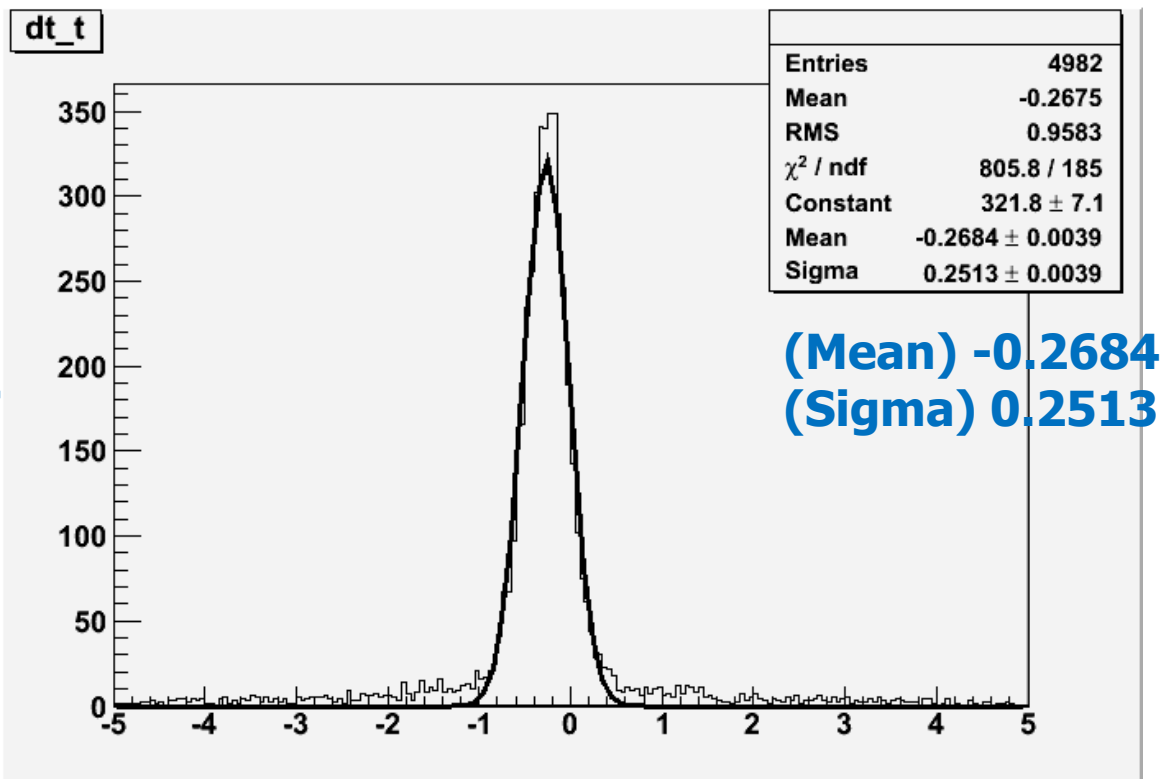
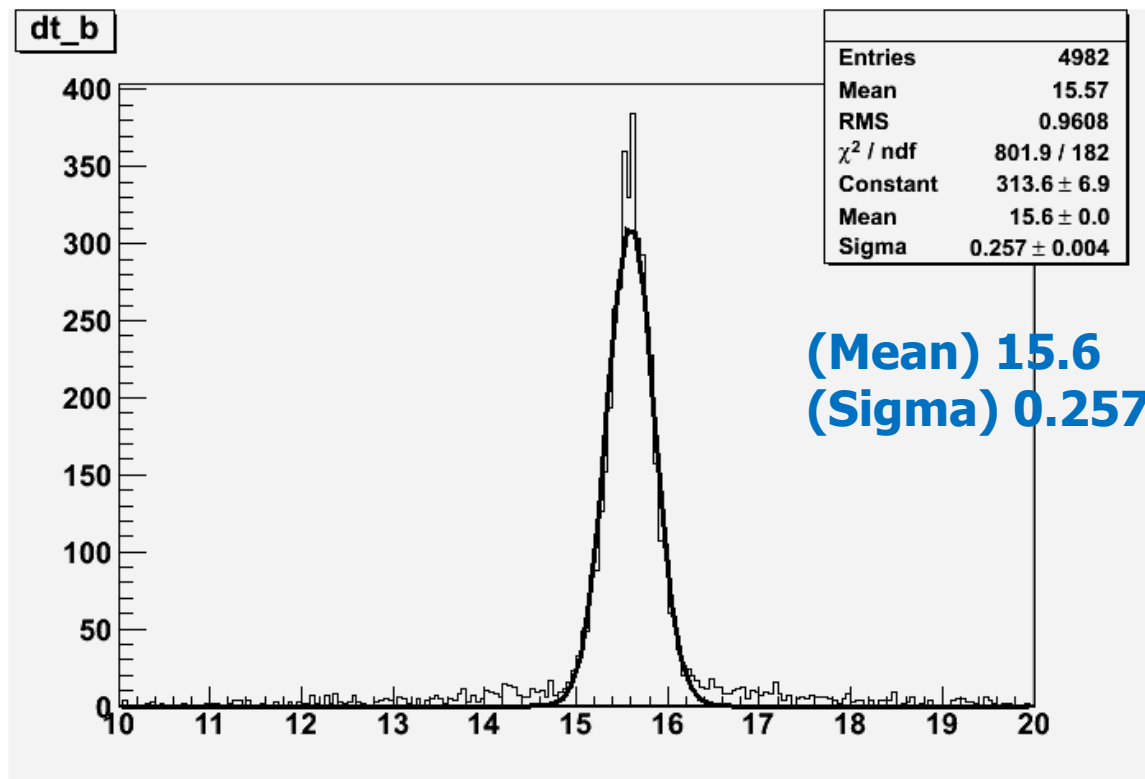


< inverse interpolation >

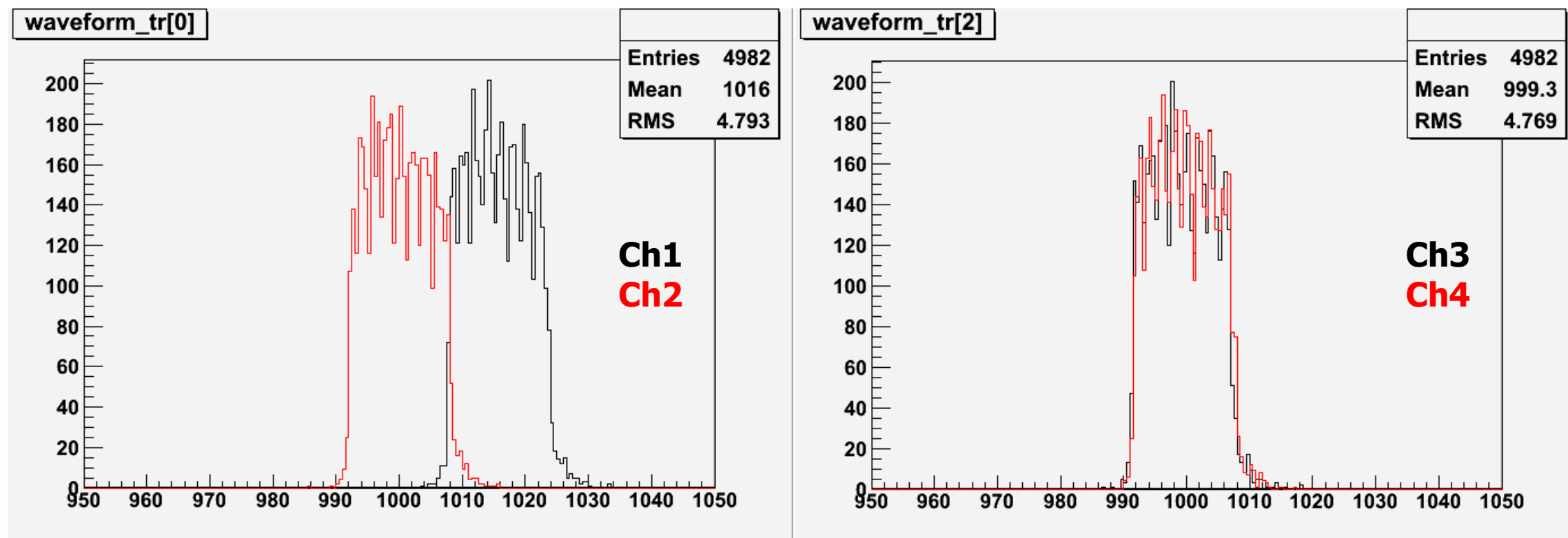


(triggers at center)

Time difference analysis – at center

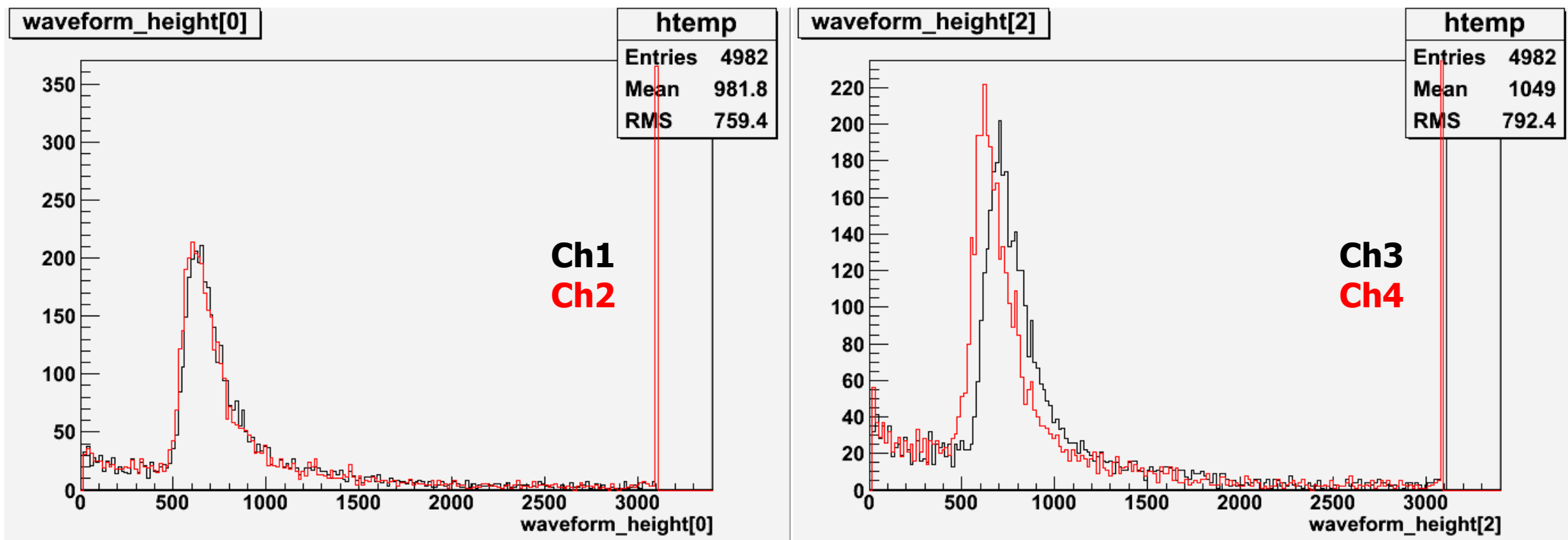


Time difference analysis – at center timing comparison



Time difference analysis – at center

Peak-height comparison

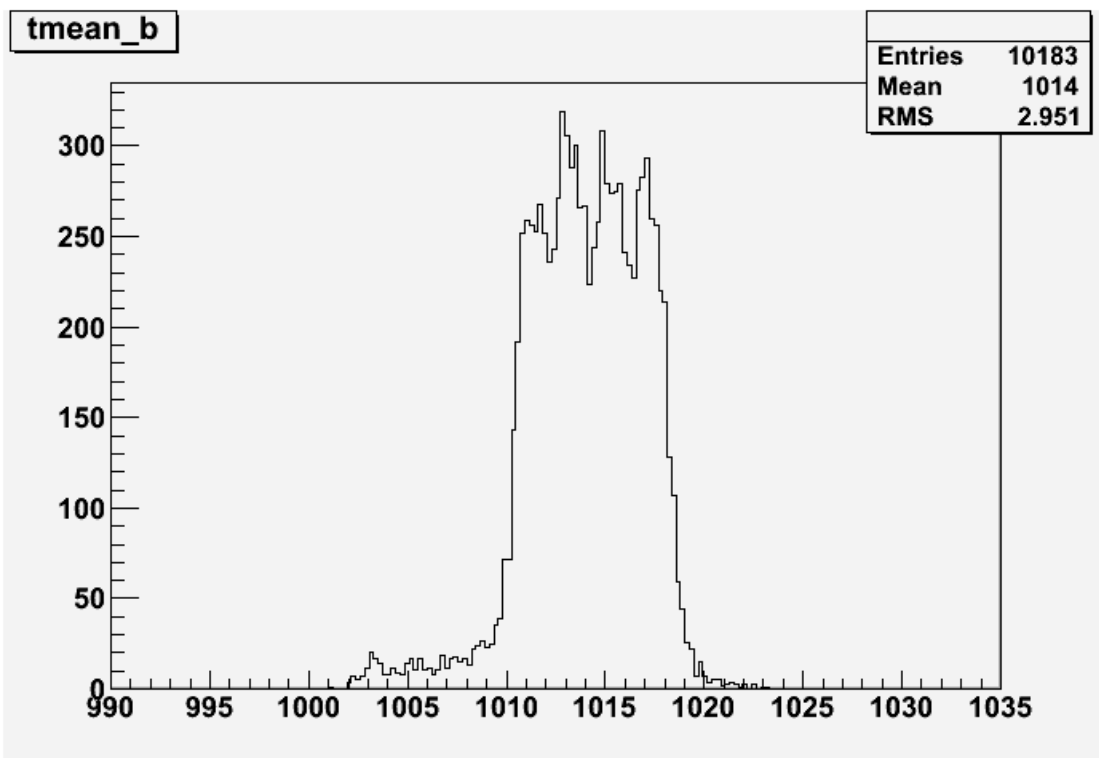
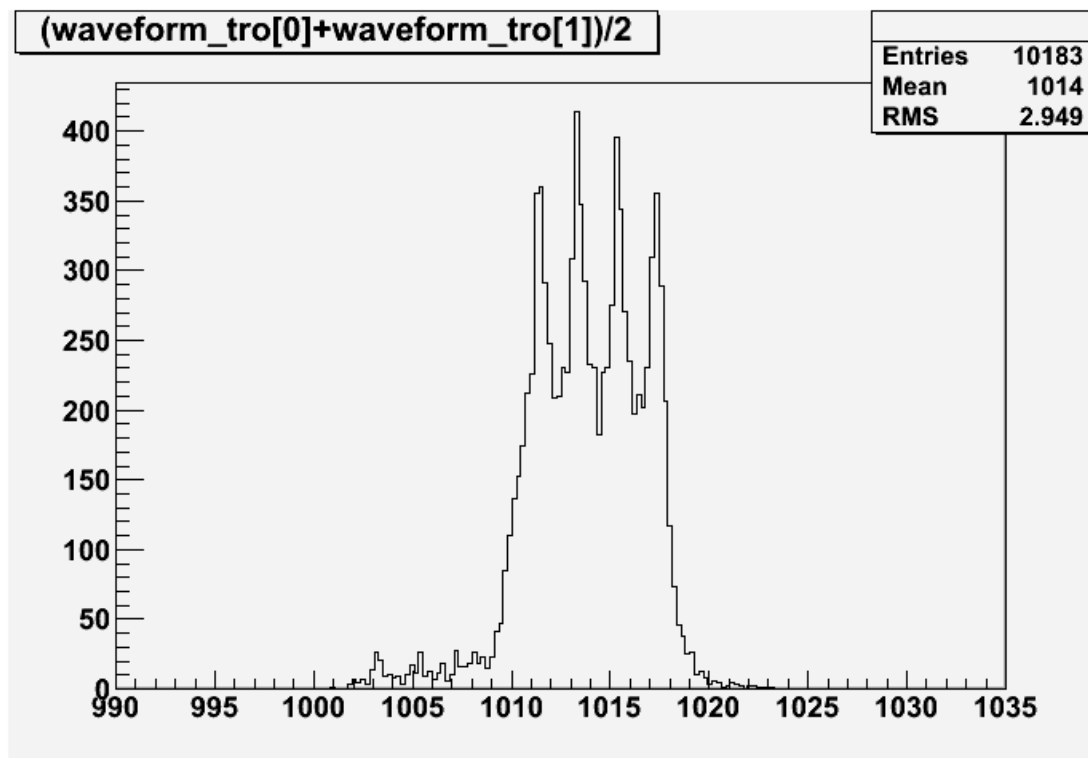


Comparison of mean time between top and bottom – at x=40cm

a. Bottom plastic

< 2-point interpolation >

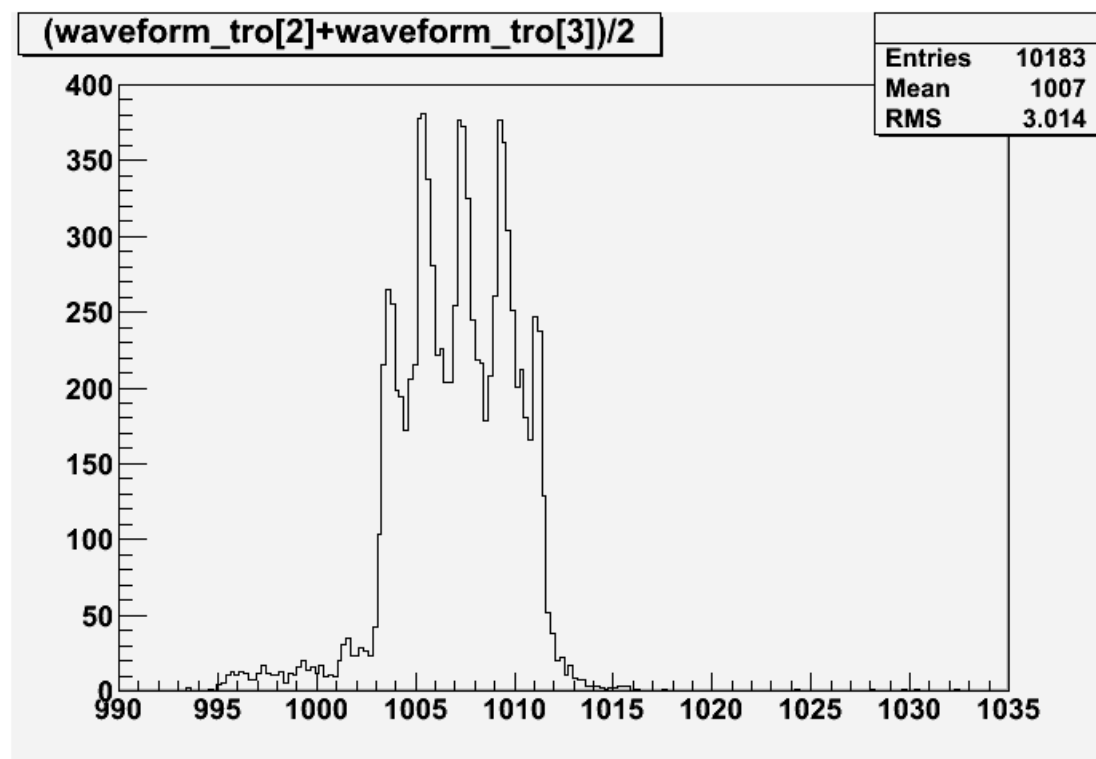
< inverse interpolation >



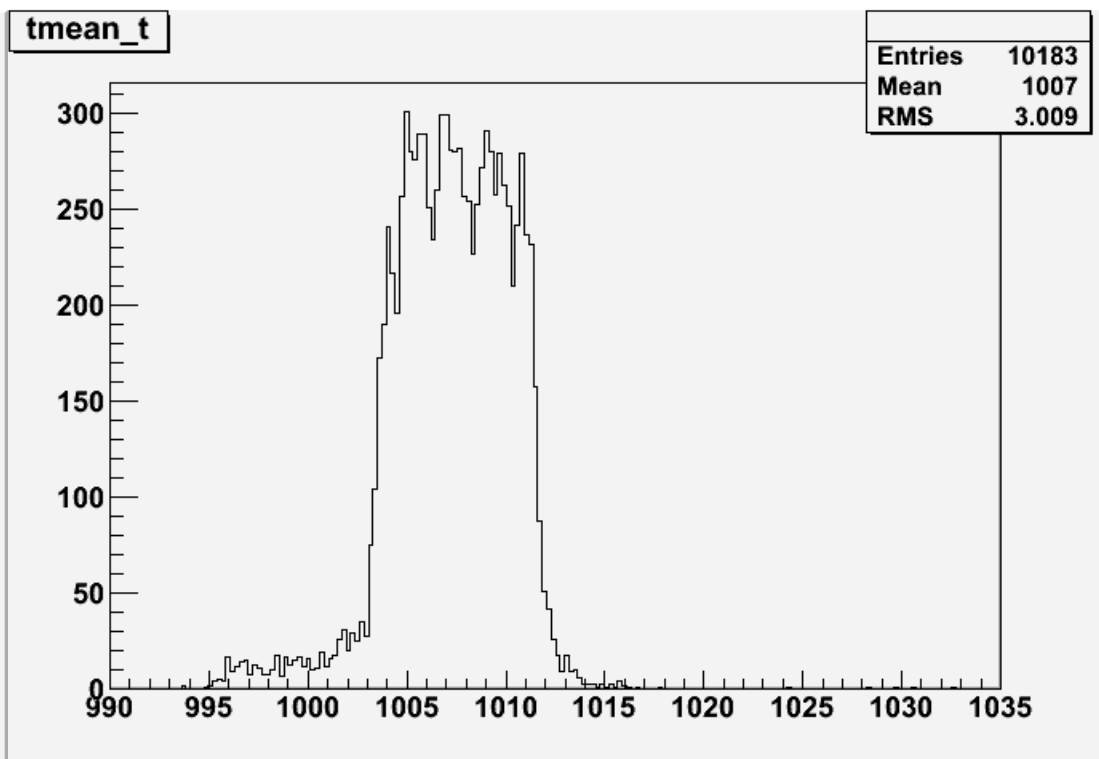
Comparison of mean time between top and bottom – at x=40cm

b. Top plastic

< 2-point interpolation >



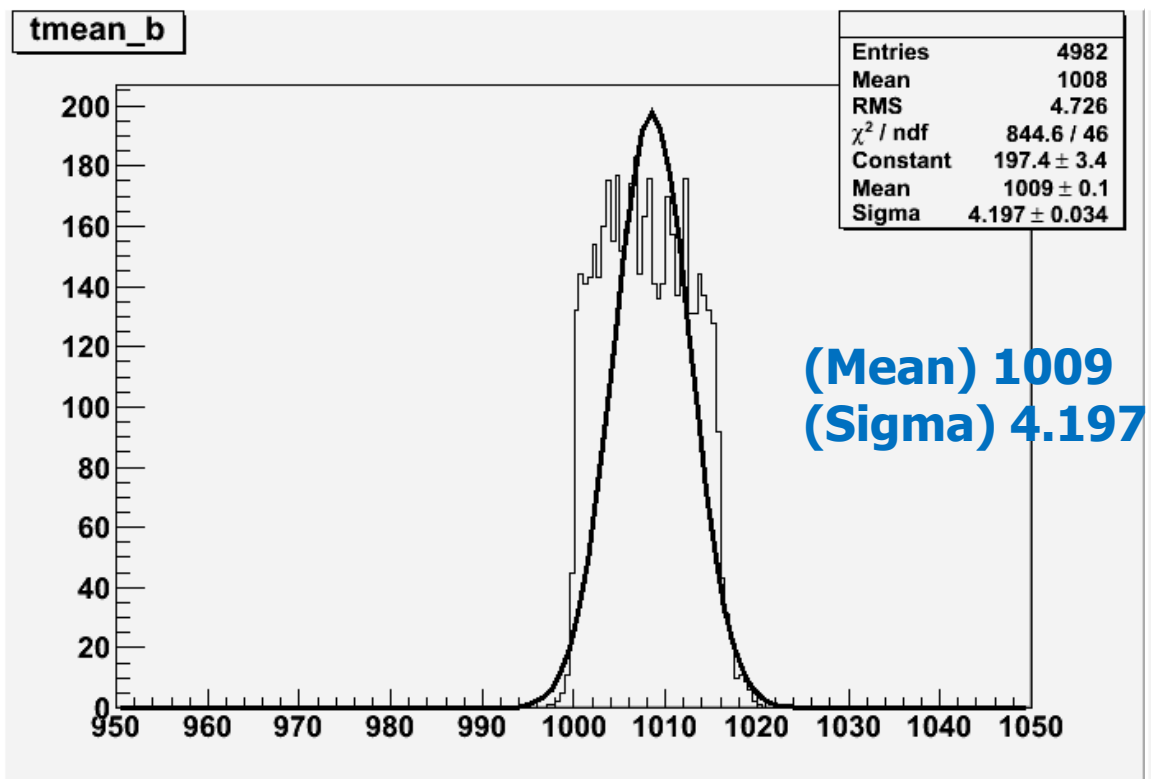
< inverse interpolation >



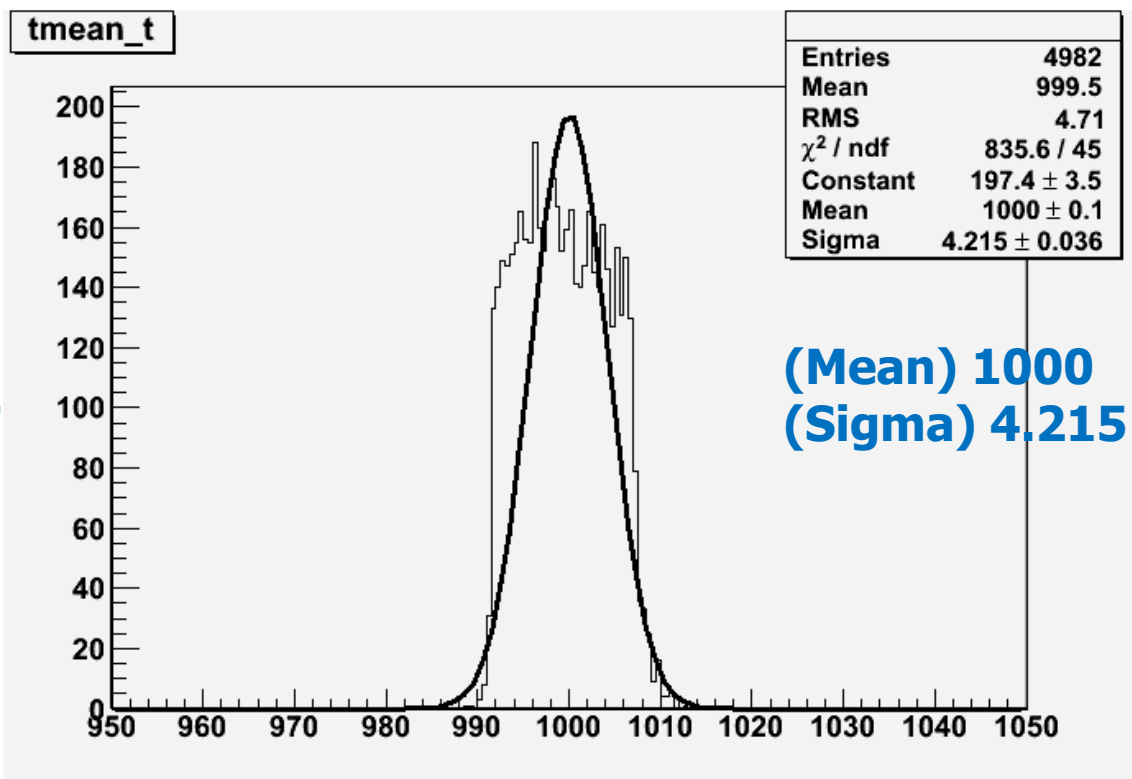
Comparison of mean time between top and bottom – at center

Fit with a Gaussian

< bottom >



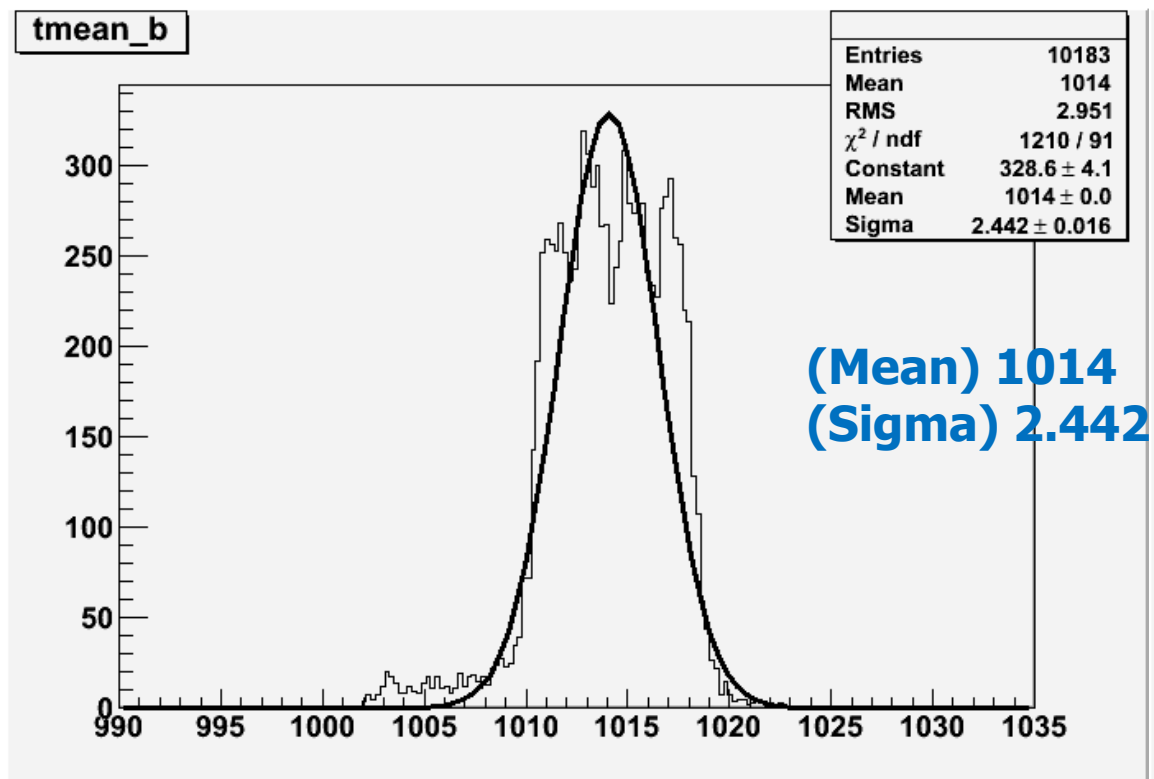
< top >



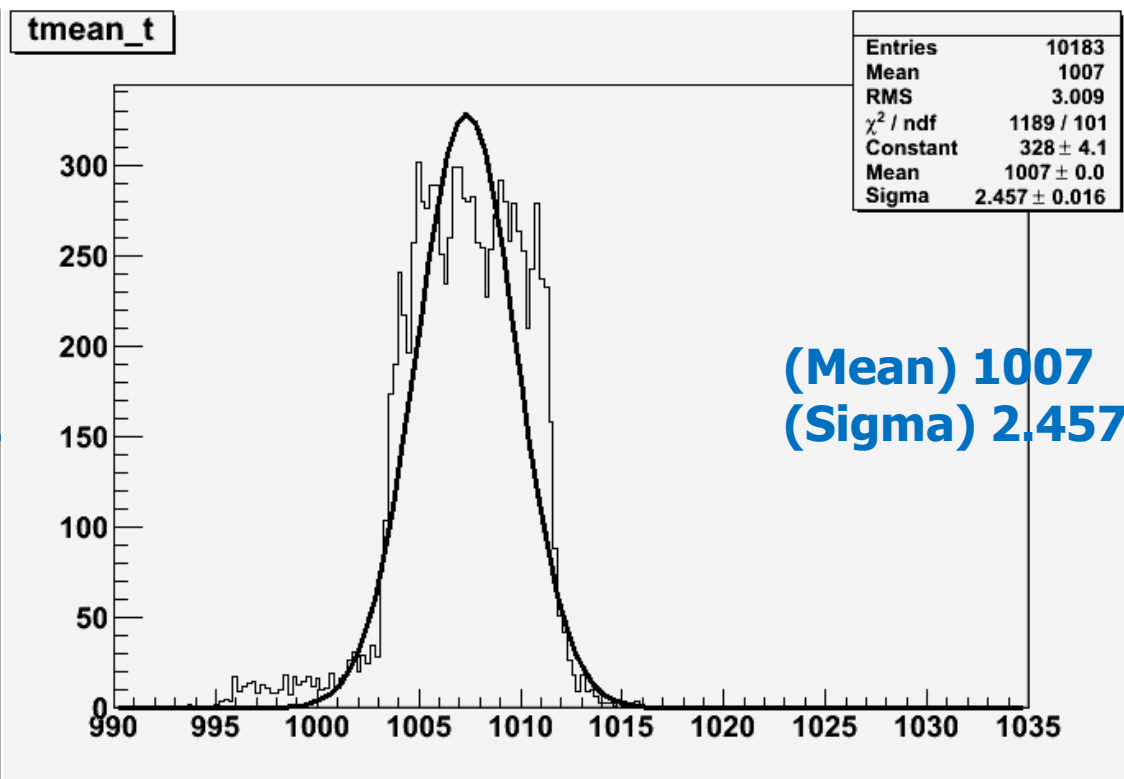
Comparison of mean time between top and bottom – at x=40cm

Fit with a Gaussian

< bottom >



< top >



TO DO

* **analysis**

Find timing difference of FADC data with Gaussian fit

* **experiments**

Set the gains similar each other (find those voltages)

See how the resolution changes when V_{cc} increases (find optimized V_{cc})

Later, investigate PMT gain near the optimized voltage