

Study about Root for FADC data Analysis

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Contents

- Draw 2D Histogram
- Calibration $dt \rightarrow dx$
- Divide Signals with Hit Position

Draw 2D Histogram

- 15,000~25,000 Entries in each 240 Trees (Tree_0, Tree_1 ... Tree_238, Tree_239)

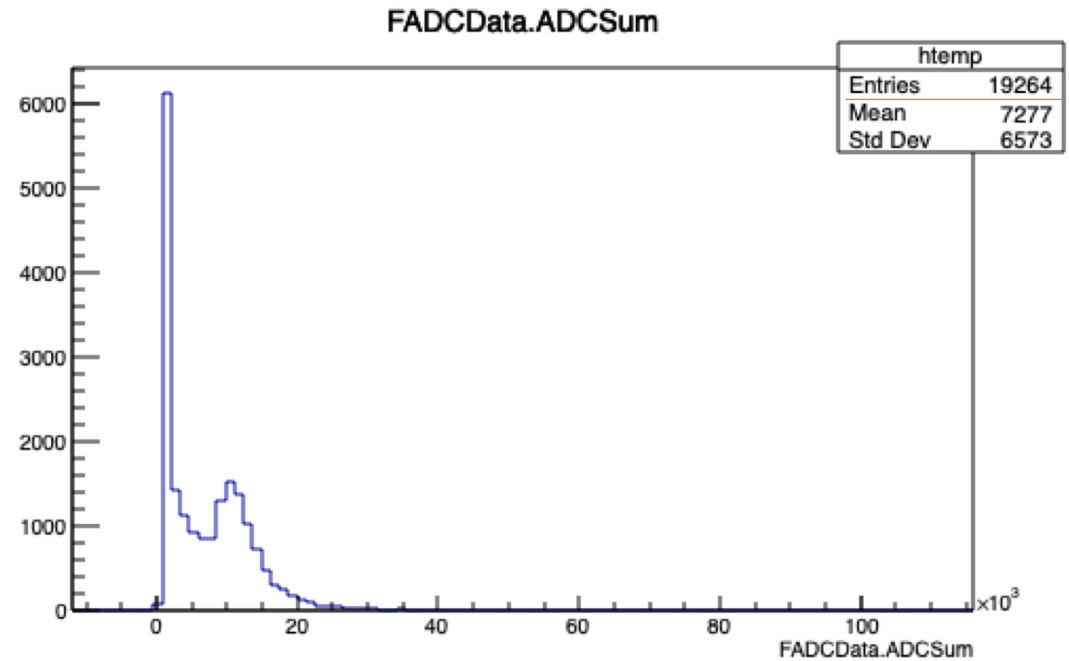
FADCCConvAll_252.root

- Tree_0;1
- Tree_1;1
- Tree_2;1
- Tree_3;1
- Tree_4;1
- Tree_5;1
- Tree_6;1
- Tree_7;1
- Tree_8;1
- Tree_9;1
- Tree_10;1
- Tree_11;1
- Tree_12;1
- Tree_13;1
- Tree_14;1
- Tree_15;1
- Tree_16;1
- Tree_17;1
- Tree_18;1
- Tree_19;1
- Tree_20;1
- Tree_21;1
- Tree_22;1
- Tree_23;1

Tree_1;1

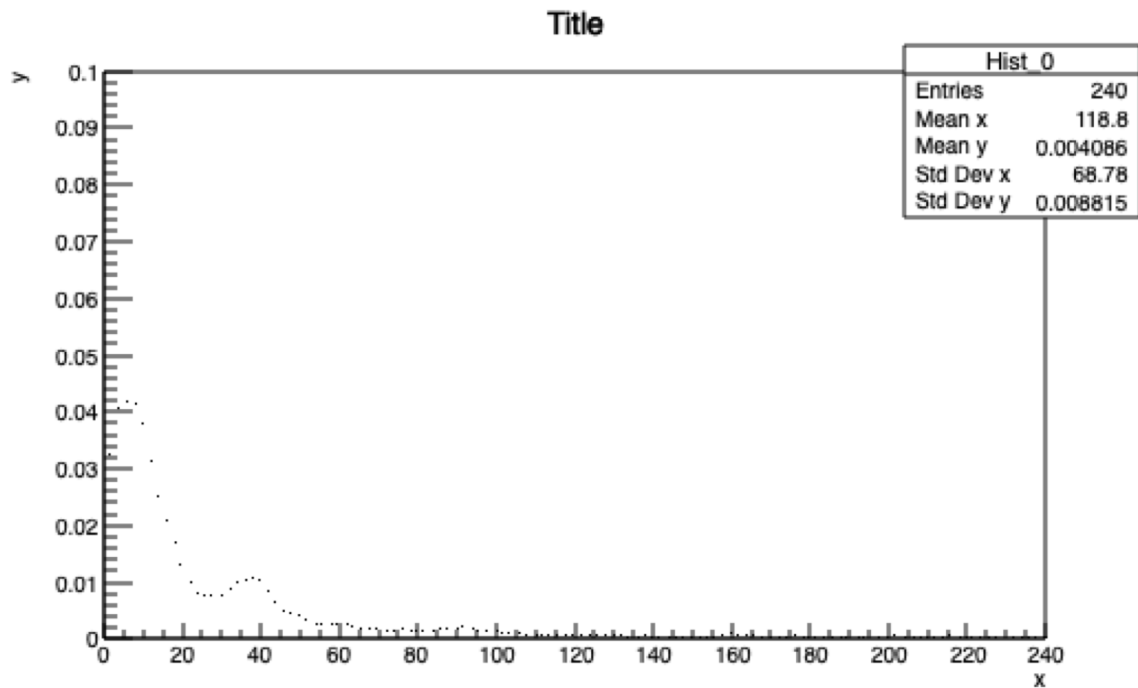
FADCCData

- TObject
- data_length
- ttype
- tnum
- lnum
- tctime
- lctime
- tftime
- lftime
- t0
- rid
- mid
- cid
- evtn
- tpattern
- ped
- nADC
- nTDC
- ADC[240]
- TDC[60]
- ADCSum
- ADCPeak
- ADCPart
- ADCTime
- ADCPed



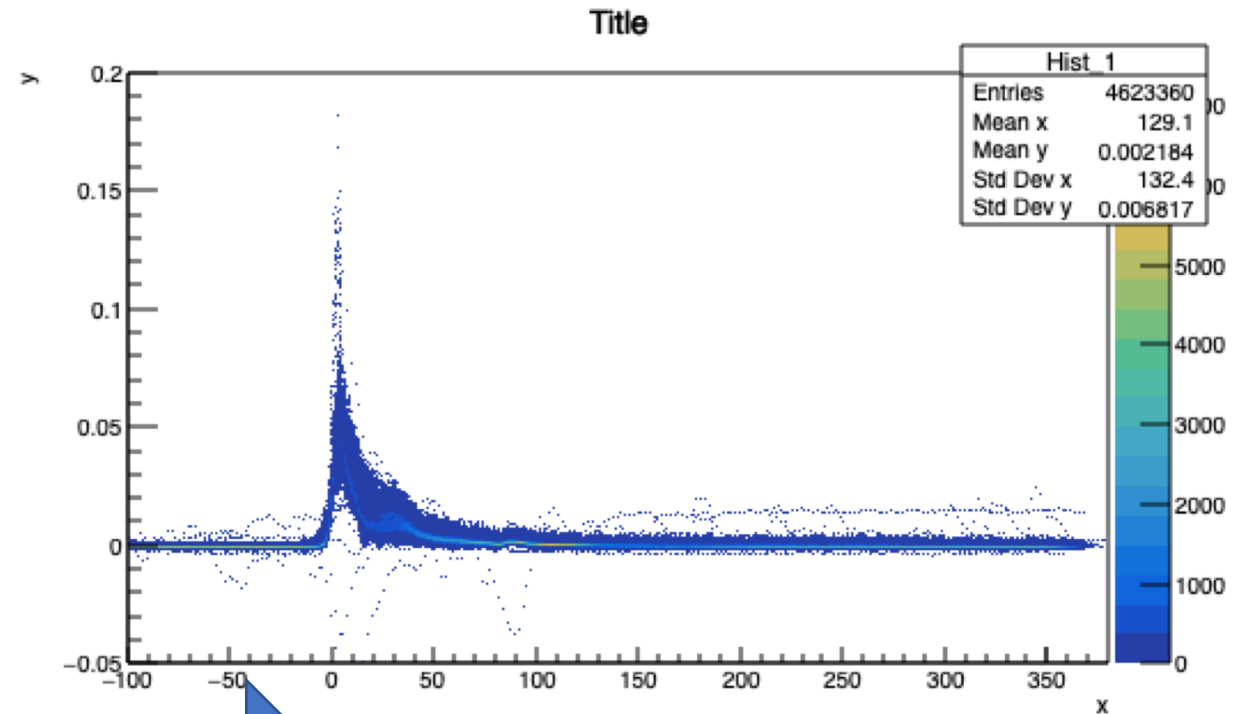
Draw 2D Histogram

- Each 240 Trees have 15,000 ~ 25,000 Entries
- Tree_1 -> Draw 2D Histogram about all of Entries.



Fill with one Entry

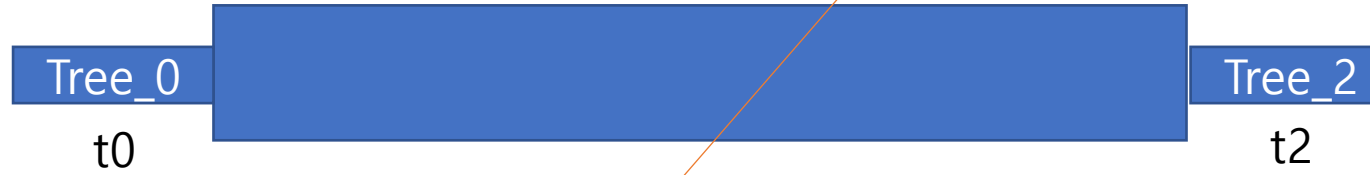
Decreased the scale of y-axis
Normalized with total area




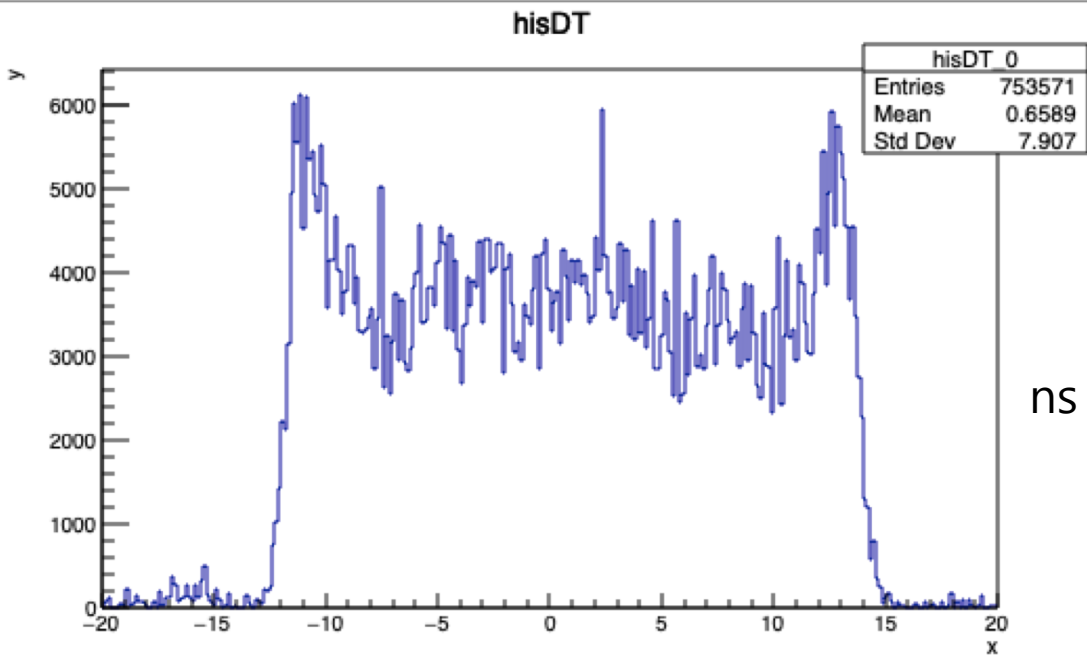
Fill With all of Entries

Calibration dt -> dx

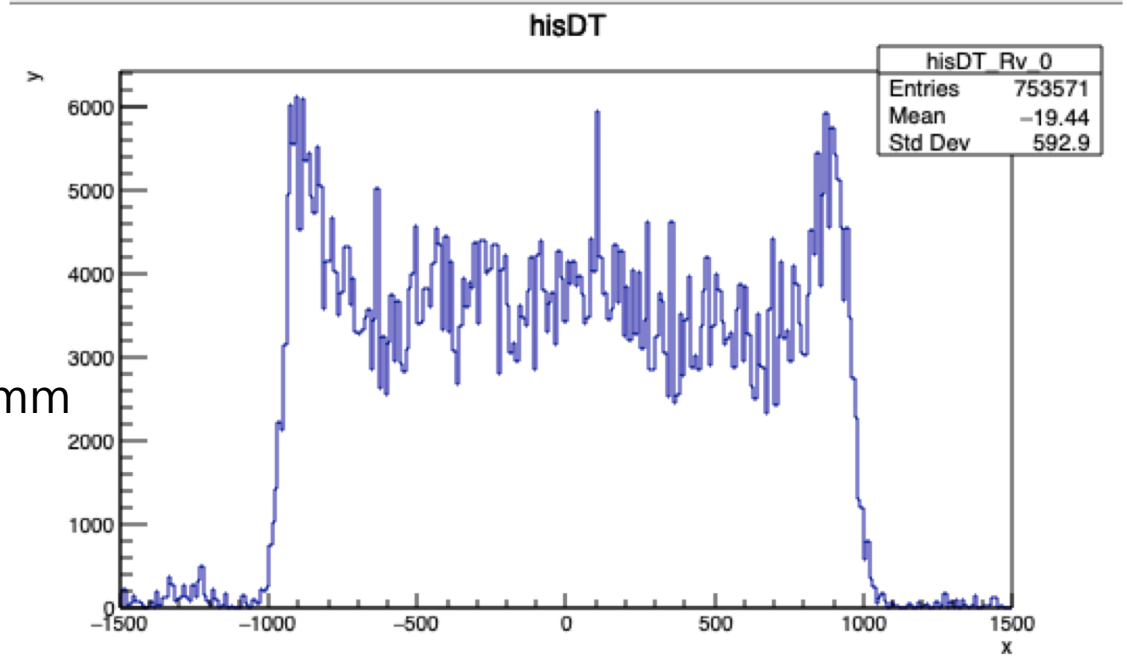
Length : 2 m
Velocity : 150 mm/ns



- Get time-information (t0, t2) 
- Draw 1D Histogram t2-t0
- Calibrate dt -> dx



ns  mm



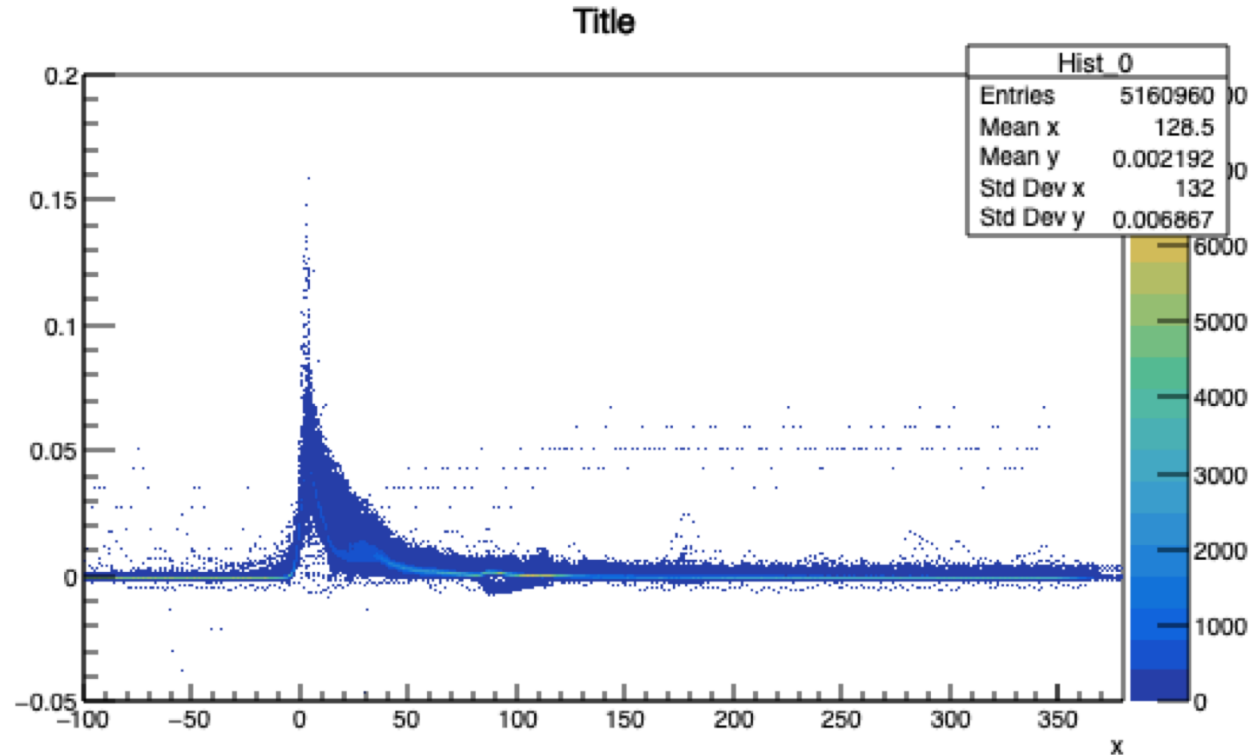
Divide Signals with Hit Position

Length : 2 m
Velocity : 150 mm/ns



Hit-Position ID : 0

- Per 0.1 m
- Hit-Position ID 0 ~ 19



Divide Signals with Hit Position

