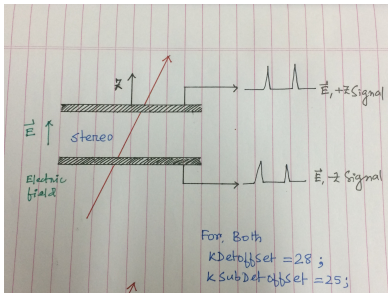
Updates of LA calculation

Muhammad Alibordi, Prabhat Ranjan Pujahari, Prafulla Kumar Behera

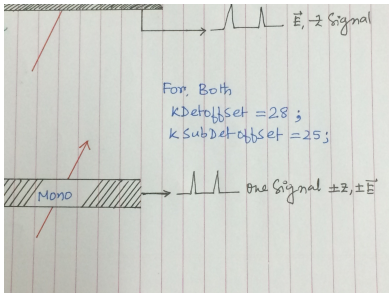
June 9, 2017

Separation of statistics from old data file based upon the orientation of electric field

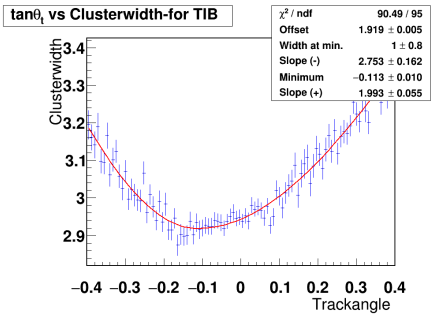
We have separated the statistics for first two layers of TIB and TOB respectively depending upon the orientation of electricfield. First two layer of TIB and TOB are stereo detectors that has (r,z) and (r,ϕ) mesurement process as shown in figure. z unit vector is considered in local frame of the single detector and positively directed from the plane of the detector perpendicularly. Negative direction of z is the opposite to the electric field **E**. We have included 4 new plots for stereo detectors for both TIB and TOB respectively and 2 new plots for last two layes of TOB. To get the plots for the detectors TID and TEC we are working. For last two layers(5,6) why the nature of plots are wired is still unknown to us. For that we have to investigate further. This is detector index based separation of statistics.



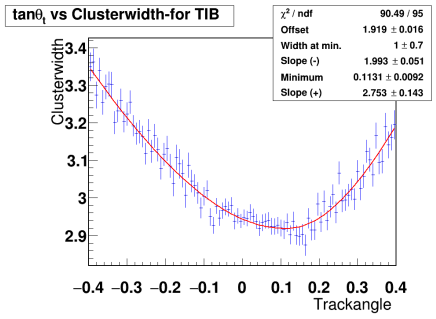
(a) ve$^{\pm}$ z and $\pm$**E**



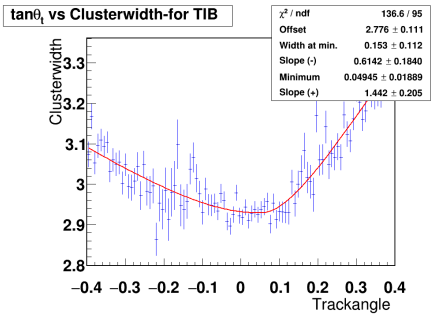
(b) ve$^{\pm}$ z and $\pm$**E**



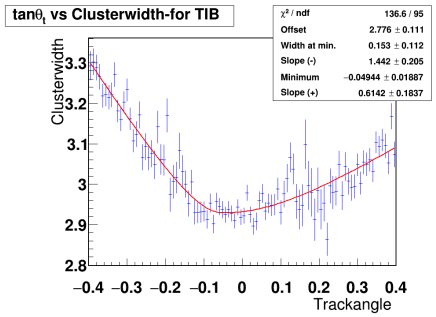
(a) ve^{+} z and **E** for TIBL1



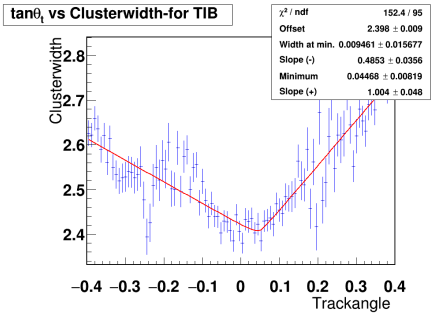
(b) ve^{-} z and -**E** for TIBL1



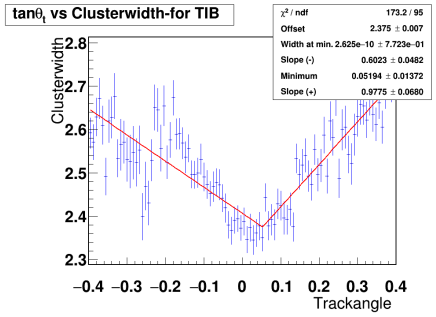
(a) ve$^+$ z and **E** for TIBL2



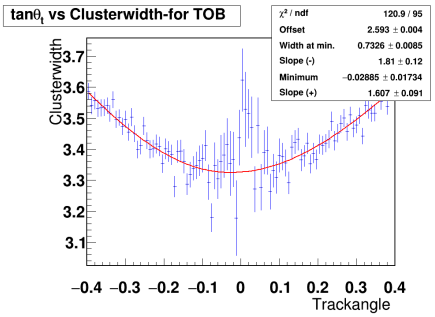
(b) ve$^-$ z and -**E** for TIBL2



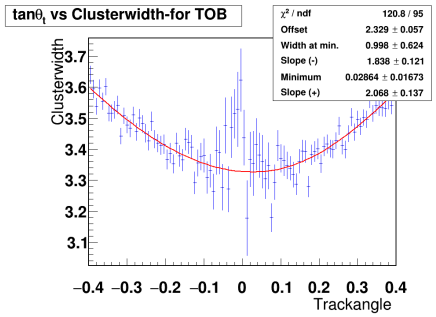
(a) ve$^+$ z and **E** for TIBL3



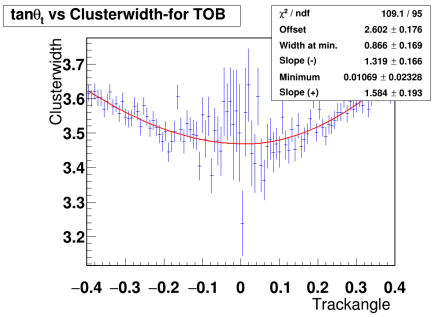
(b) ve$^+$ z and **E** for TIBL4



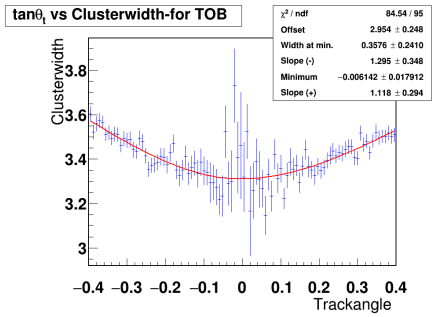
(a) ve$^+$ z and **E** for TOBL1



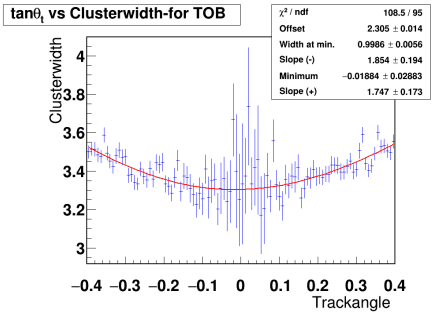
(b) ve$^-$ z and -**E** for TOBL1



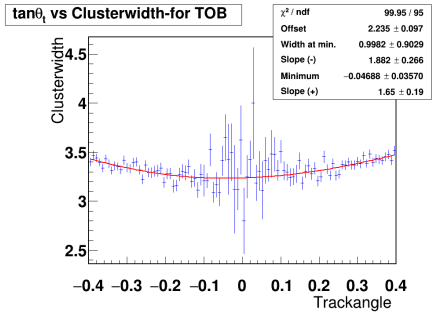
(a) ve^{+} z and **E** for TOBL2



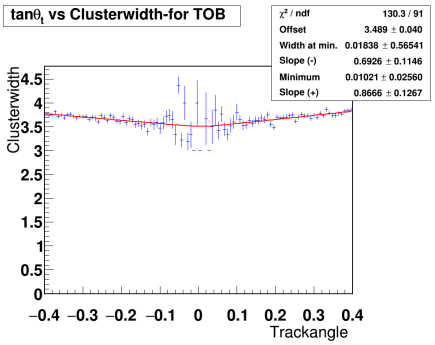
(b) ve^{-} z and -**E** for TOBL2



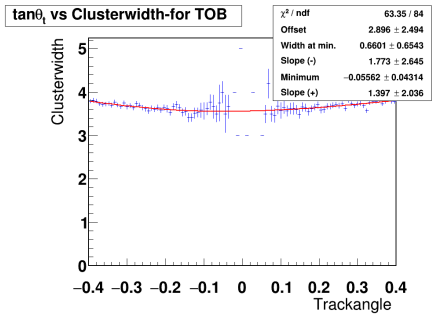
(a) ve^{+} z and **E** for TOBL3



(b) ve^{+} z and **E** for TOBL4



(a) ve^{+} z and **E** for TOBL5



(b) ve^{+} z and **E** for TOBL6

Results , all in A^0

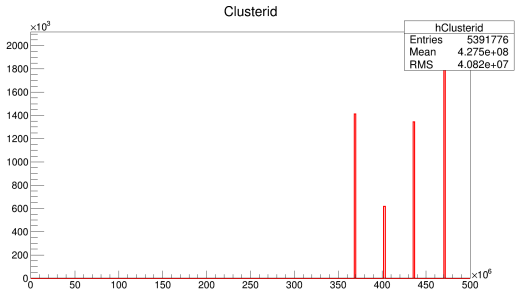
- TIBL1, Positive **E**:-6.44
- TIBL1, Negative **E**:6.45
- TIBL2, Positive **E**:2.83

- TIBL2, Negative **E**:-2.83
- TIBL3:2.55
- TIBL4:2.97
- TOBL1, Positive **E**:-1.65
- TOBL1, Negative **E**:1.64
- TOBL2, Positive **E**:0.61
- TOBL2, Negative **E**:-0.35
- TOBL3:-1.07
- TOBL4:-2.68
- TOBL5:0.584
- TOBL6:-3.1835

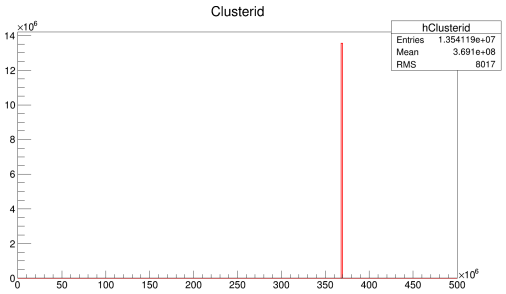
Problem with new data file

- The new ntuple I have been booked there is a problem with clusterdetid. This variable usually comes with the information of four different detectors (TIB,TOB,TEC,TID). But in my case its not the fact. That means the data I am geeting is taking statistics from all dtectors. That problem has to be slolved. Even the single peak is not the first layer, that I have checked.
- 2nd problem is that though this data file does not contain information of all detectors I can not separate statistics(actually there is no question of it). But the snippet script that provided by **Dr. Alessandro** I am not able to understand how to use this helperclasses. If it is possible for Alessandro or anyone to help in this regard then it will be helpfull for this analysis. I have kept my code and new data file here, /afs/cern.ch/work/a/amd/public.

  So there are two things that we have to do
  1. We have to get information of all detectors, I am searching the script or command which will provide me these informations, if anyone helps then it will be better.
  2. Alessandro has to help me how to impliment the helper classes he mention and how to use them. I need only one separation then I will carry on.



(a) Clusterdetid from old data



(b) Clusterdetid from new data