

Pass0 Analysis: SVT Hits and Timing

Norman Graf (SLAC)

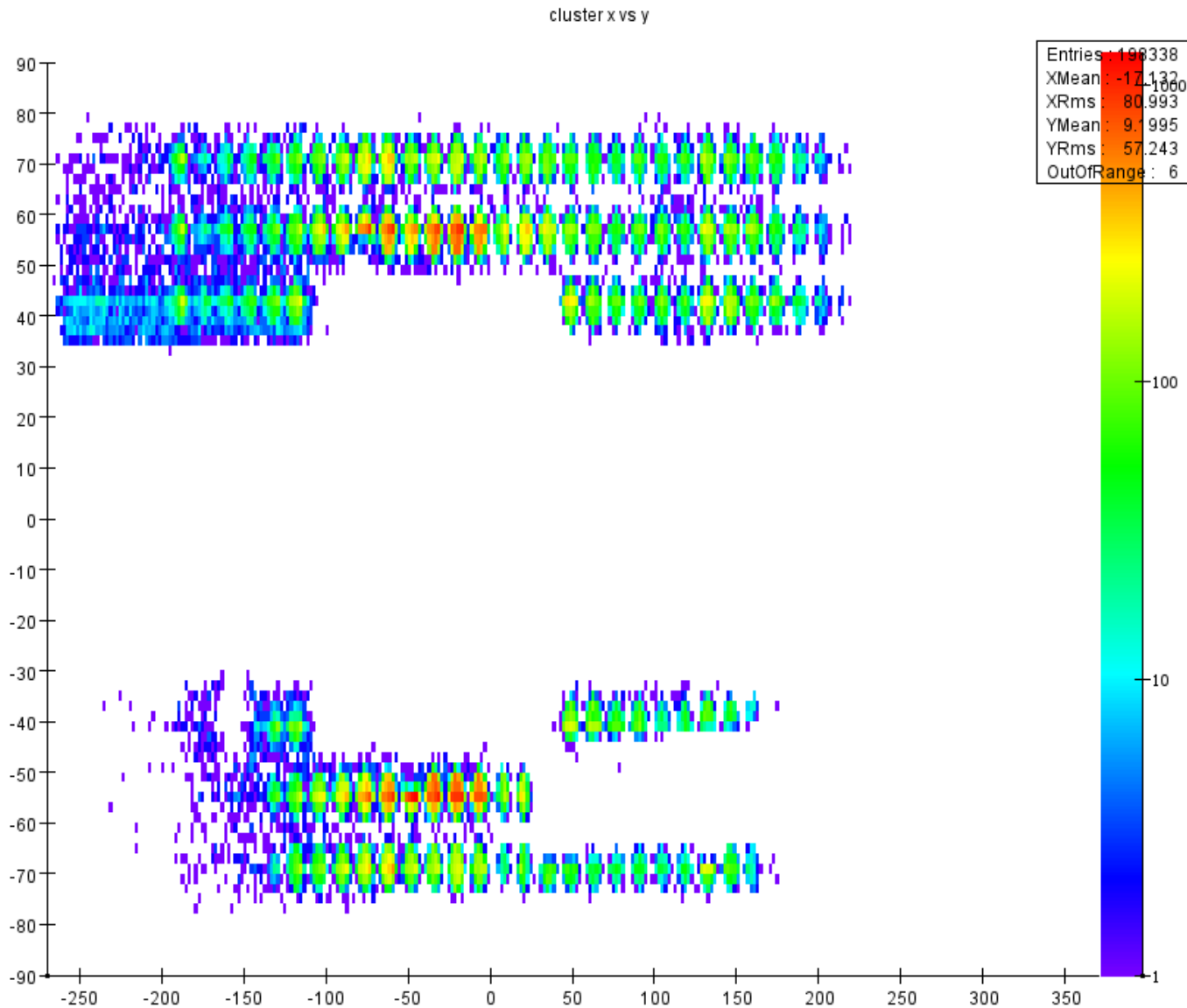
Reconstruction / Analysis Meeting

March 28, 2023

SVT Hits and Timing Data

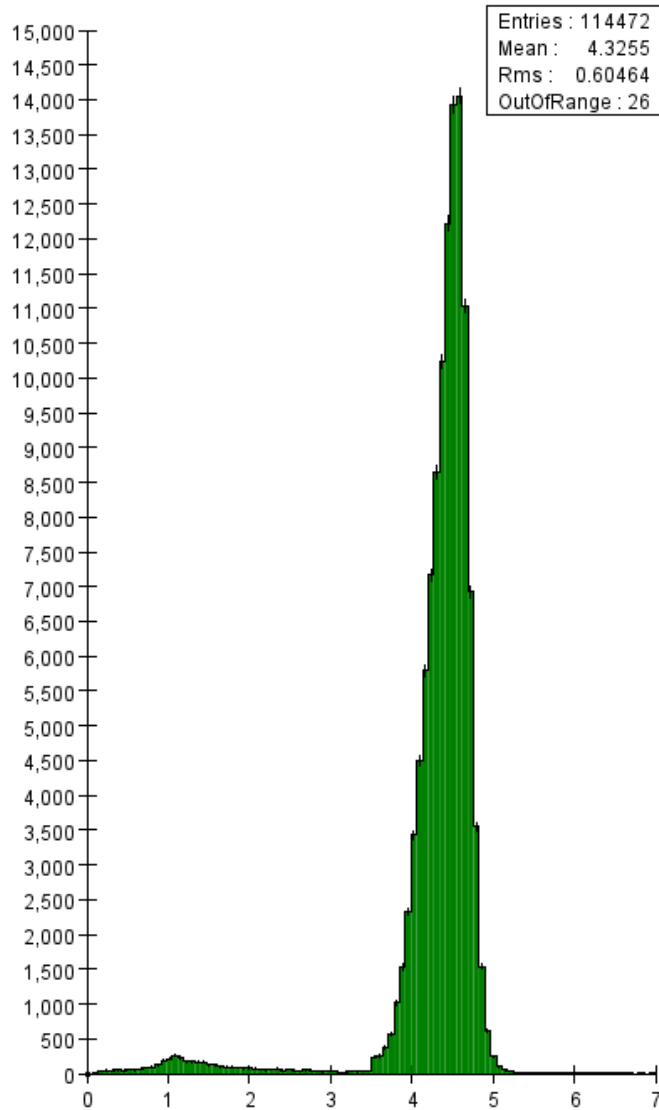
- 2019 pass0 FEE skims
- Quick look at SVT hits and timing

FEE Cluster X vs Y

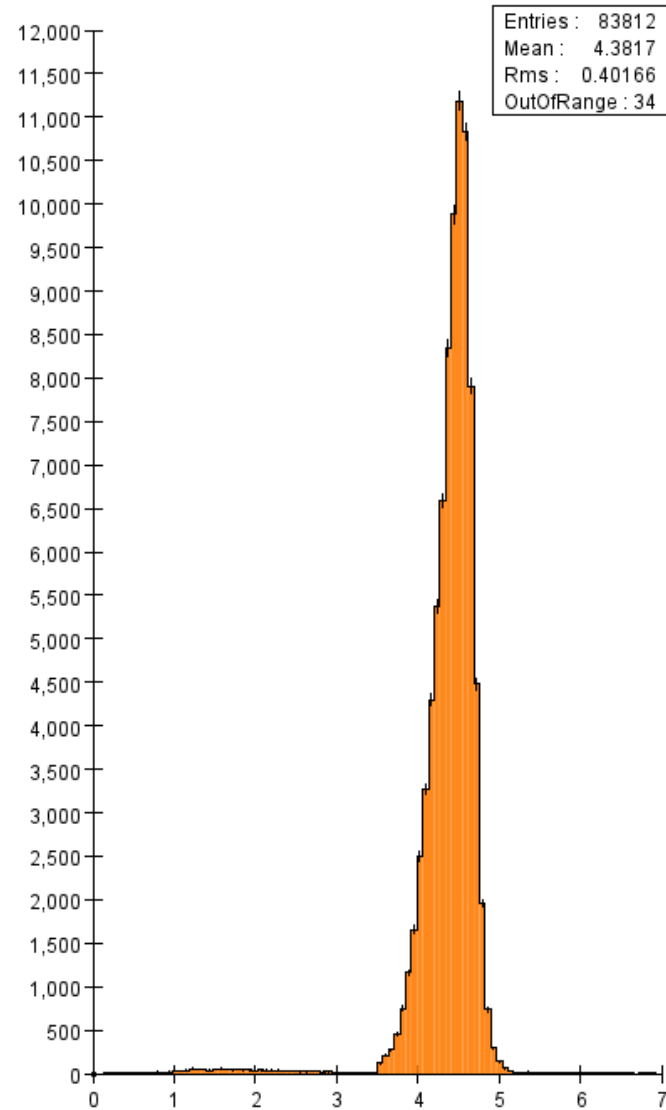


FEE Cluster Energy

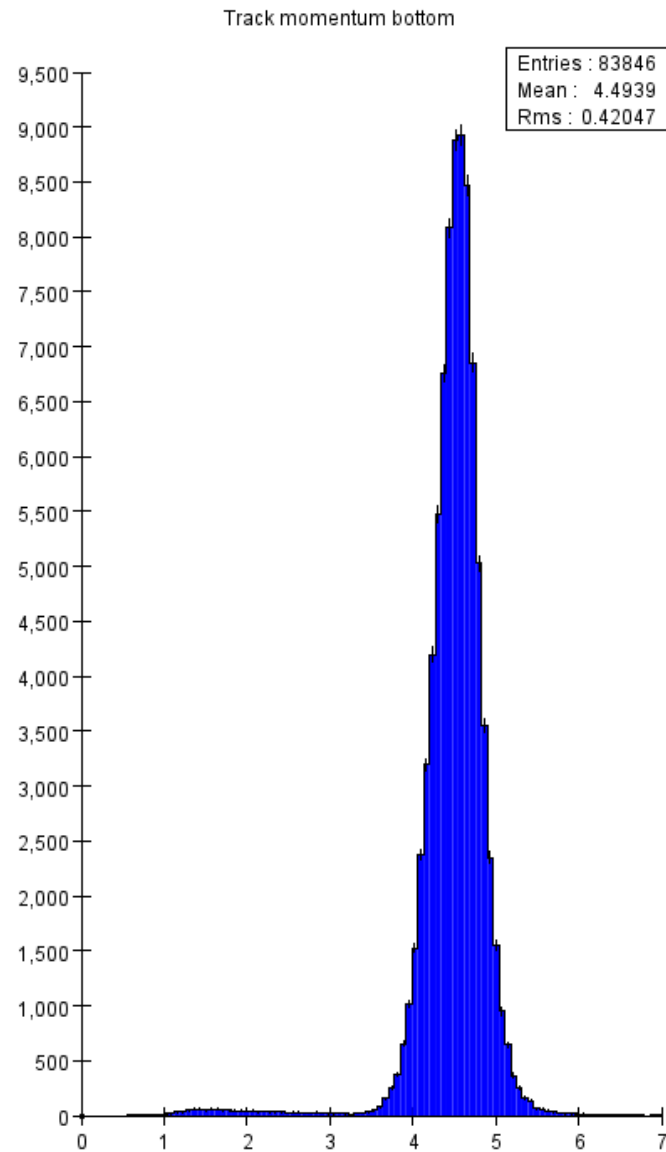
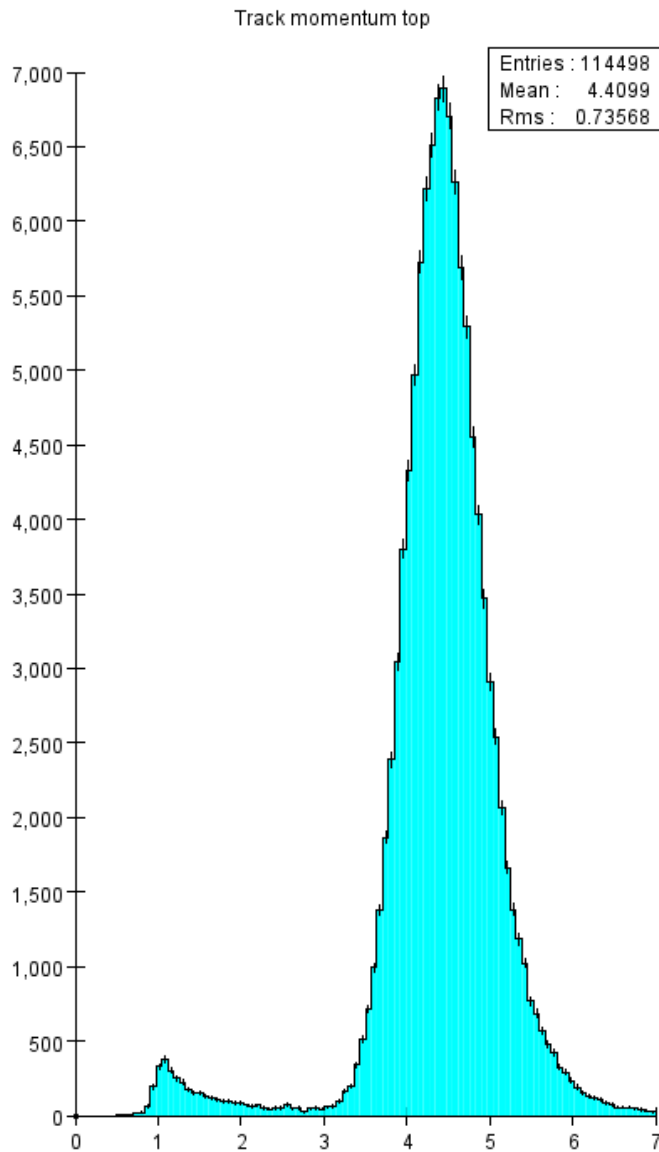
Top electron cluster energy



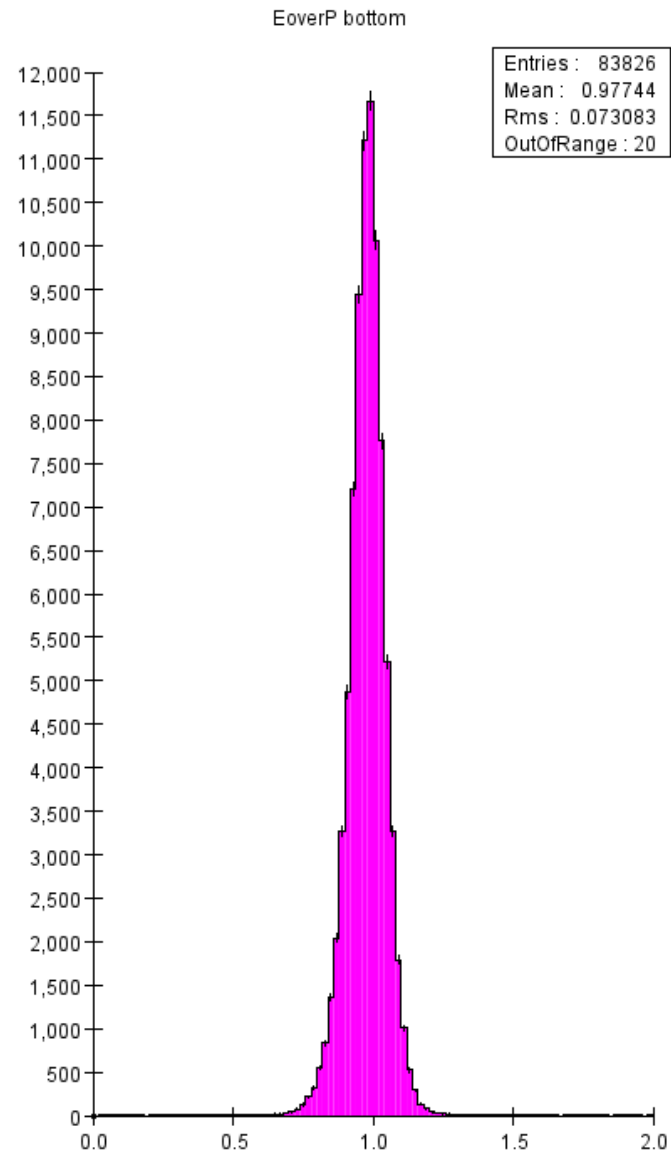
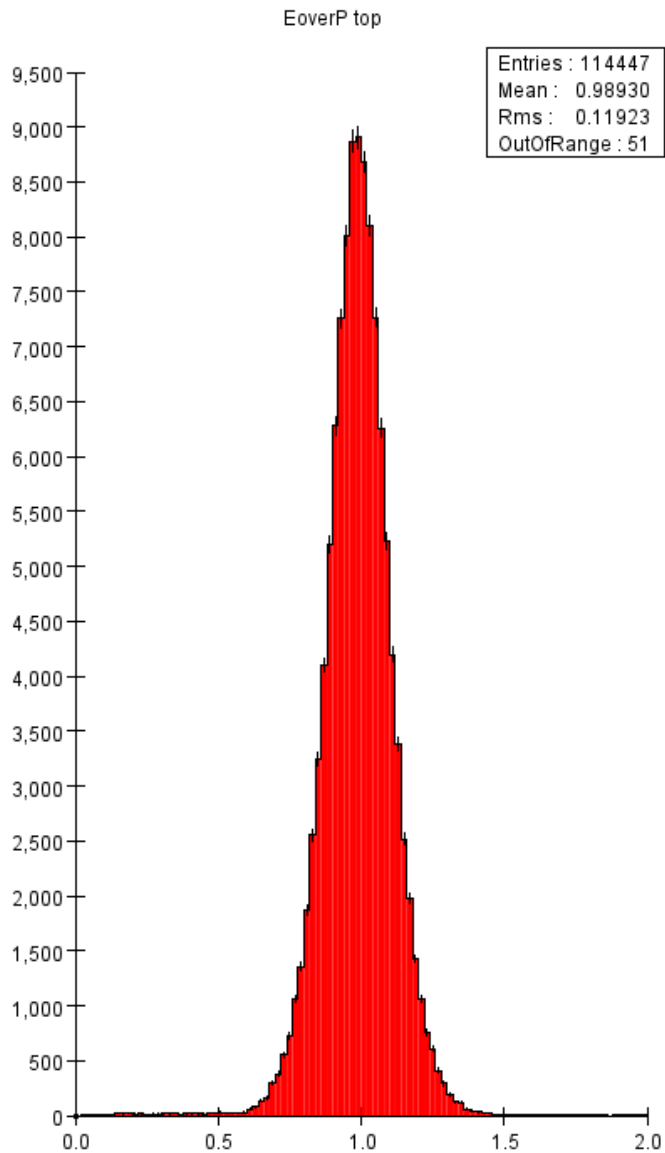
Bottom electron cluster energy



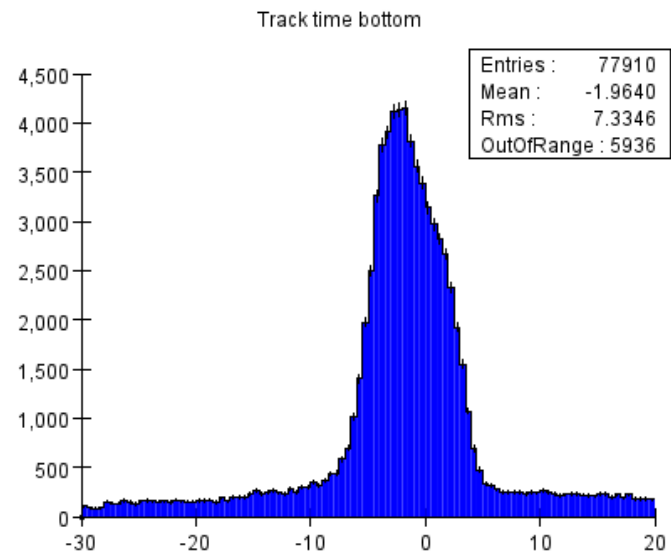
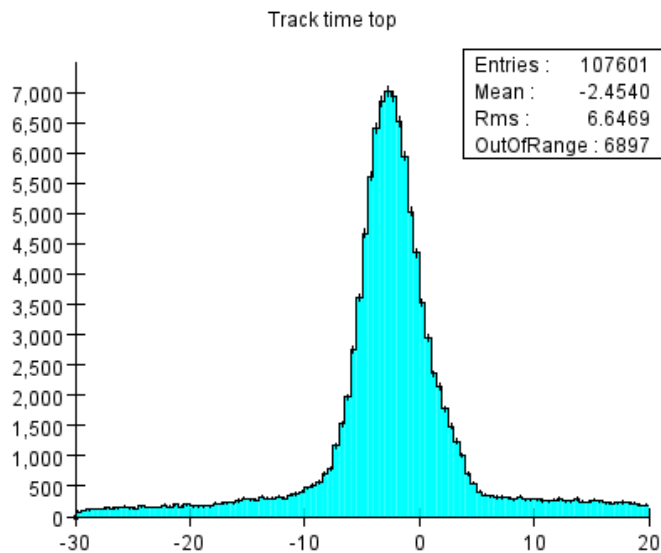
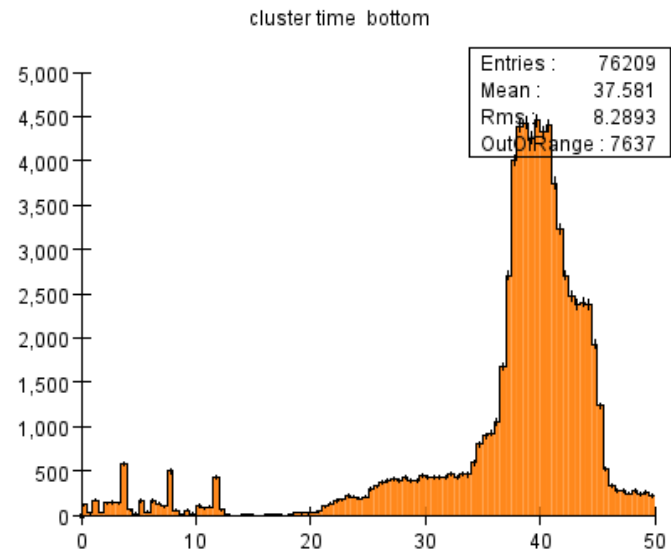
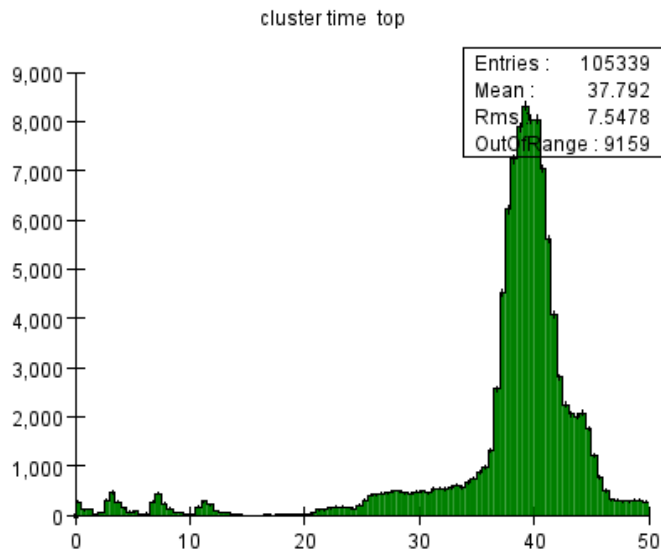
FEE Track Momentum



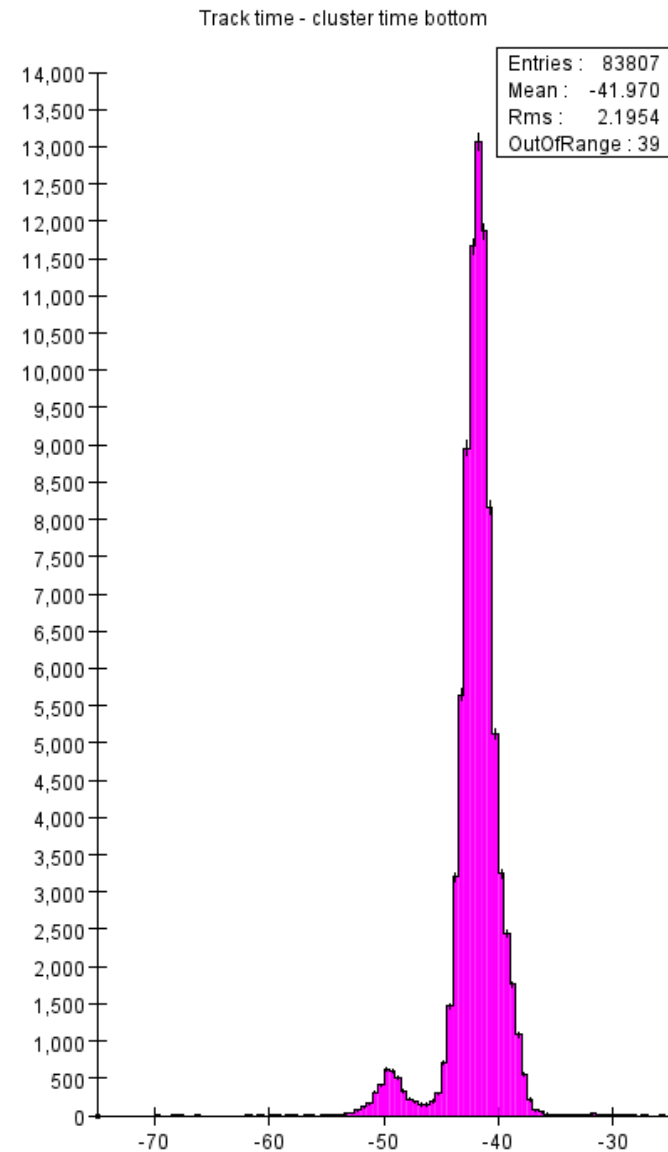
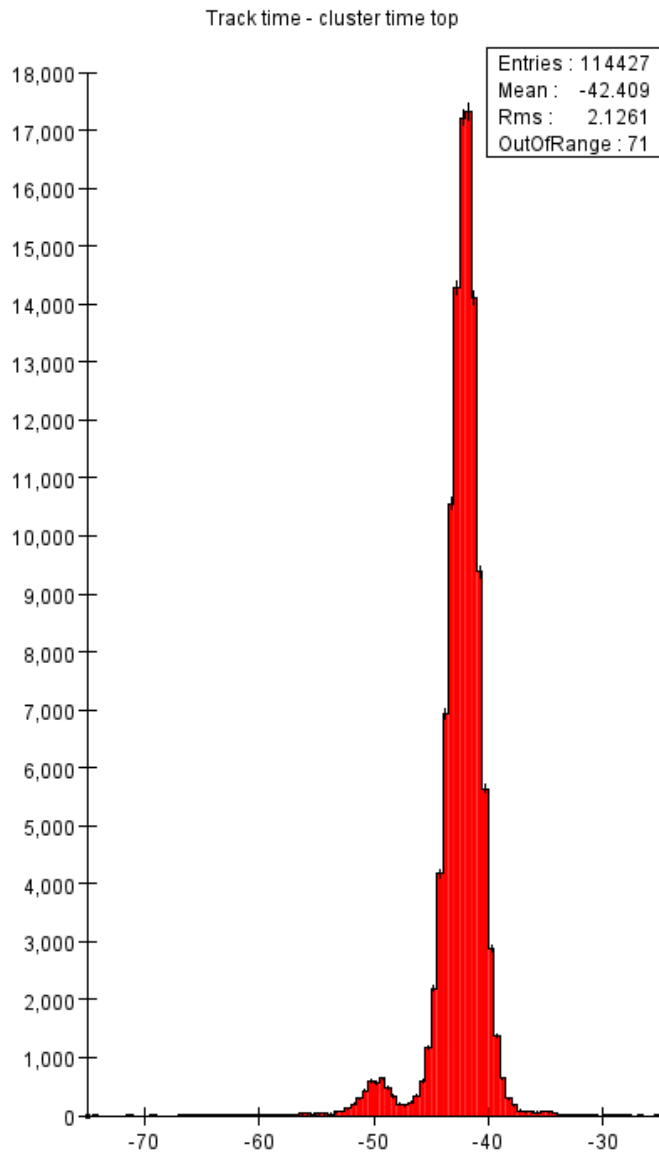
FEE E/p



FEE Cluster and Track Times

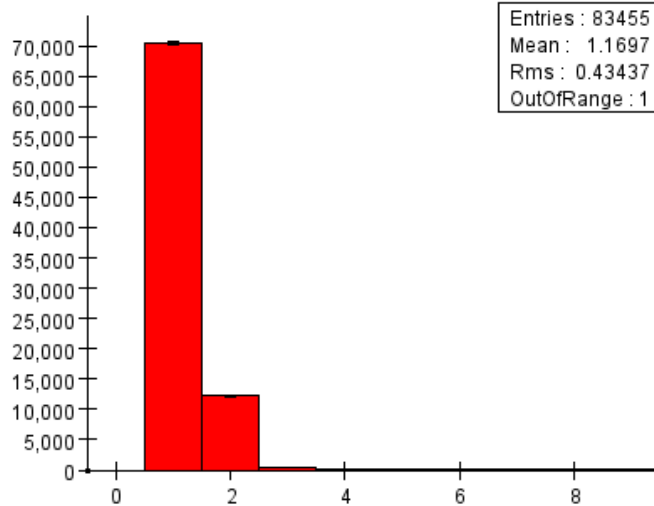


FEE Track Time - Cluster Time

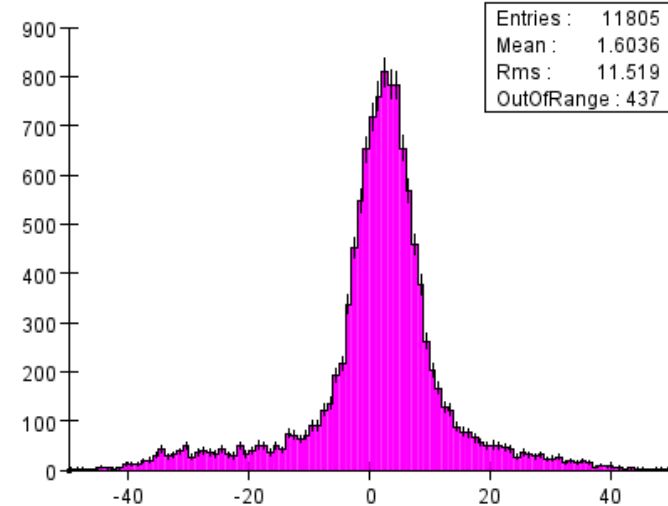


Track Hit Times Layer 1

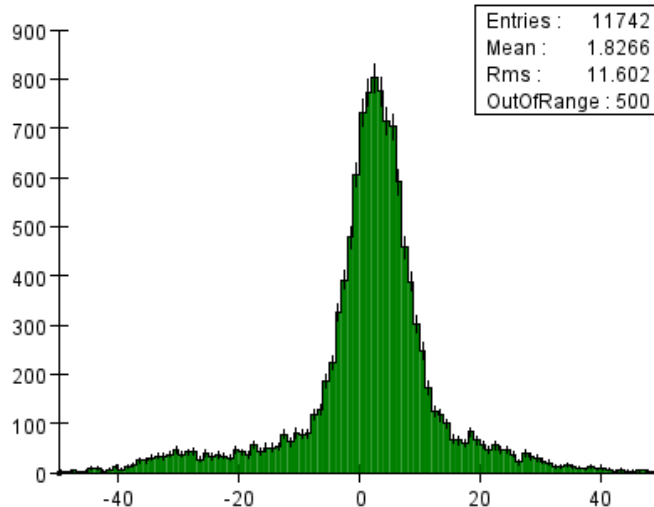
module_L1b_halfmodule_axial_sensor0 strip hit size



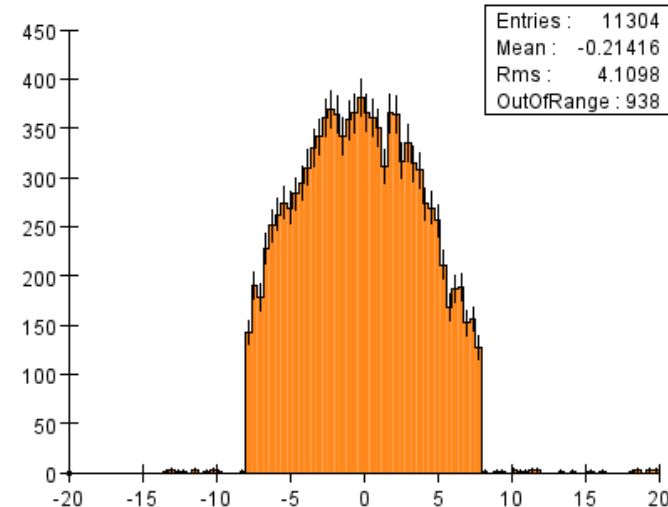
module_L1b_halfmodule_axial_sensor0 strip1 time



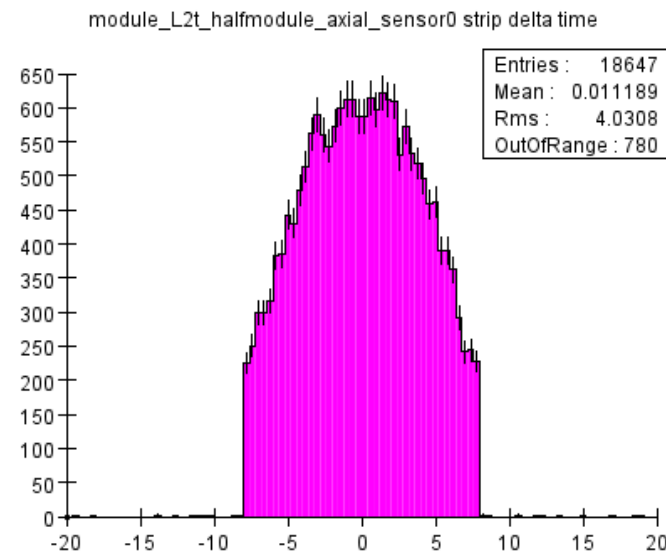
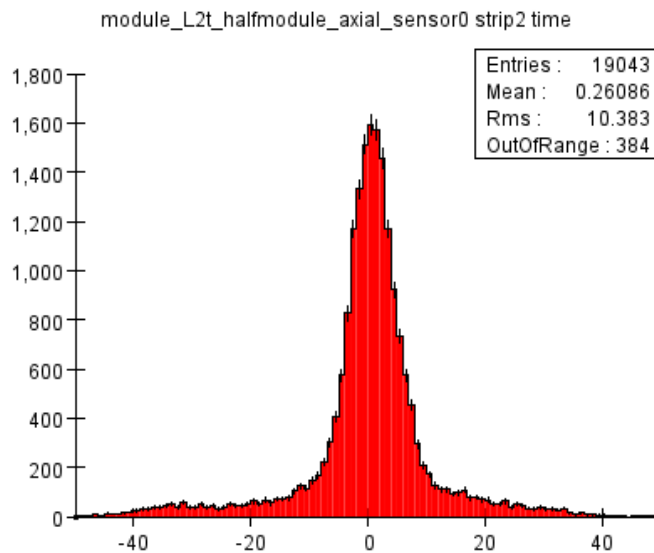
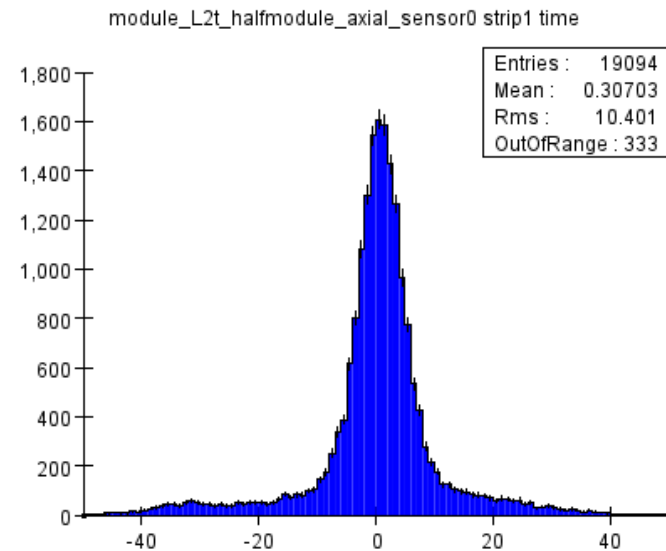
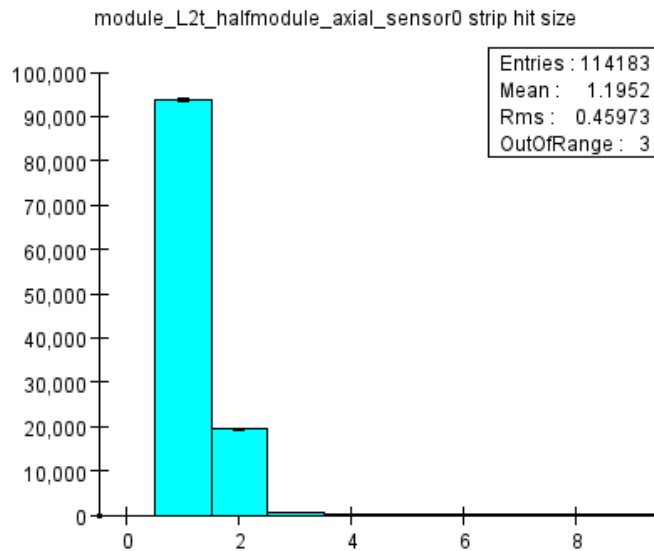
module_L1b_halfmodule_axial_sensor0 strip2 time



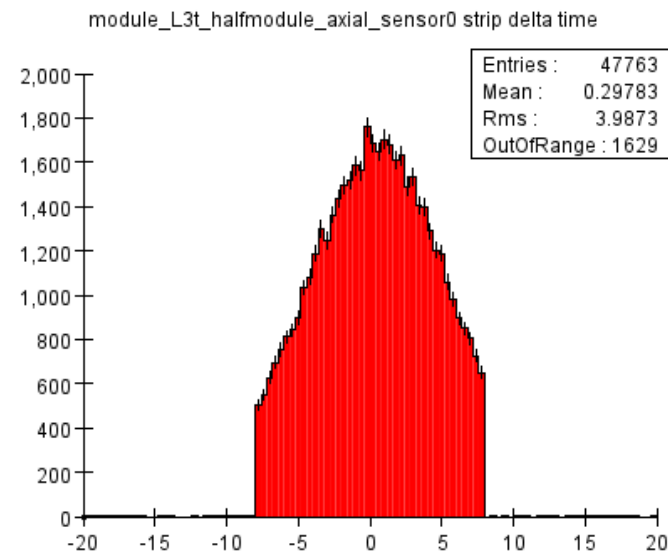
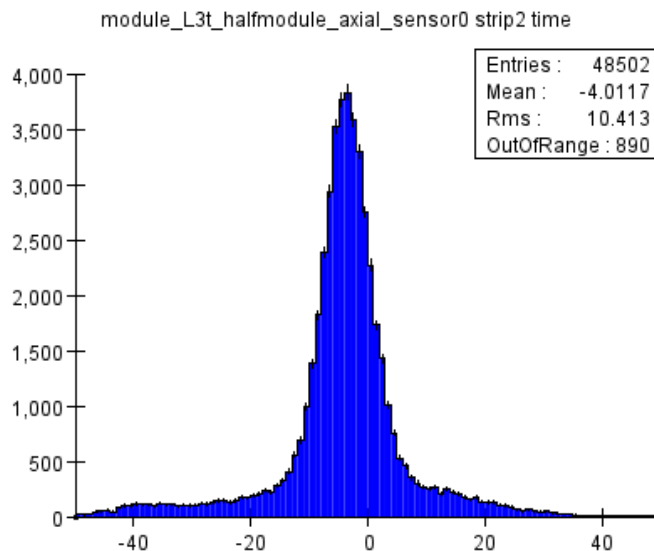
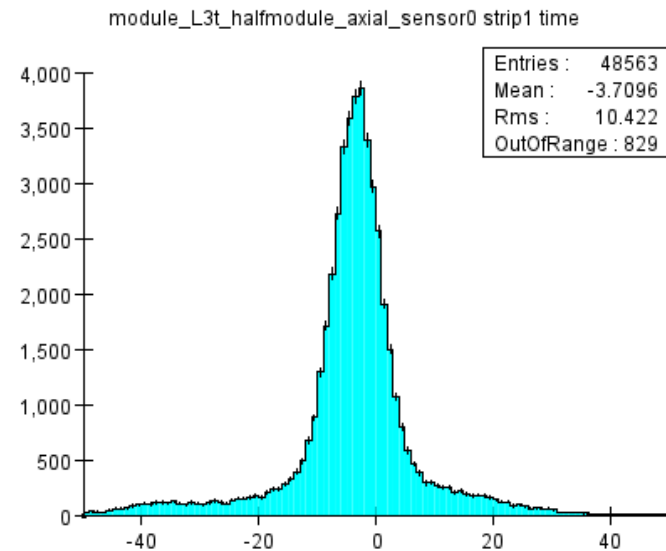
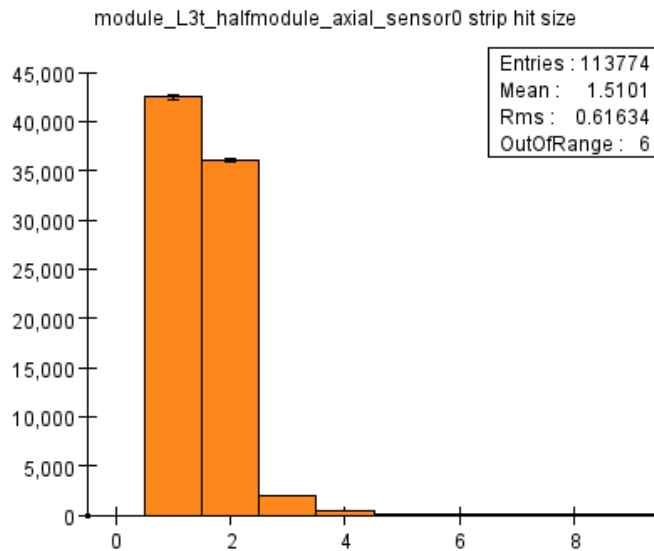
module_L1b_halfmodule_axial_sensor0 strip delta time



Track Hit Times Layer 2

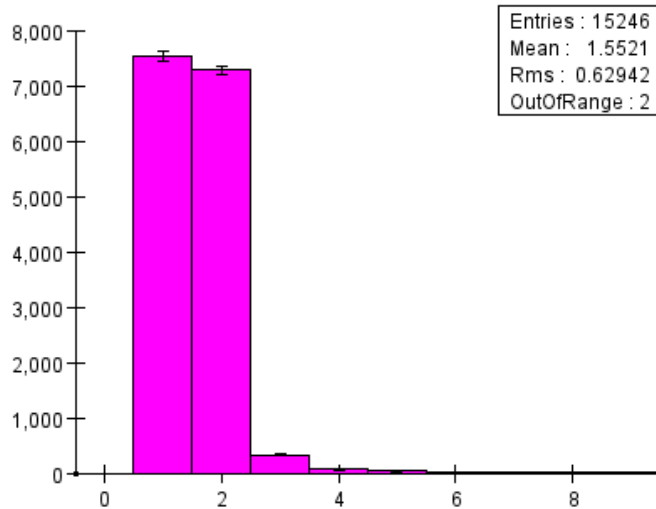


Track Hit Times Layer 3

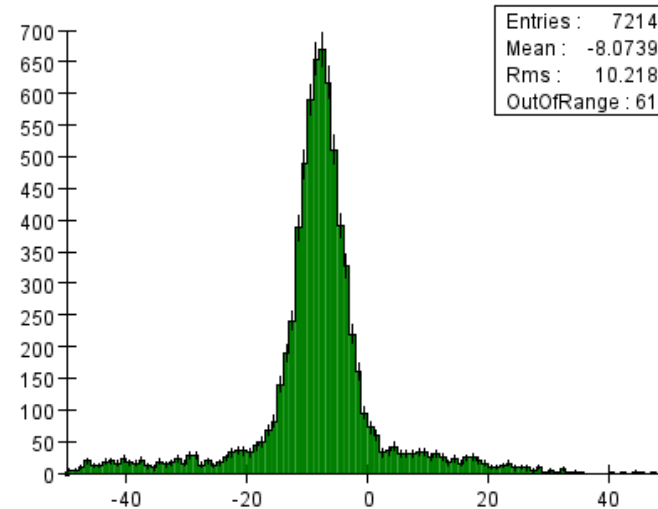


Track Hit Times Layer 7

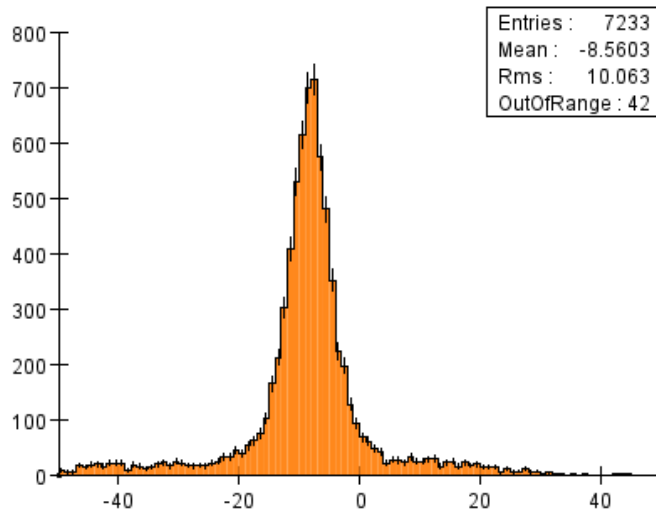
module_L7t_halfmodule_axial_hole_sensor0 strip hit size



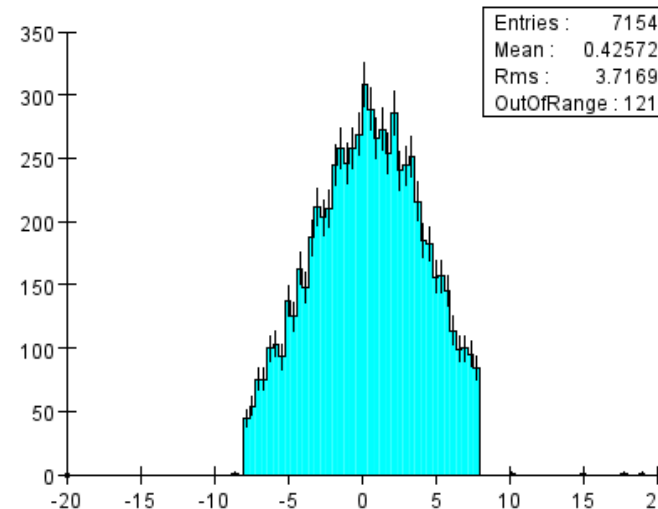
module_L7t_halfmodule_axial_hole_sensor0 strip1 time



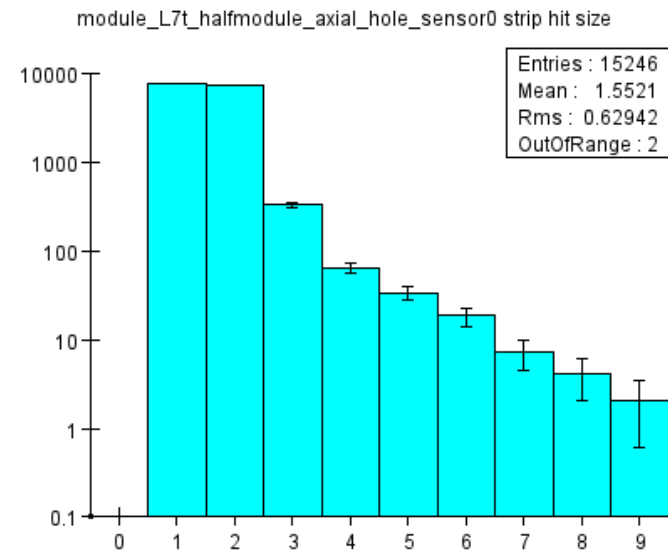
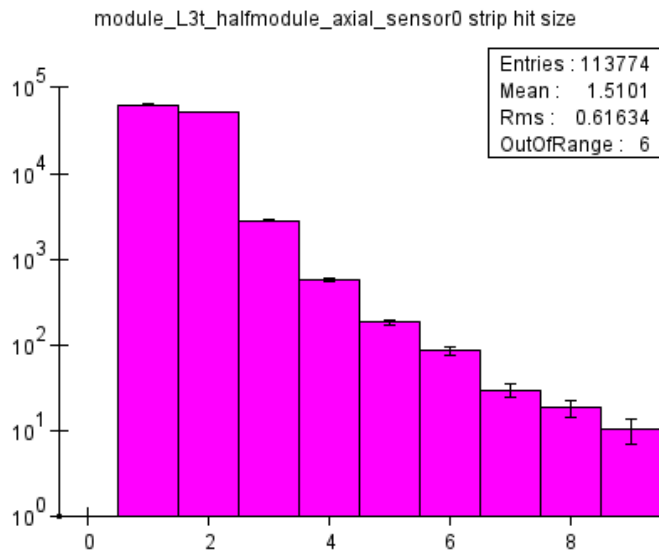
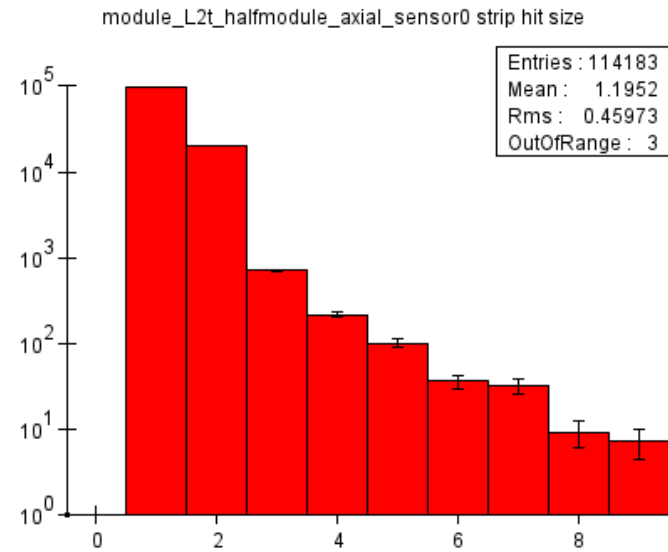
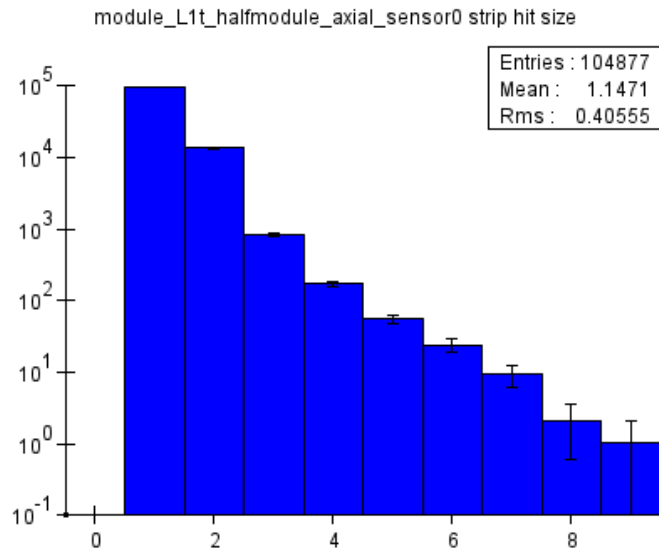
module_L7t_halfmodule_axial_hole_sensor0 strip2 time



module_L7t_halfmodule_axial_hole_sensor0 strip delta time



SVT Hit Cluster Size

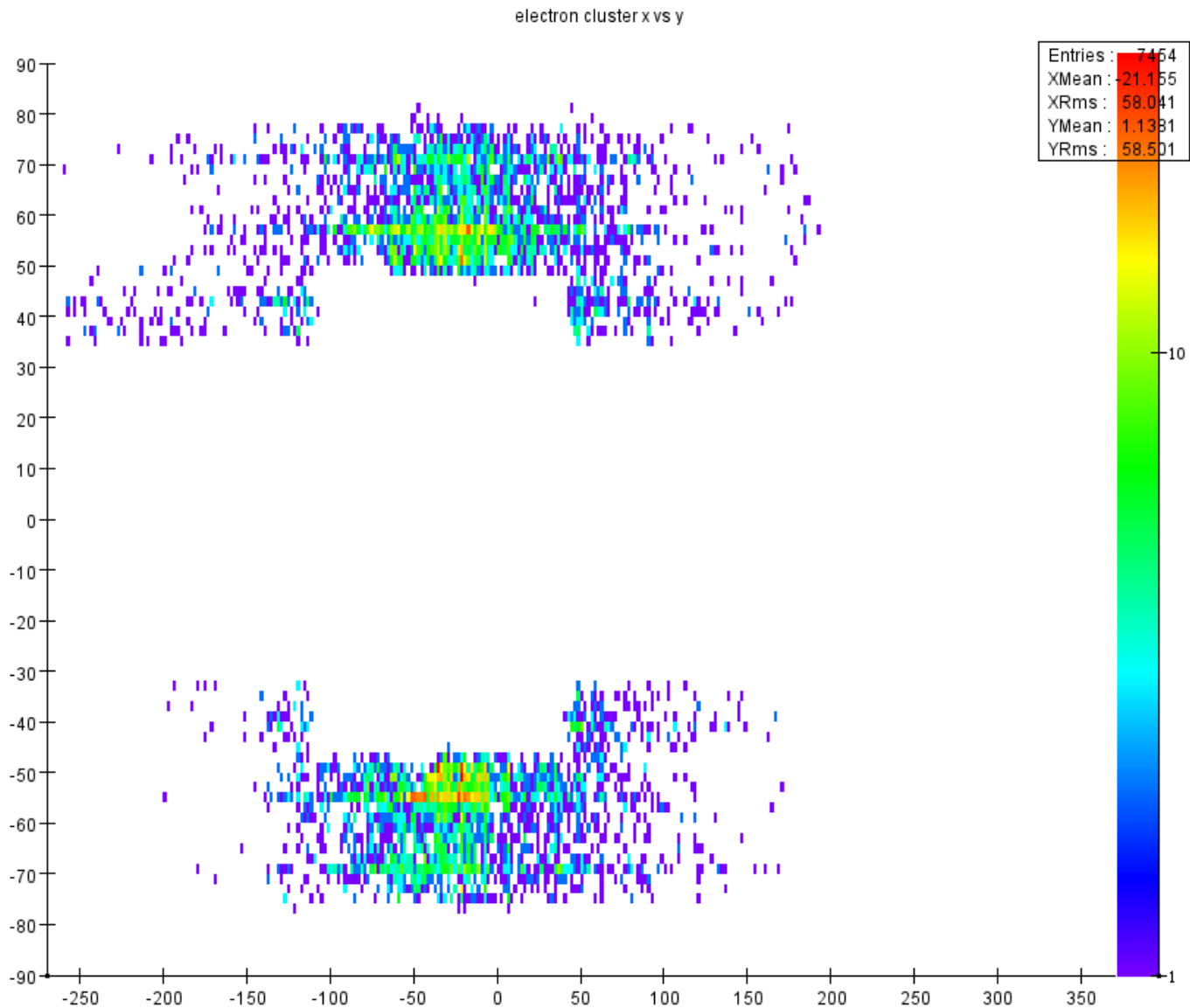


Summary

- SVT cluster sizes look ~OK
 - mostly single strip hits in layers 1 & 2
 - roughly equal numbers of 1 & 2 hit clusters
- See long tail up to and exceeding 9 hits in a cluster
- Cut on 8 ns delta-time between strips in cluster seems too aggressive at this time

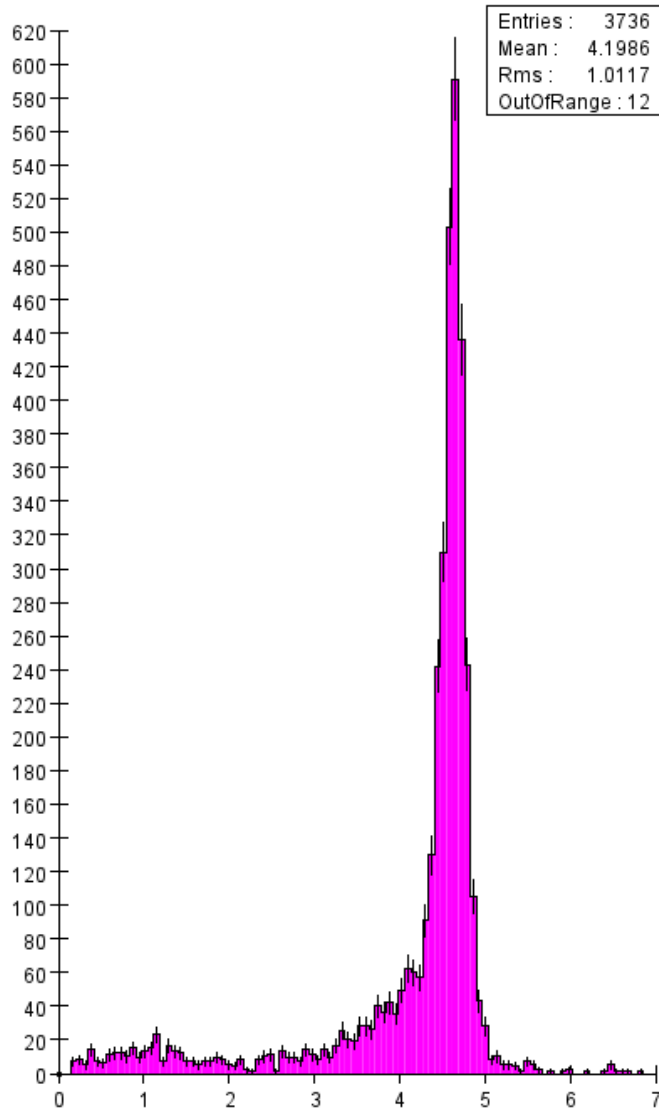
MC Backup

MC Cluster X vs Y

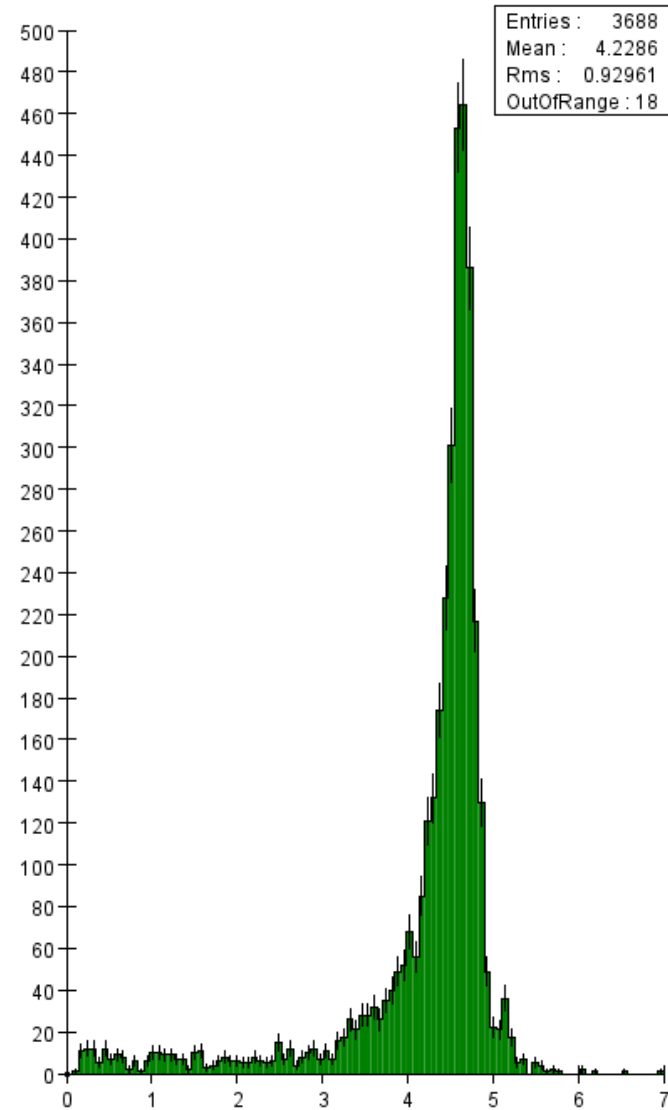


MC Cluster Energy

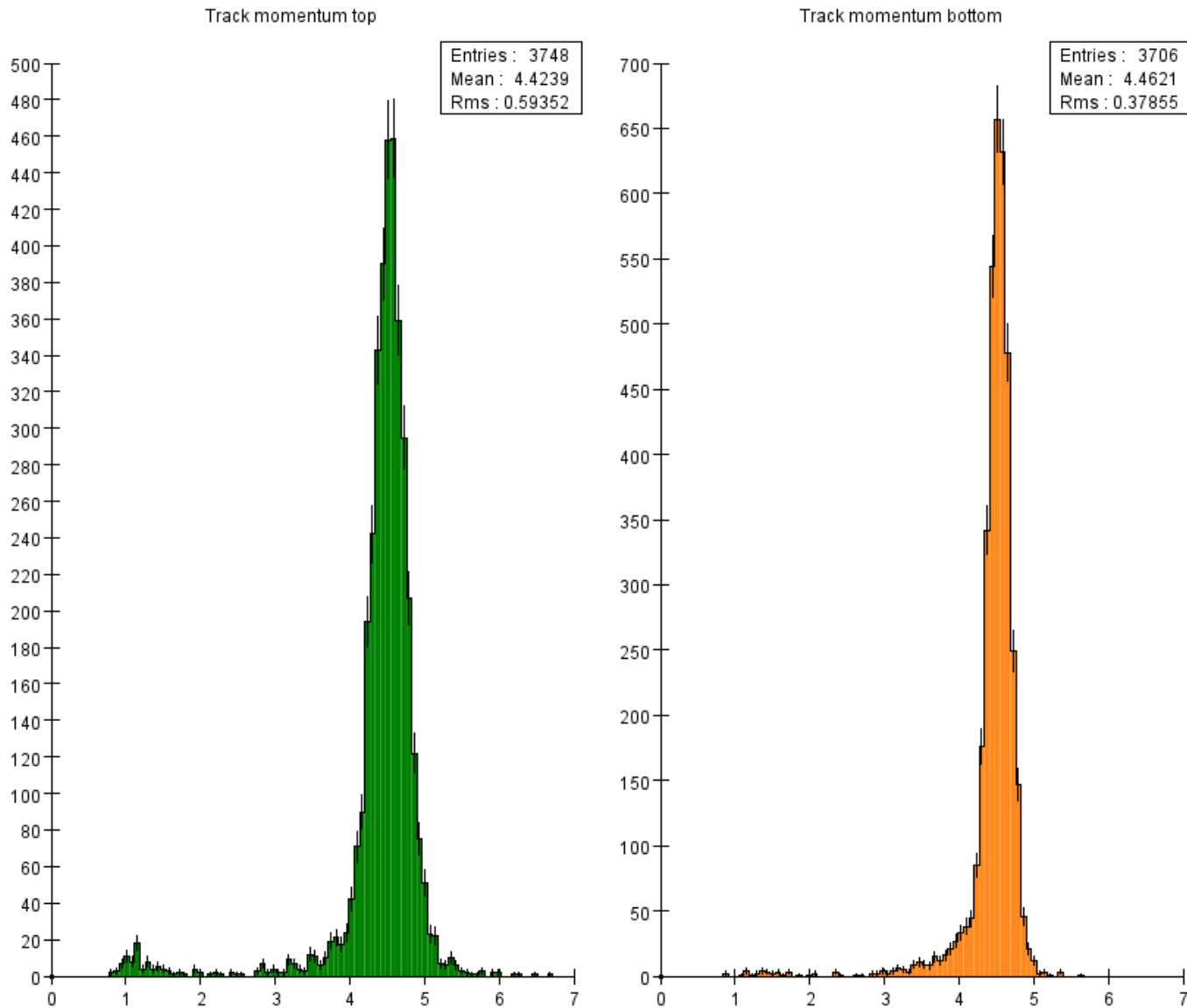
Top electron cluster energy



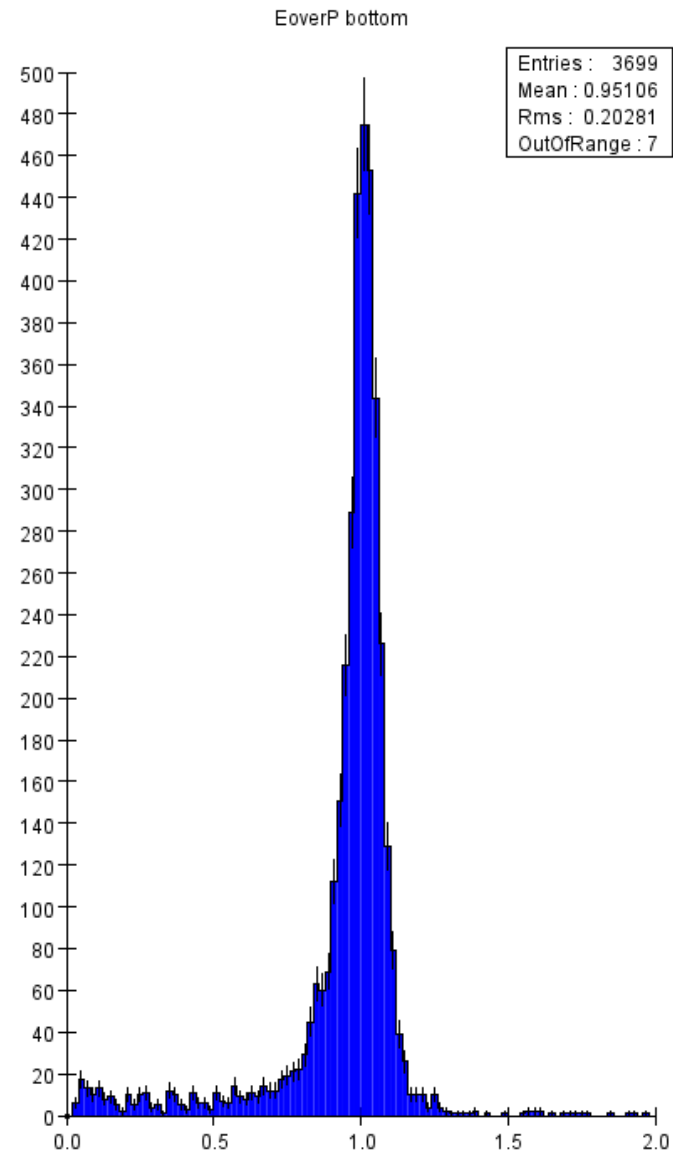
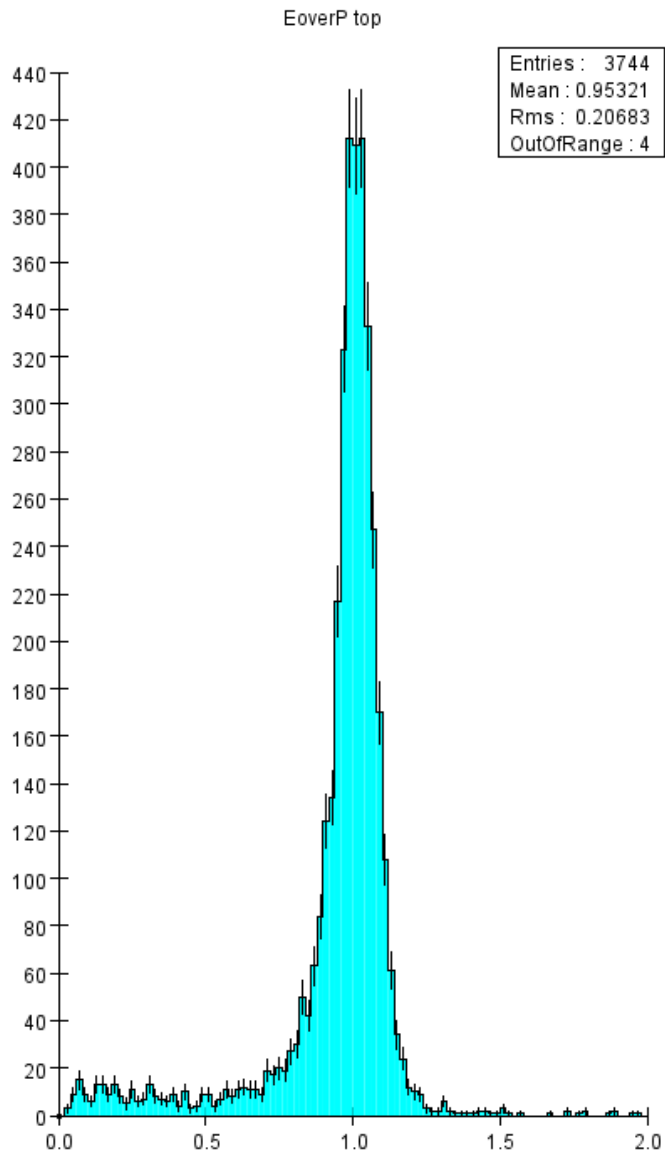
Bottom electron cluster energy



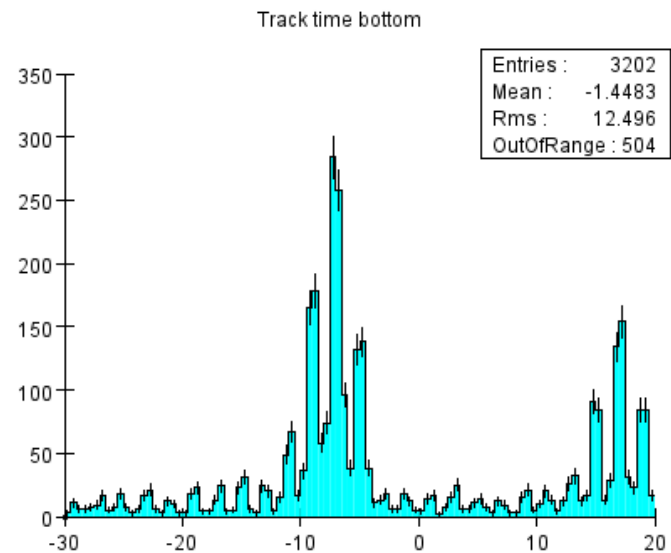
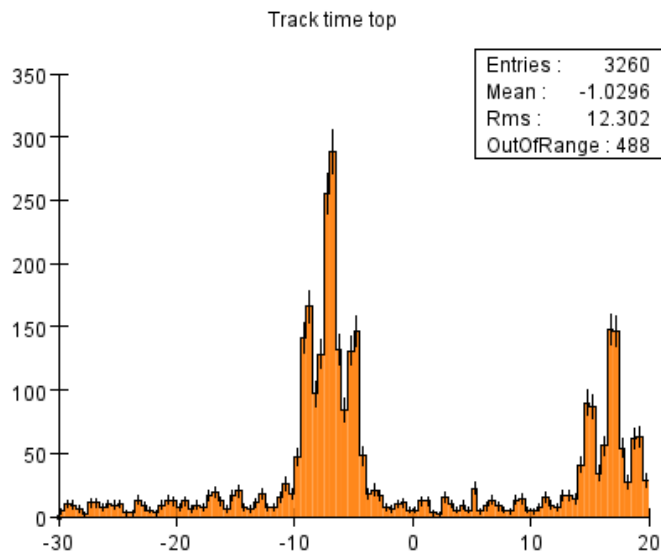
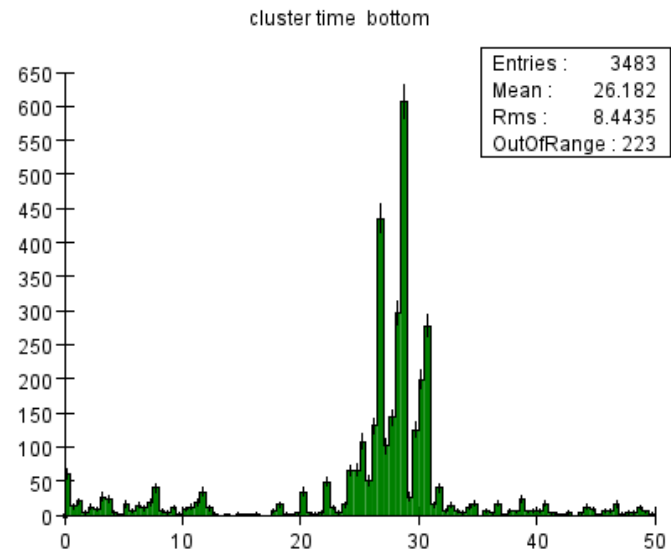
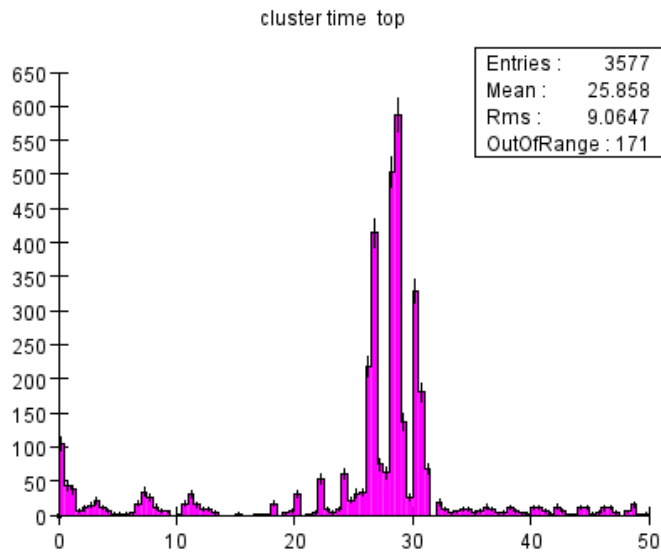
MC Track Momentum



MC E/p

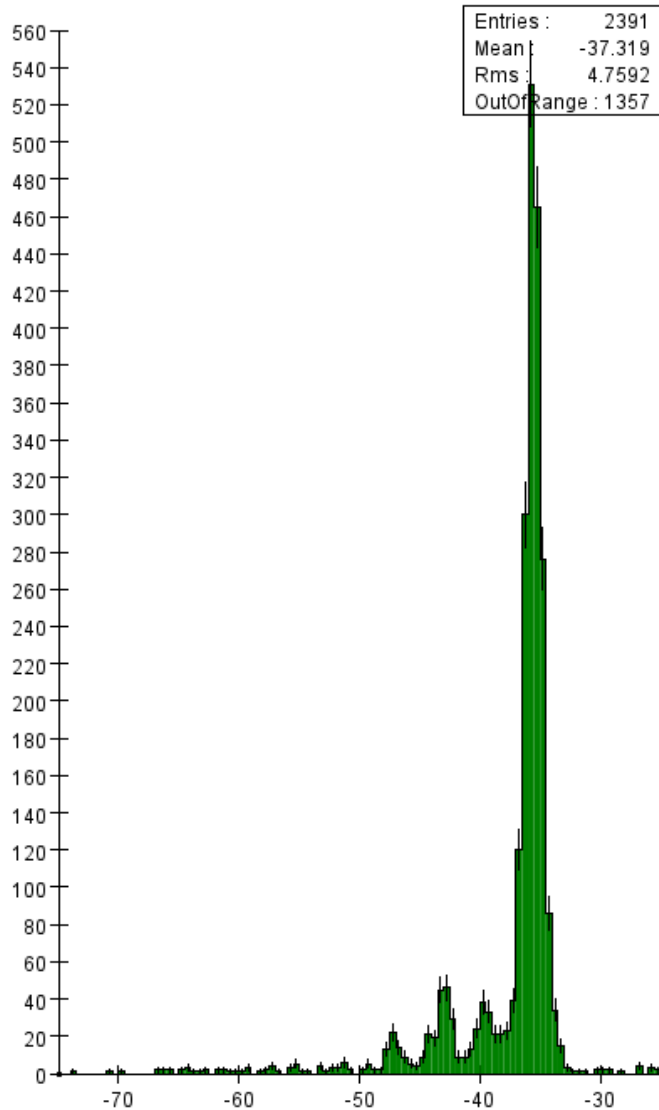


MC Cluster and Track Times

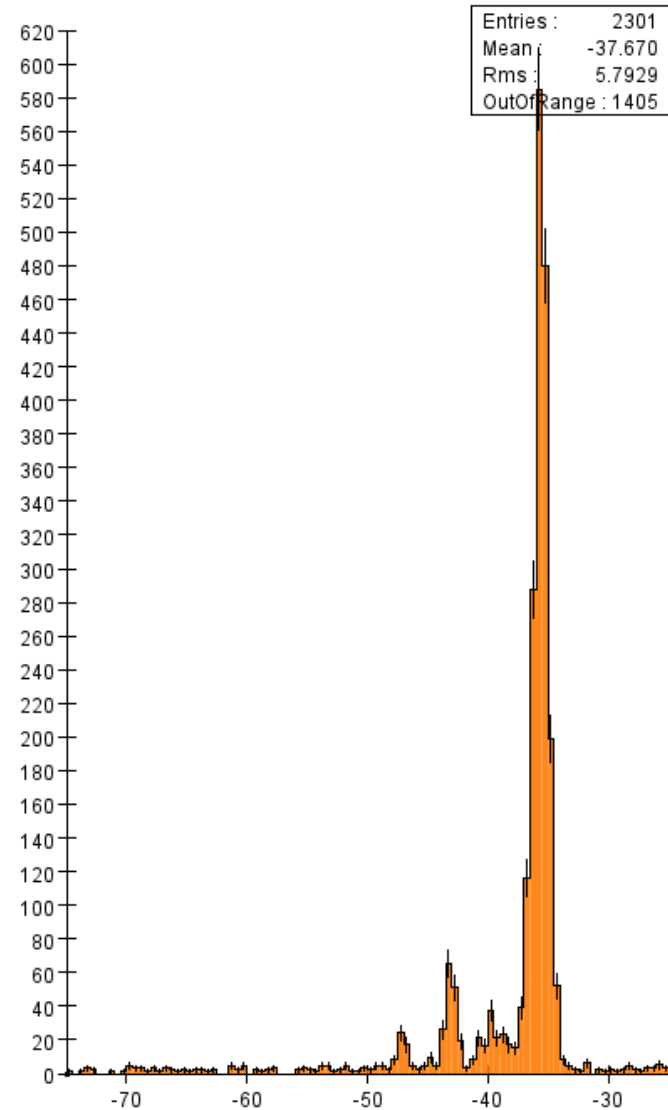


MC Track Time - Cluster Time

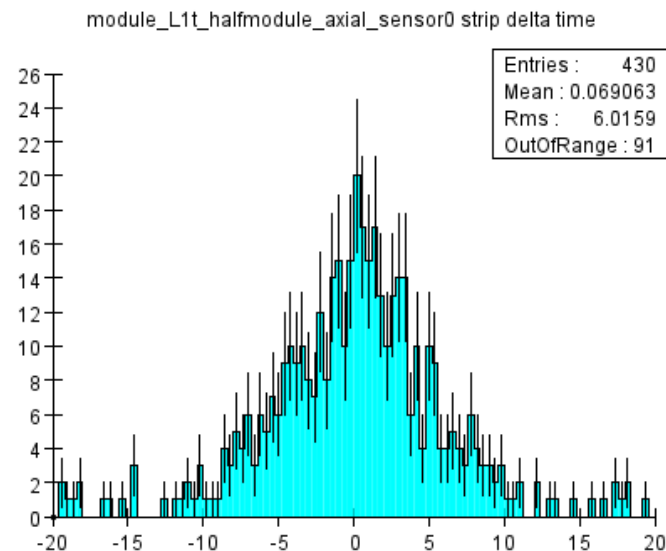
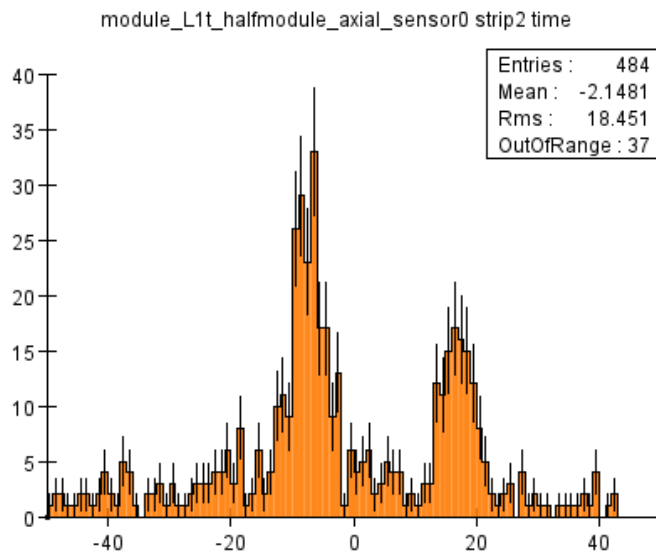
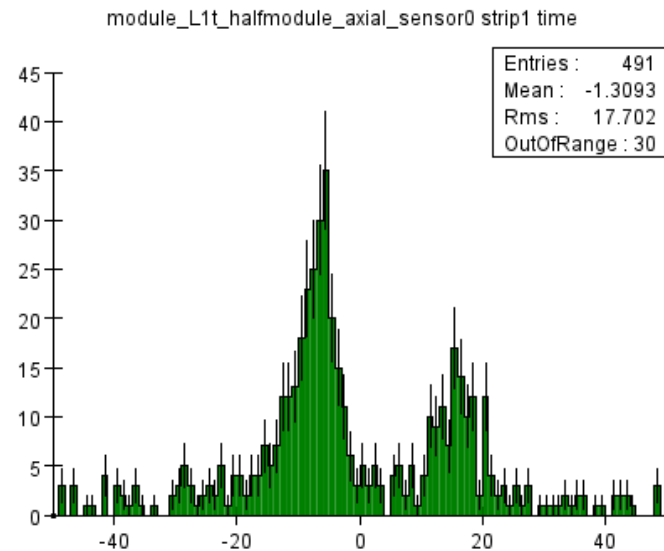
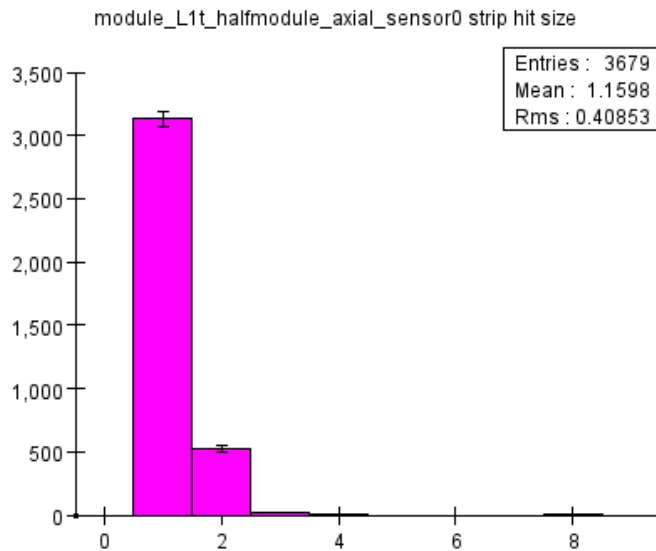
Track time - cluster time top



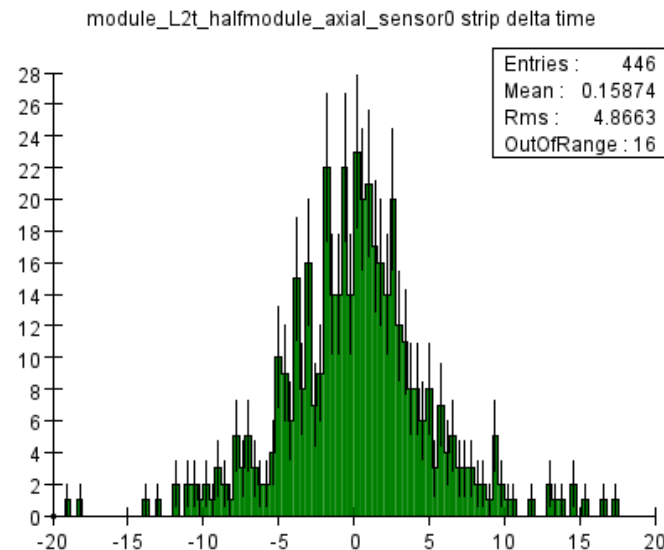
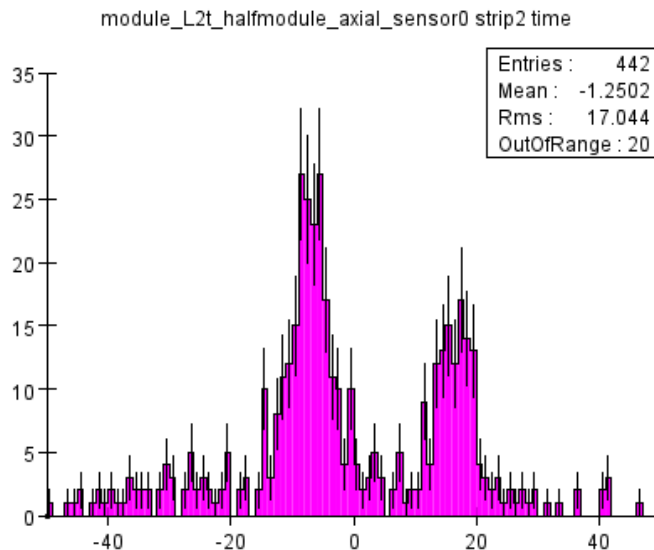
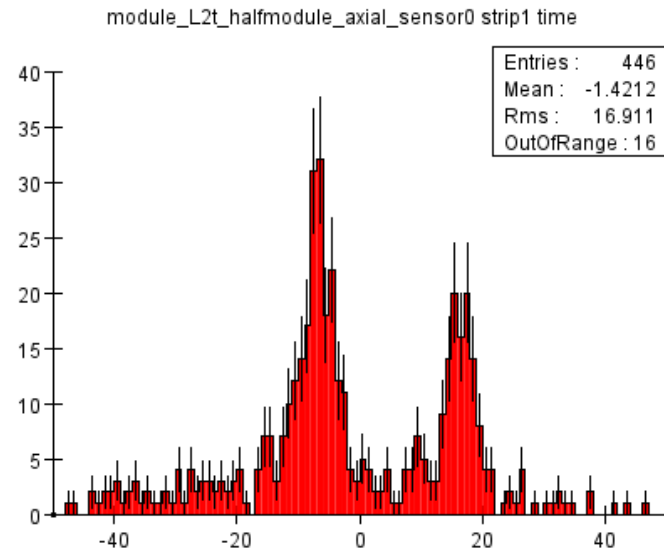
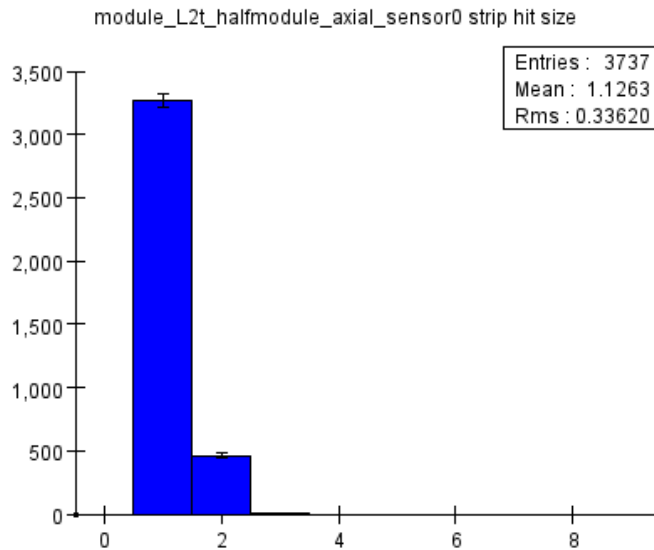
Track time - cluster time bottom



MC Track Hit Times Layer 1

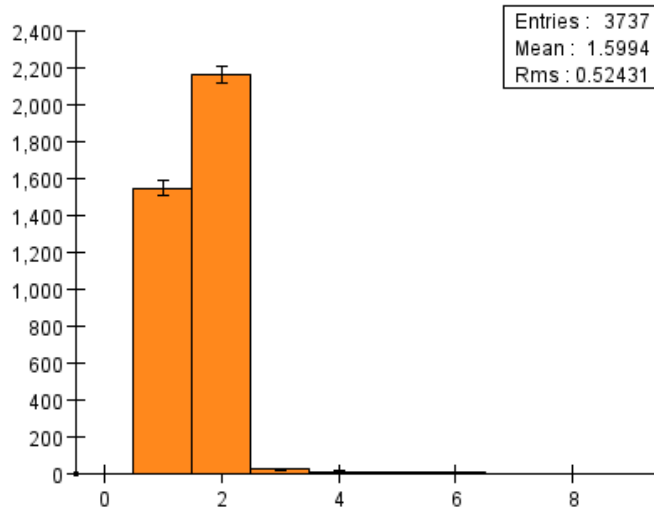


MC Track Hit Times Layer 2

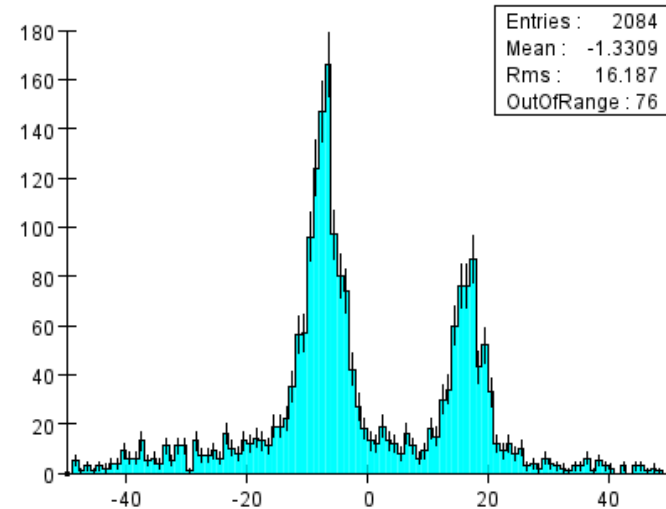


MC Track Hit Times Layer 3

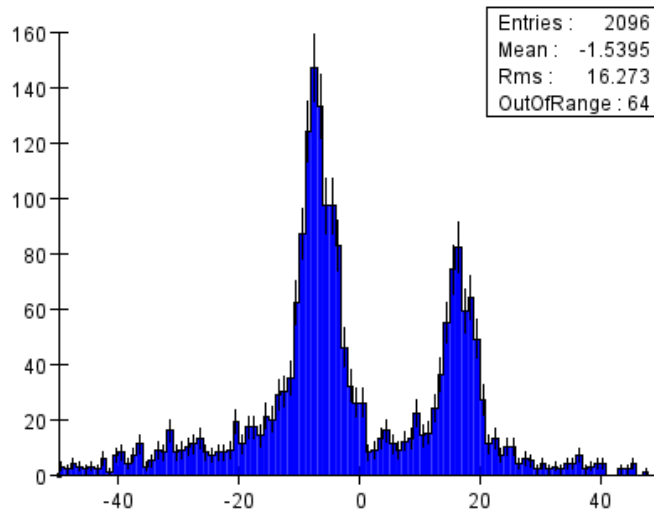
module_L3t_halfmodule_axial_sensor0 strip hit size



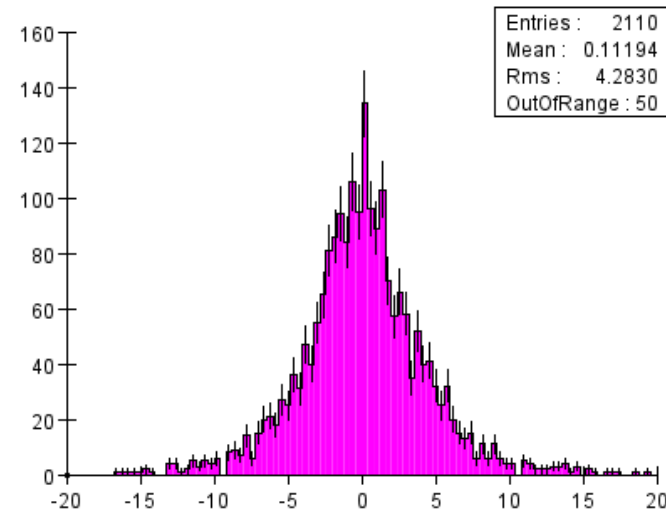
module_L3t_halfmodule_axial_sensor0 strip1 time



module_L3t_halfmodule_axial_sensor0 strip2 time

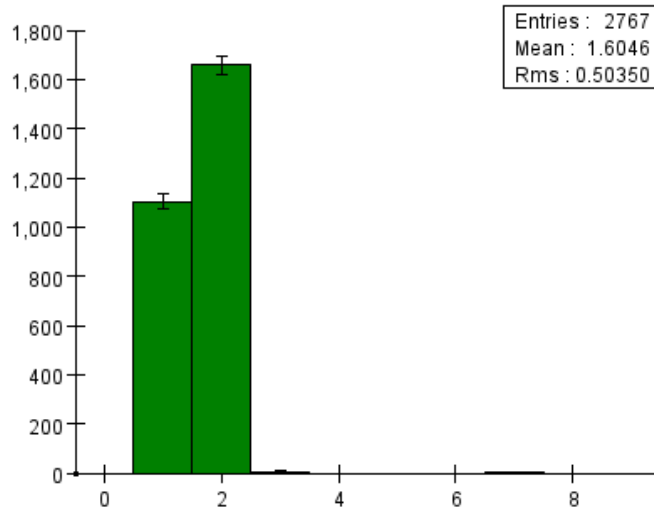


module_L3t_halfmodule_axial_sensor0 strip delta time

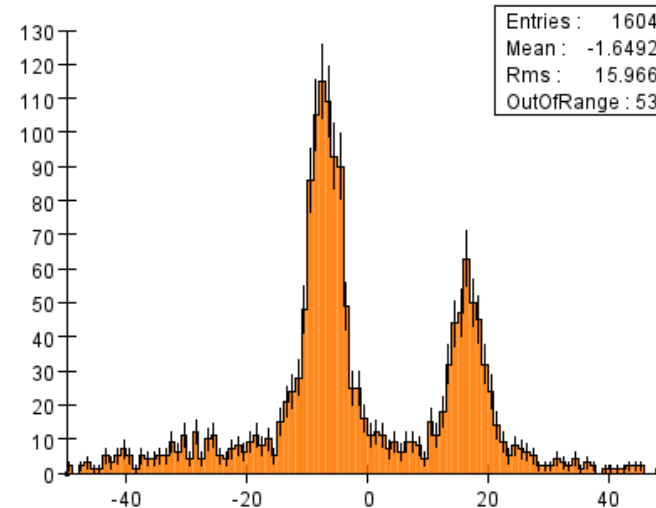


MC Track Hit Times Layer 7

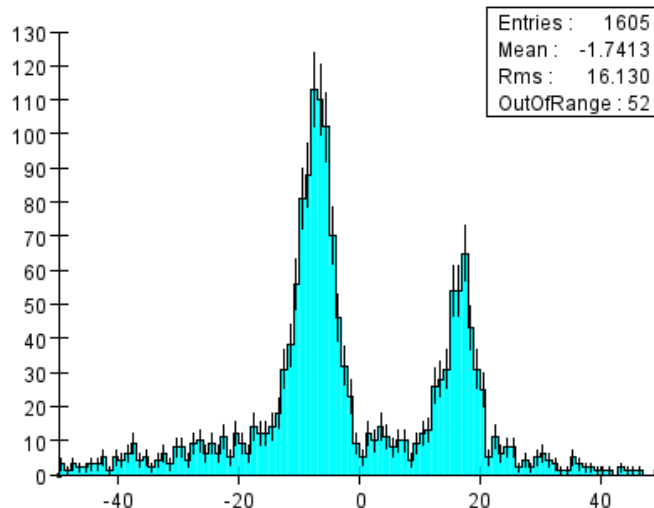
module_L7t_halfmodule_axial_hole_sensor0 strip hit size



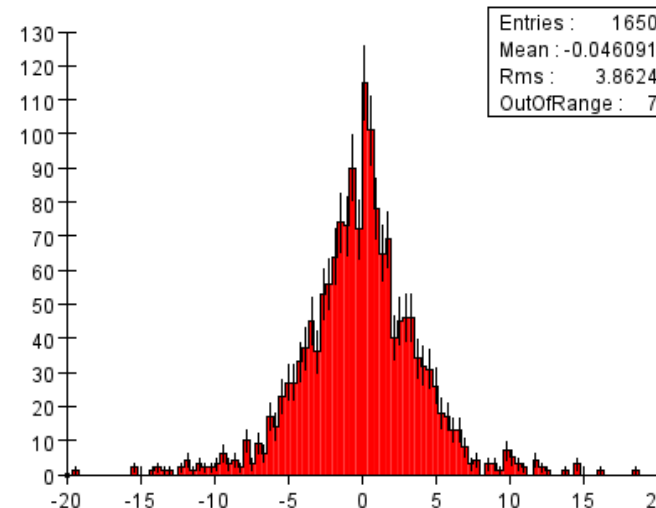
module_L7t_halfmodule_axial_hole_sensor0 strip1 time



module_L7t_halfmodule_axial_hole_sensor0 strip2 time



module_L7t_halfmodule_axial_hole_sensor0 strip delta time



MC SVT Hit Cluster Size

