

Status of the FPCCD software

Physics and Software meeting

2011/11/04

D.Kamai (Tohoku University)

topics

■ FPCCD Digitizer

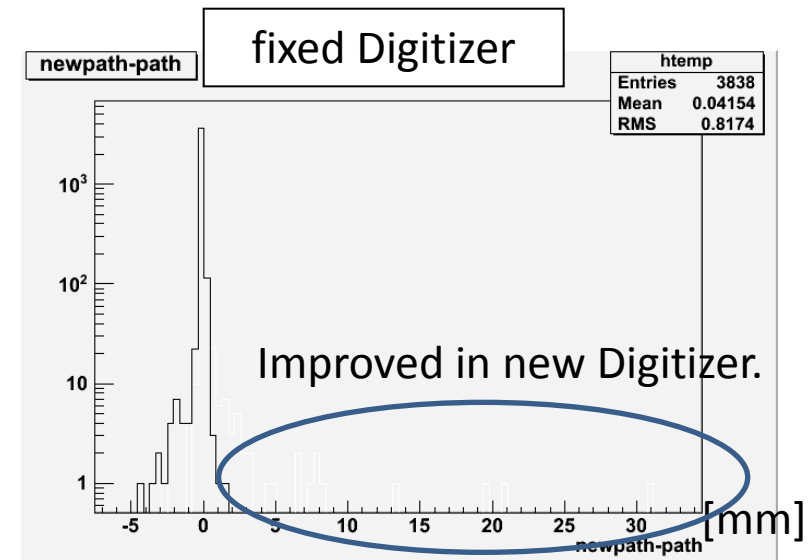
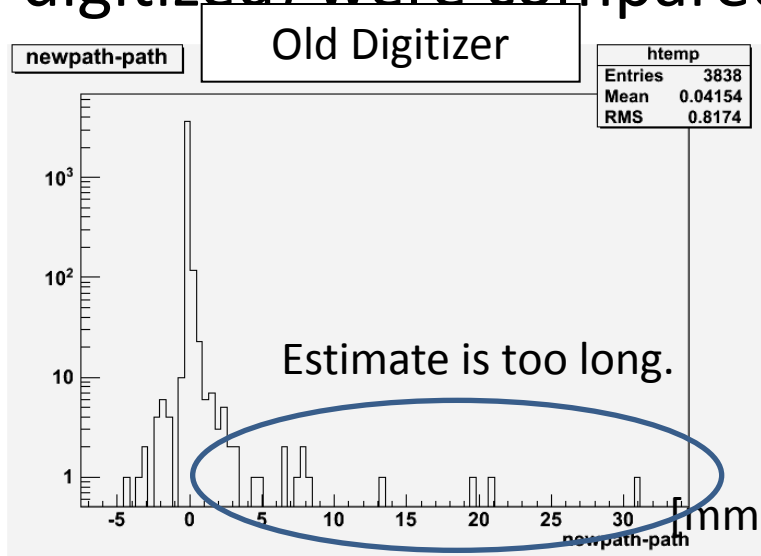
- Calculation of path length was modified more precisely.

■ Pair background occupancy

- Occupancy was checked by using latest digitizer algorithm.

FPCCD Digitizer - Path length

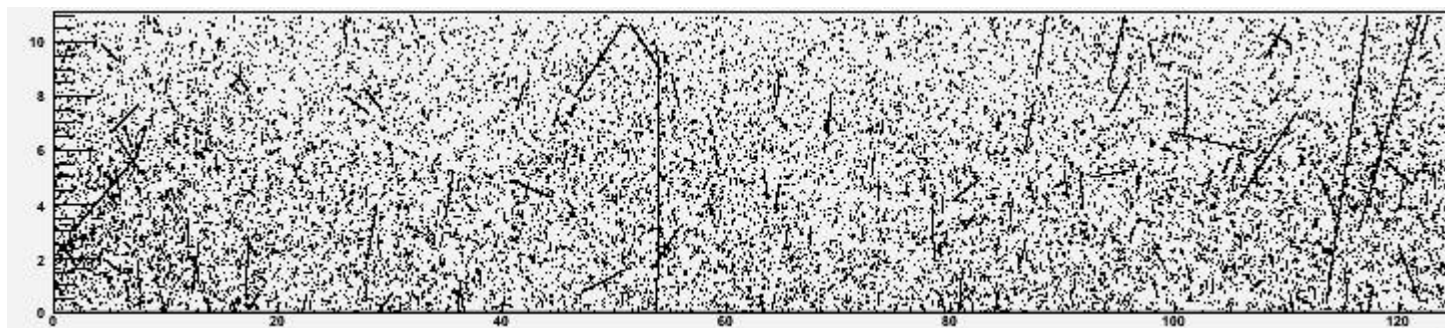
- The difference of path length between SimTrackerHit(before digitized) and TrackerHit(after digitized) were compared.



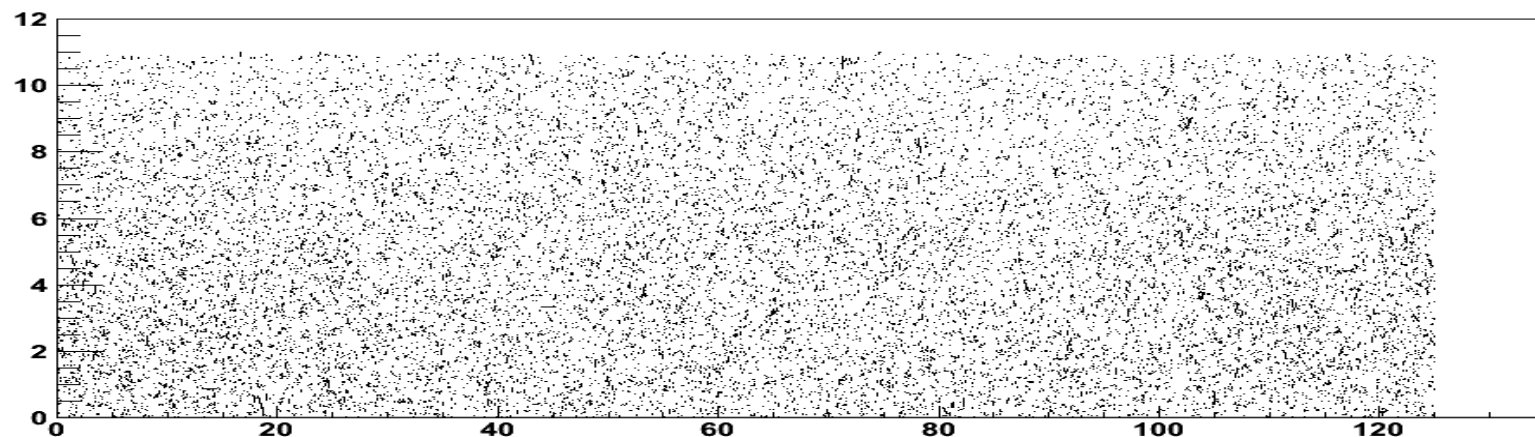
FPCCD Digitizer – pixel hit distribution

- The pixel hit distribution of 100BX pair background.
 - Innermost layer, 1 ladder, sb2009w/TF_500GeV

Old
Digitizer



Fixed
Digitizer



- The problem that could be a long cluster was solved.

Pixel occupancy

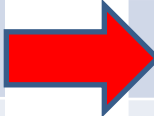
- The pixel occupancy was checked by using fixed digitizer.
 - sb2009w/TF 500GeV
 - σ_{noise} : 50 e-/pixel, Threshold: 200 e-/pixel

Layer	Occupancy	# pixel hits
1 st inside	3.079 %	16,936,550 pixels
1 st outside	1.74 %	9,541,747 pixels
2 nd inside	0.0919 %	2,222,862 pixels
2 nd outside	0.0731 %	1,768,688 pixels
3 rd inside	0.017 %	648,841 pixels
3 rd outside	0.015 %	542,744 pixels

Pixel occupancy

- The pixel occupancy was decreased with fixed digitizer.

Old digitizer	occupancy	Fixed digitizer	occupancy
1 st inside	3.352 %	1 st inside	3.079 %
1 st outside	1.892 %	1 st outside	1.74 %



- There was about 10 % over estimate.