

Fast Hough Transformation for InGrid

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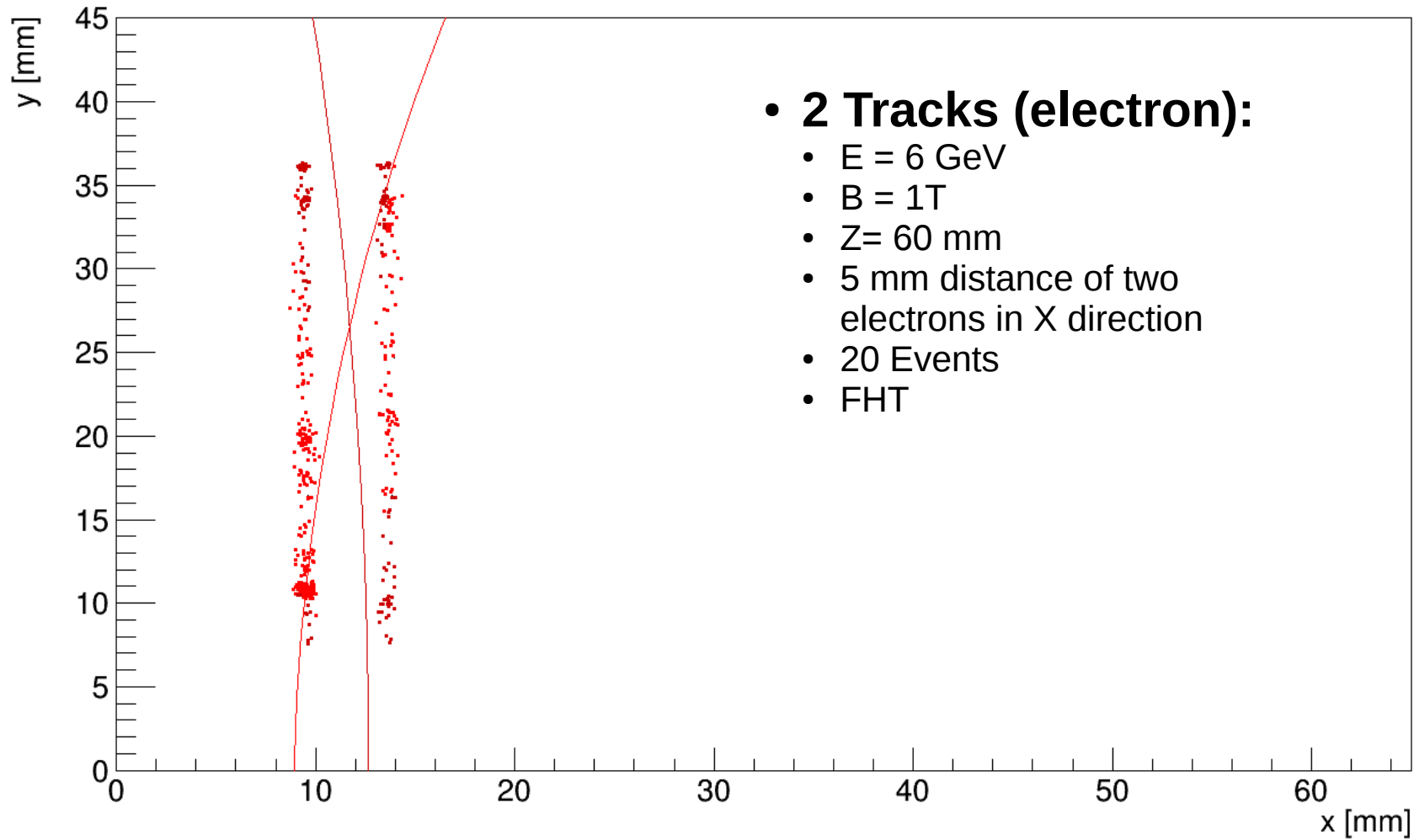
Siegen University

Content:

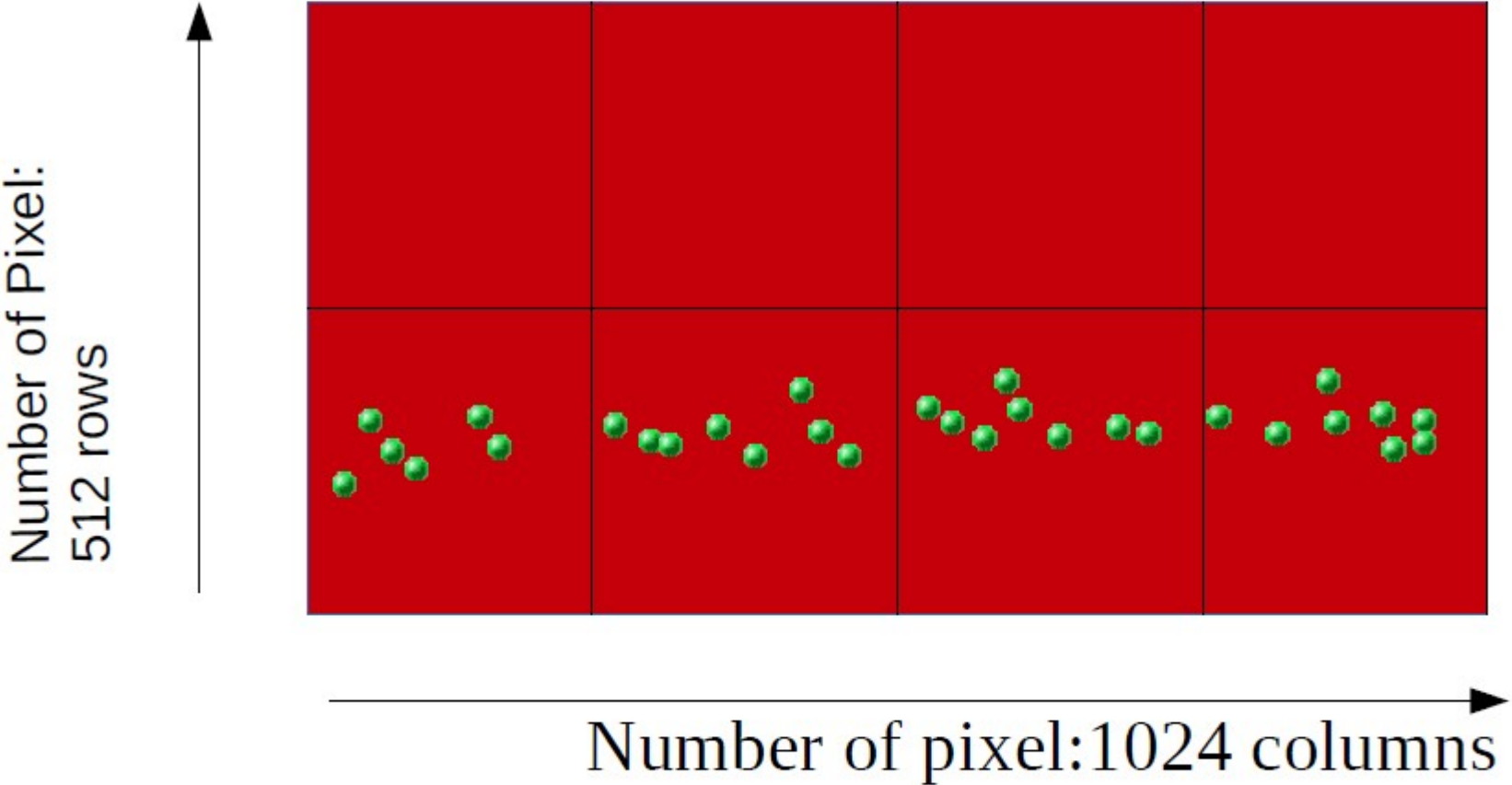
- Introduction
- FHT for Test Beam Simulation for Octoboard with 2 tracks— y direction
- FHT for Test Beam Simulation for Octoboard with 2 tracks
- FHT for real Test Beam
- summery

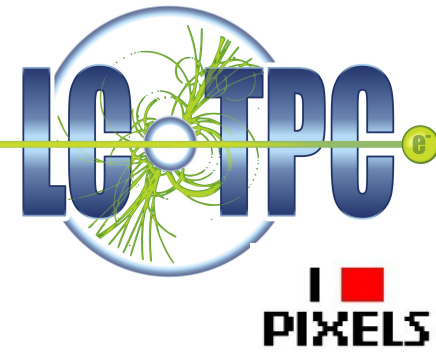
FHT for Octoboard

Drawing_2_Tracks_463_Hits



FHT for Octoboard



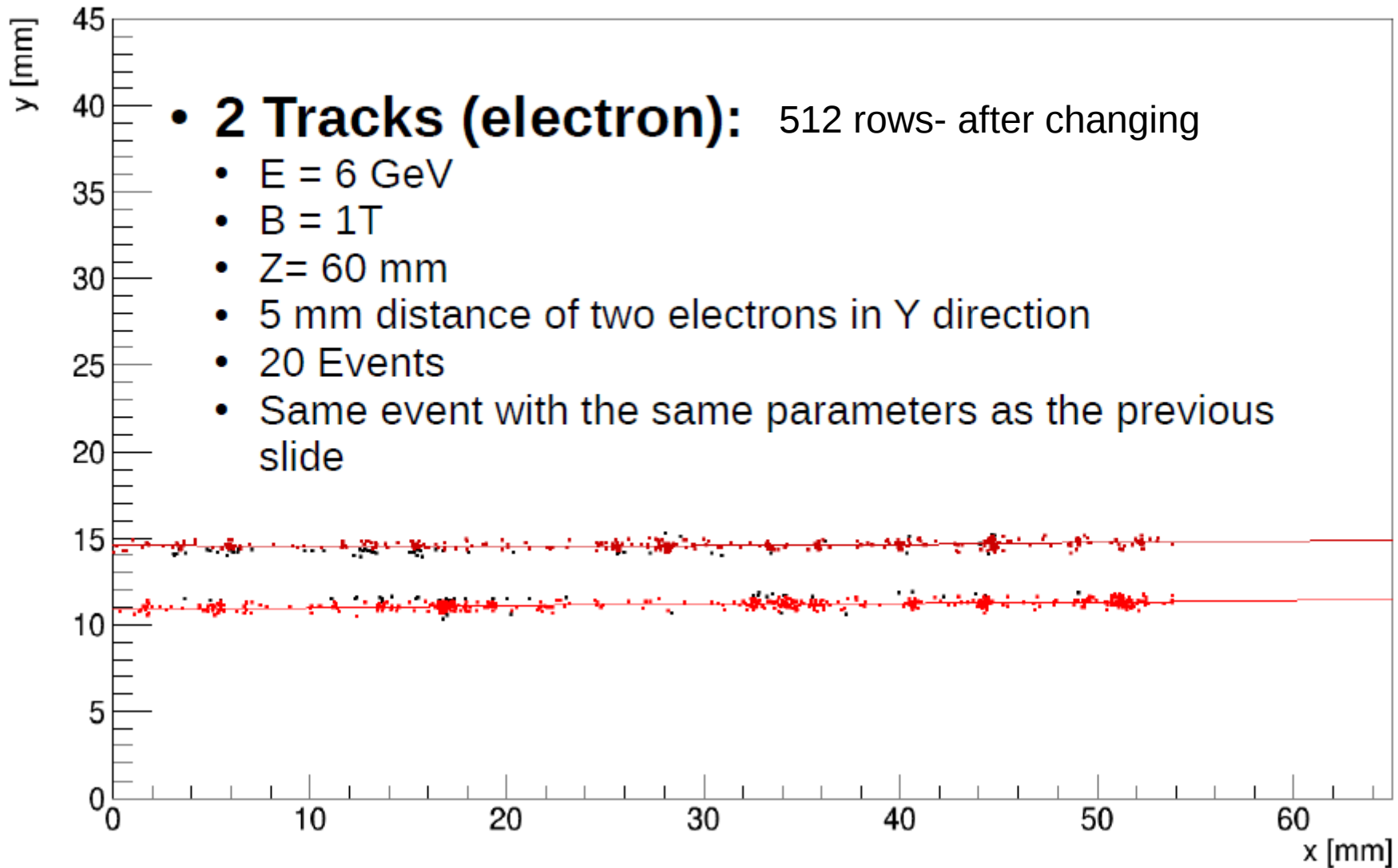


FHT for Octoboard

```
registerOptionalParameter("NumberOctoboard", "Is Number of Octoboard ", _NOct, int(1));

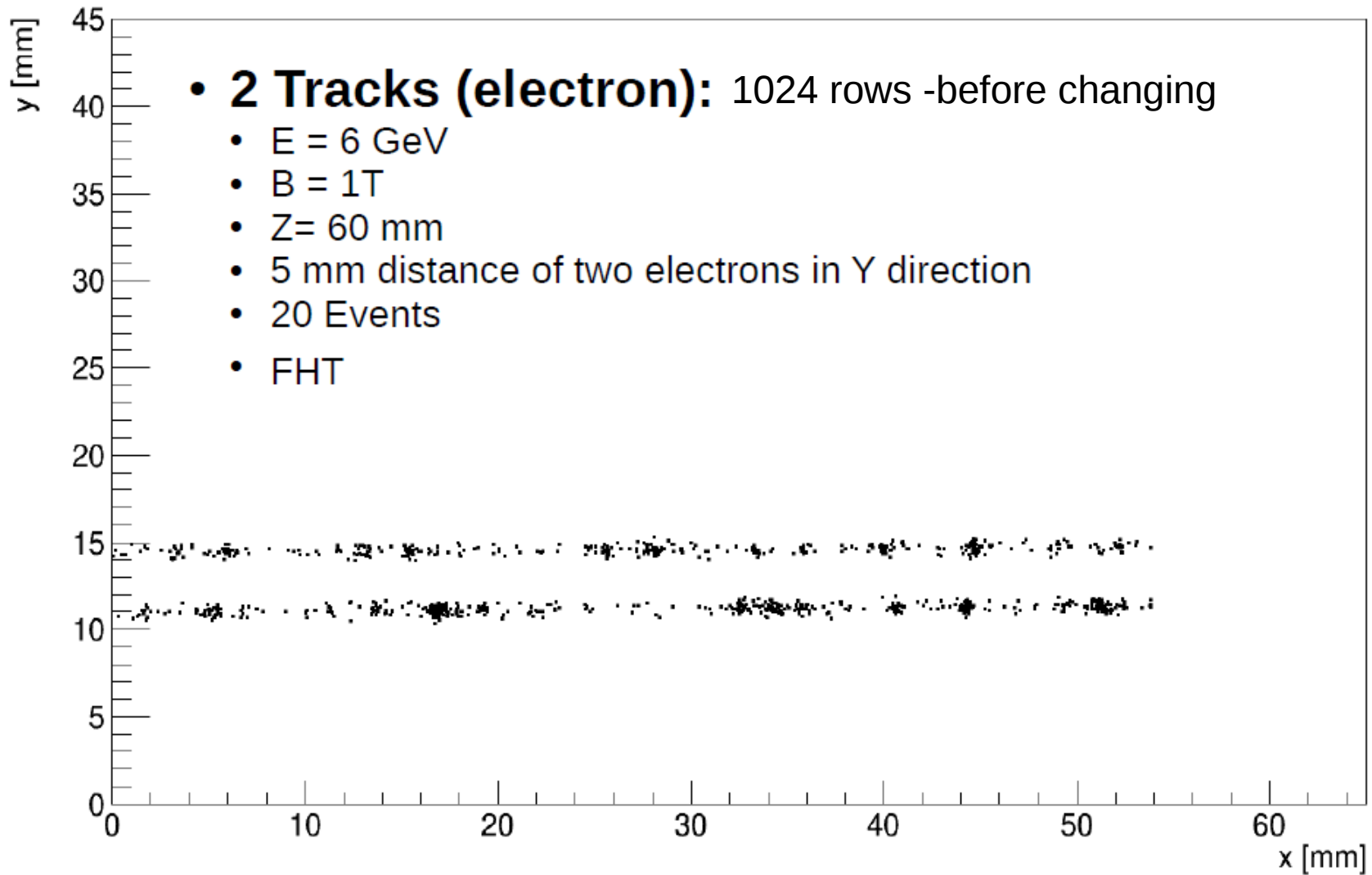
int const Orow = 512; //number of row in one Octoboard
int totRow= _NOct*Orow;
int rowLoc = Hit->getCellID0() % 256 + mod * 256;
int row = (rowLoc > (totRow-1)) ? rowLoc - totRow: totRow- rowLoc; // simple row count
```

Drawing_2_Tracks_895_Hits



FHT for Octoboard

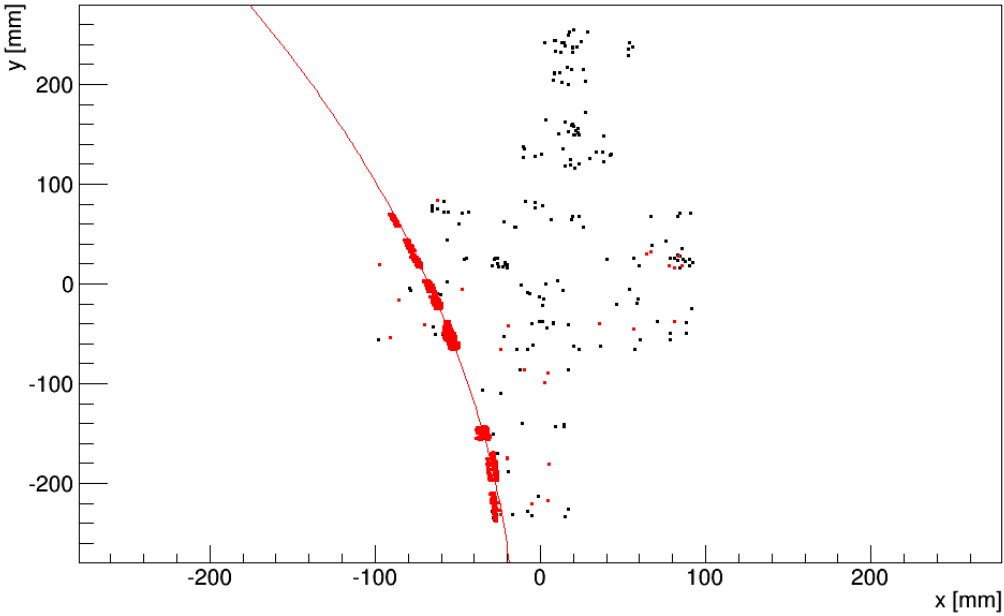
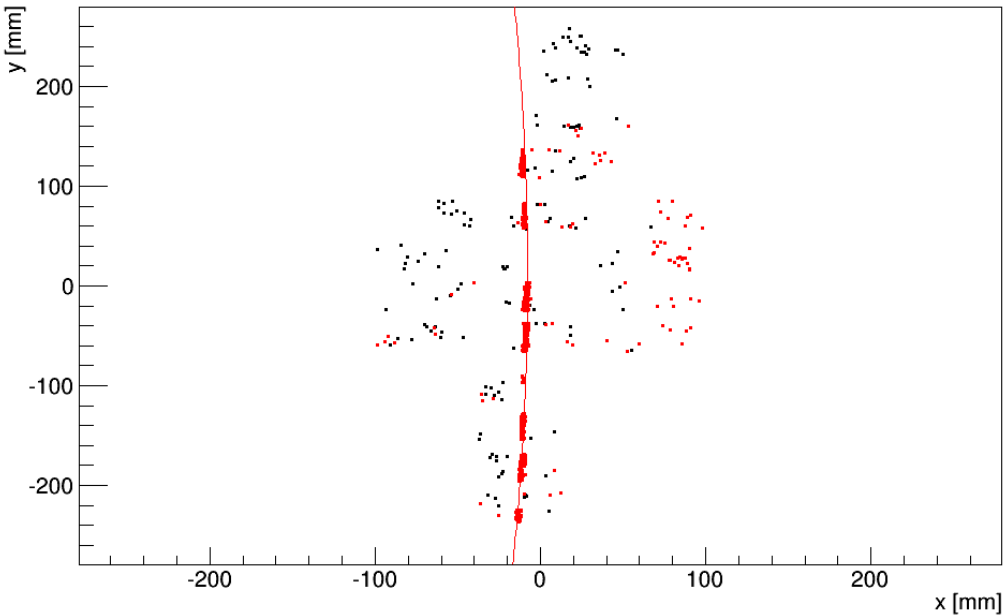
Drawing_no_Tracks_895_Hits





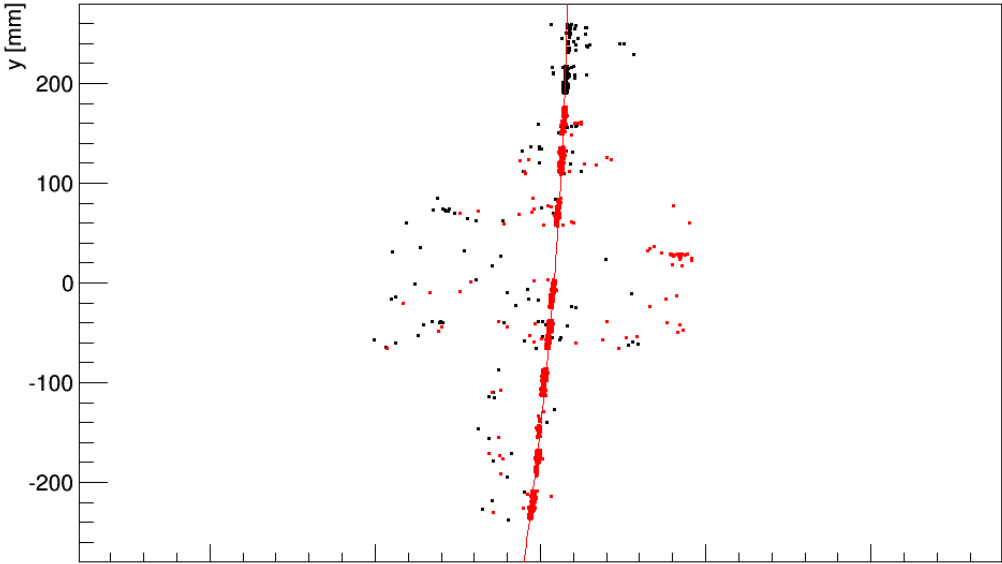
FHT for Test Beam in Pad Mode

Drawing_1_Tracks_2952_Hits

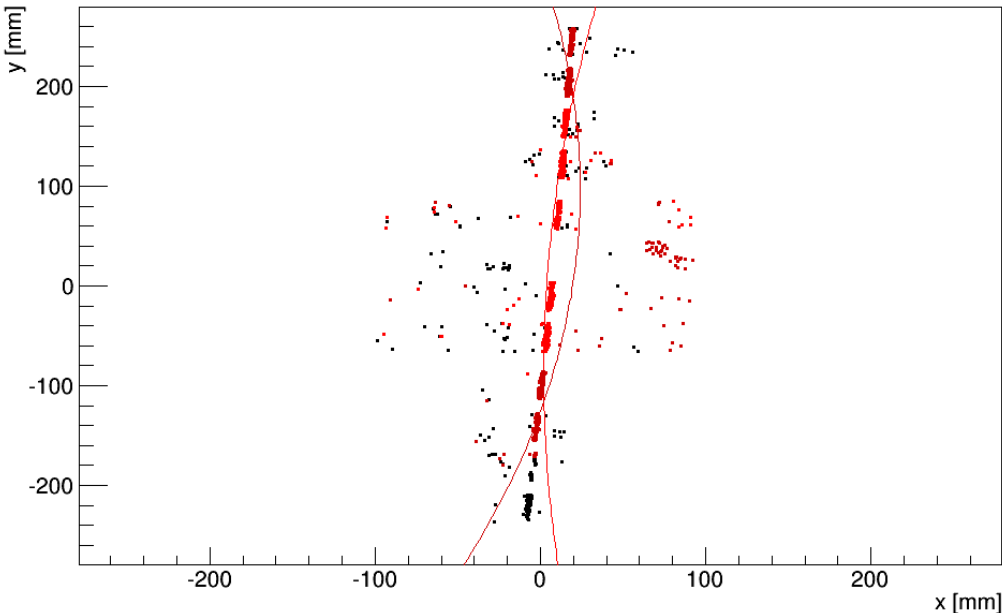


FHT for Test Beam in Pad Mode

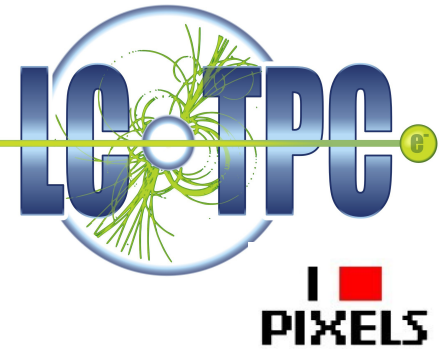
Drawing_1_Tracks_4046_Hits



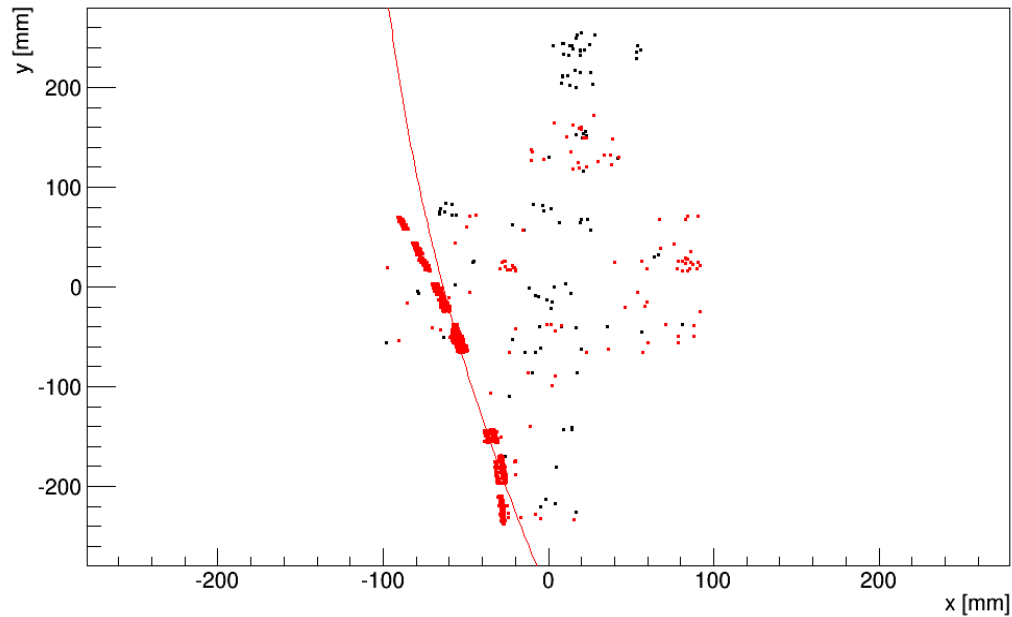
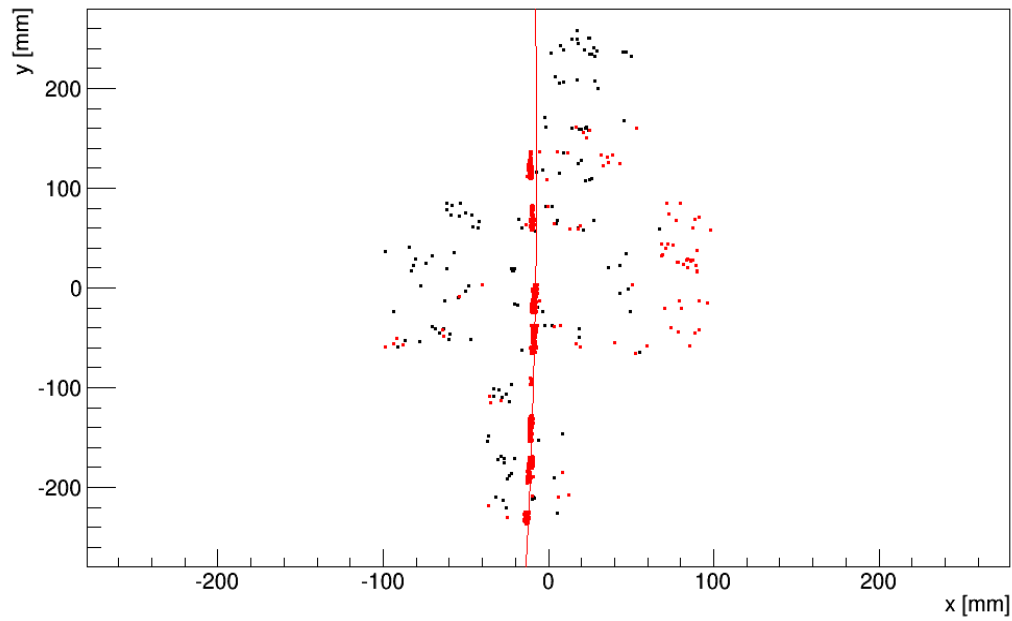
Drawing_2_Tracks_4463_Hits



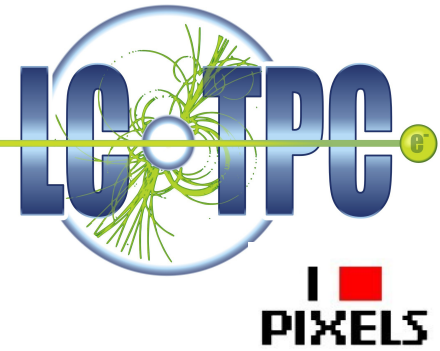
FHT for Test Beam in Multi Octoboard Mode



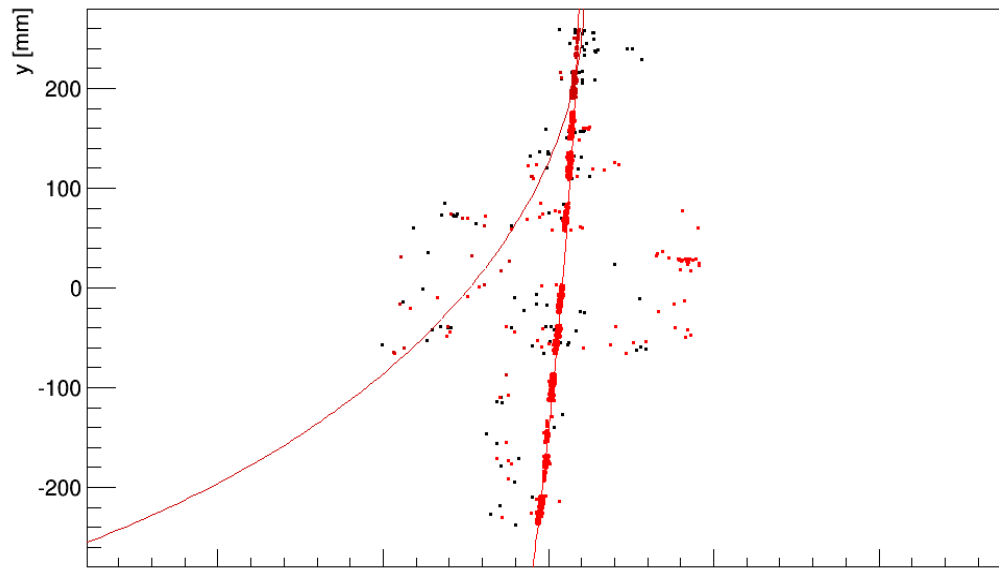
Drawing_1_Tracks_2952_Hits



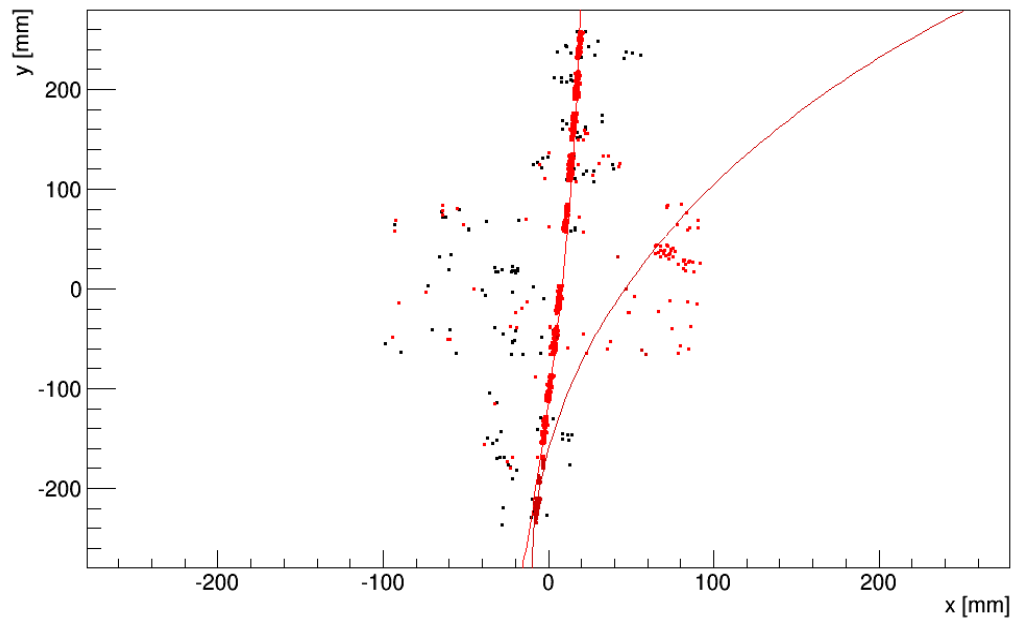
FHT for Test Beam in Multi Octoboard Mode



Drawing_2_Tracks_4046_Hits



Drawing_2_Tracks_4463_Hits





FHT for Octoboard

Summary:

- Finding of double track in Y direction does not work . No tracks were founded
- After changing direction of row, finding for double tracks in X direction works well(for 5 mm distance between tow tracks in y direction) . 15 events among of 20 events were found. (before there was only one acceptable track).
- The changing in row counting for Multi Octoboard does not have positive effect on results. (near the same result when pad mode is used).
- **Clupatra**: First try did not work for InGrid. It does not work with our Gear file. It needs modification.