Vertexing Updates

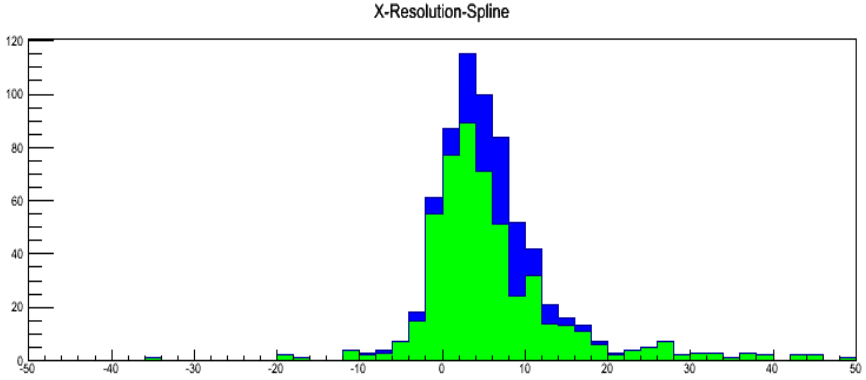
- Applied a threshold of 5 degrees to the angle spectrum. This moves spurious N-track events into the 1- or 2-track category as it is no longer labelling single tracks with a mild kink as two tracks.
- Tuned the peak finder a little bit (not much)
- Those events with 0 peaks (i.e. one track, no change in angle) are included. The most upstream Spline hit is designated as the vertex.

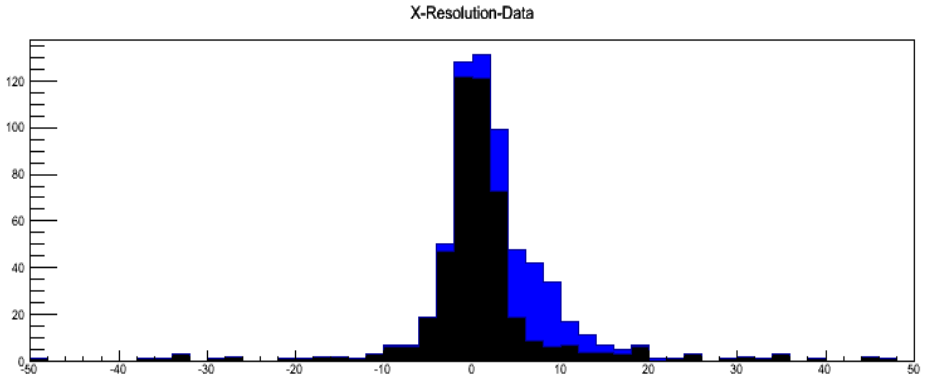
- Fit to underlying data hits, not the Lpc or Spline points.

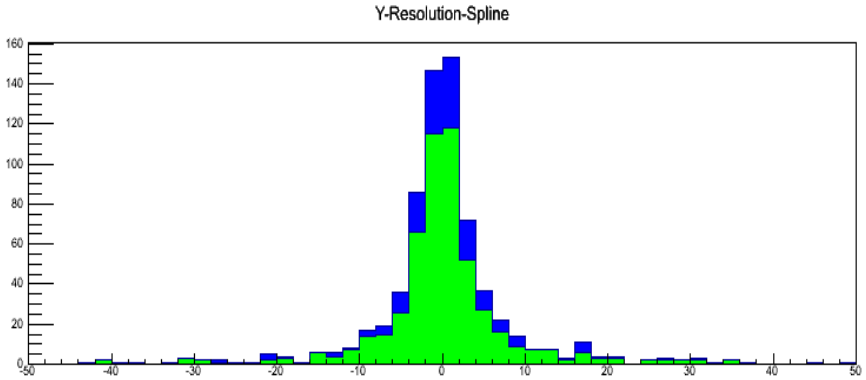
Vertex resolution

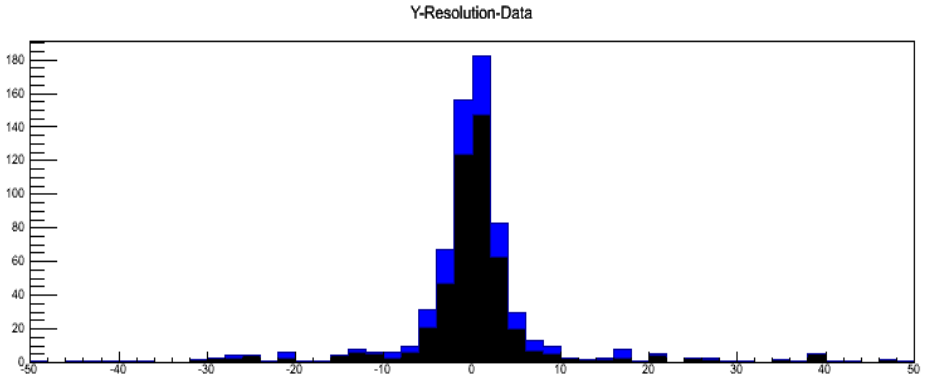
Old

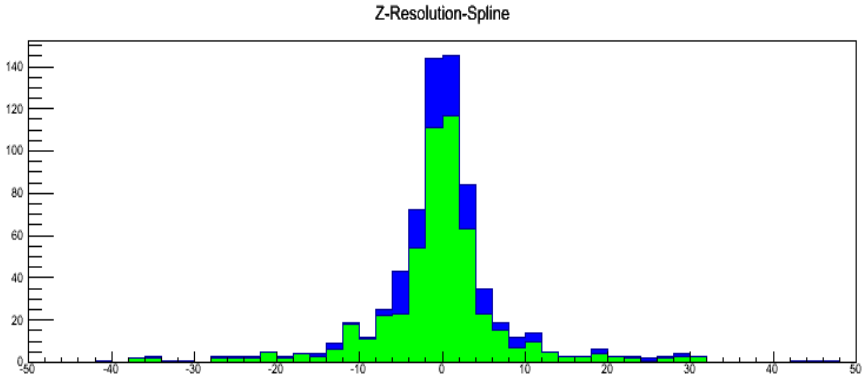
New

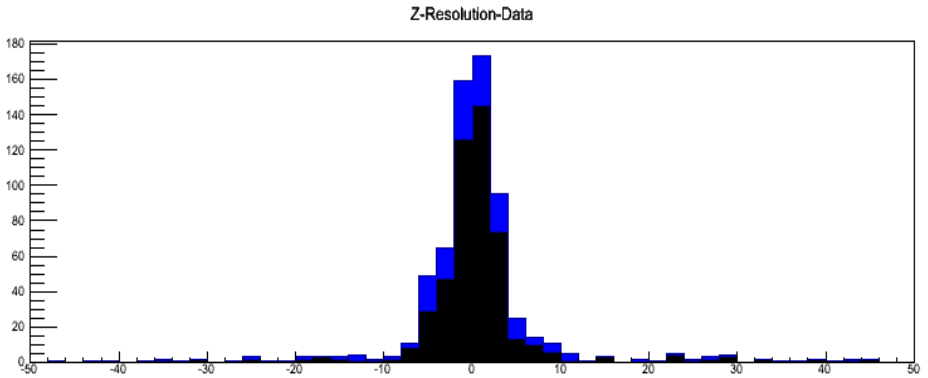


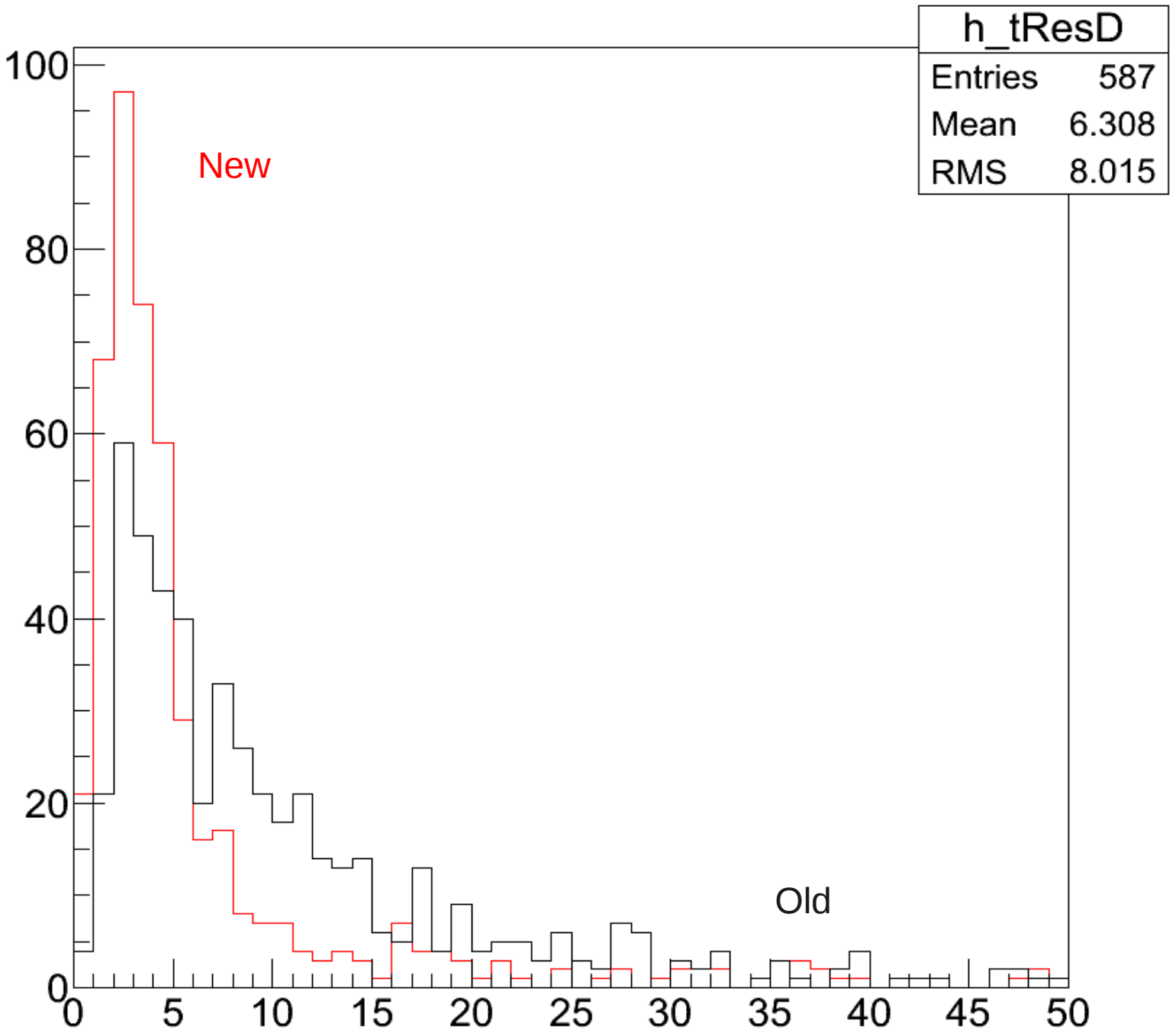




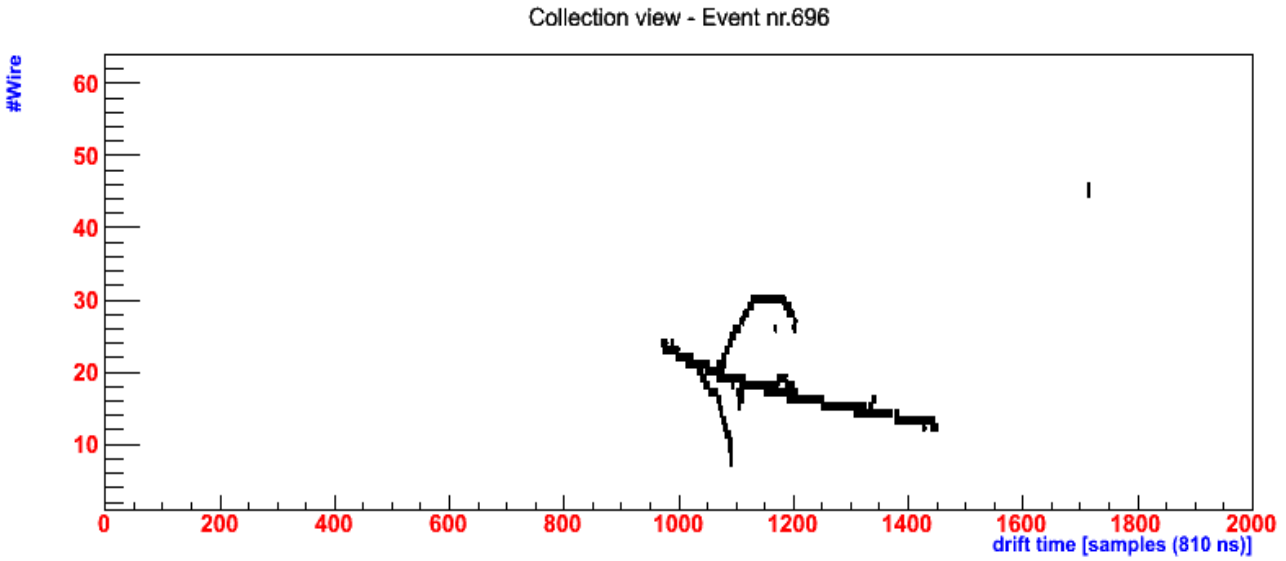


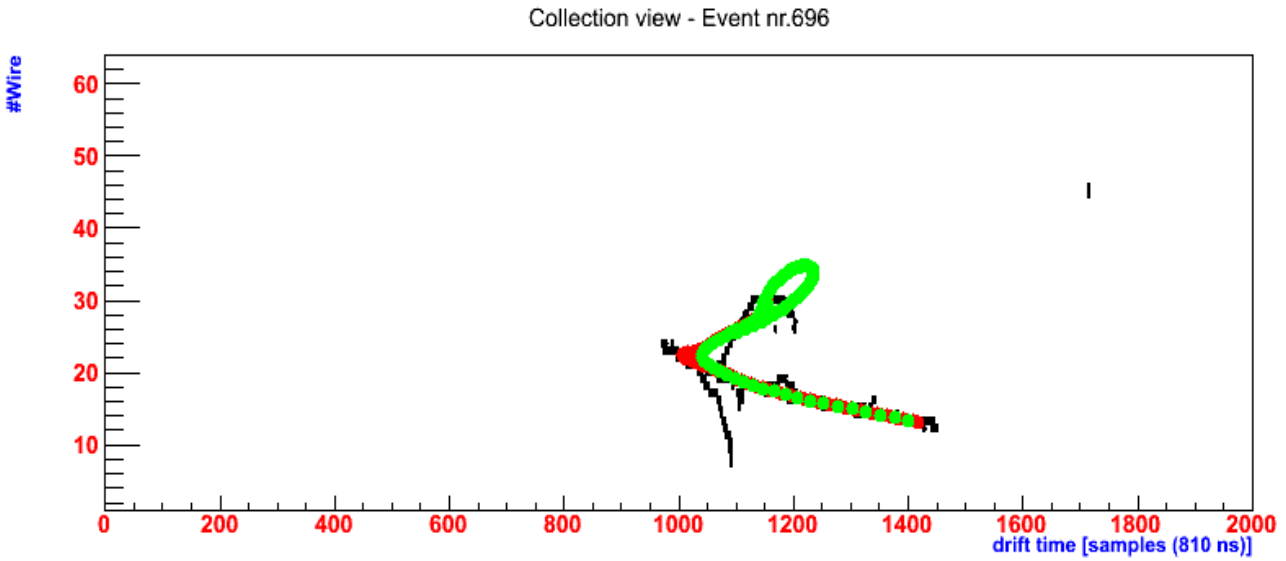





Vtx Resolution-Data
h_tResD
Entries 587
Mean 6.308
RMS 8.015
New
Old
0
20
40
60
80
100
0
5
10
15
20
25
30
35
40
45
50

Argontube data





What the....?

Does latte trunk contain uptodate branching code (with hit removal?)

Thoughts

We really need a realistic hit simulation (or data...) - I am concerned that we are tuning on unrealistically good data

Do we have a complete event framework, including physics objects, including vertices, tracks, showers? Latte and the pipeline have some of this functionality, but we need some coherence

- come up with an algorithm flow?
    - Cluster with dbscan
    - Identify shower like clusters and remove
    - Track find using LPC
    - Vertex finding
    - Track fitting
    - Physics