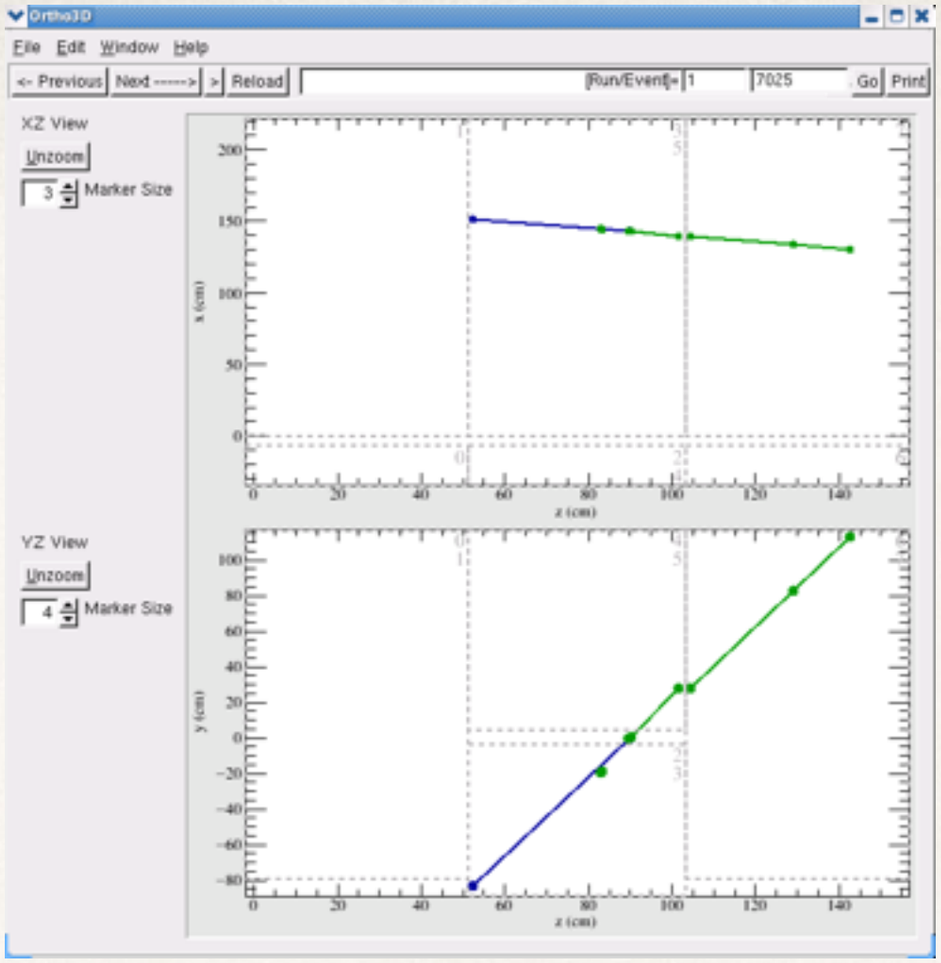

Updates on ClusterCrawler and CCTrackMaker

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`ClusterCrawler` split

The `ClusterCrawler` module runs two main algorithms:

1. hit finder
2. cluster finder *(including creation of vertices and merging of hits)*

- both are in the same module, `ClusterCrawler`
- APA-based detectors need an intermediate step to attribute each hit reconstructed from 1 to either of the facing TPCs (issue #8107)
- the code has been split in two producers:
  1. `HitFinder`, producing `recob::Hit`
  2. `LineCluster`, starting from `recob::Hit`
- the two modules are in all ways *independent*
- you may want to drop the hits by `HitFinder` from ROOT output
- configuration has been updated and tested on MicroBooNE events
- code in `feature/gp_BreakCrawler` branches, not merged (yet)

`ClusterCrawler` is still around, but it is deprecated and it will be removed in some future to avoid code duplication

A few more bugs fixed

- CCTrackMaker was modified to be aware of multiple TPCs.
- An indexing bug was fixed in ClusterCrawler.
- After hit merging, the LocalIndex is now updated.
  - Obsolete LocalIndex could cause crashes.

TPC boundaries

- Gianluca also added new functions to geometry to get TPC boundaries:
  - MinX(), MaxX(), MinY(), MaxY(), MinZ(), MaxZ()
- This helped to make the fiducial checks in the code.

Tests

- I have tested the latest code on 10000 single muons for 35t.

- Gianluca has tested the code on microboone cosmic +nue events.

Feature branches

- Code in feature/gp_BreakCrawler branches are ready to be merged into develop:
  - larcore, lardata, larreco, lbnecode