EventDisplay Add-ons

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- A hand scan effort using the uBooNE geometry that is going forward spurred some changes to the Event Display to ease the job
- These, for now, include zooming on the “region of interest” and summing up of the charge in each plane.
- For now, noth of these work on RawData only – upgrade to reco is foreseen.
- You can turn it off if you like.

The new item is the sidebar.

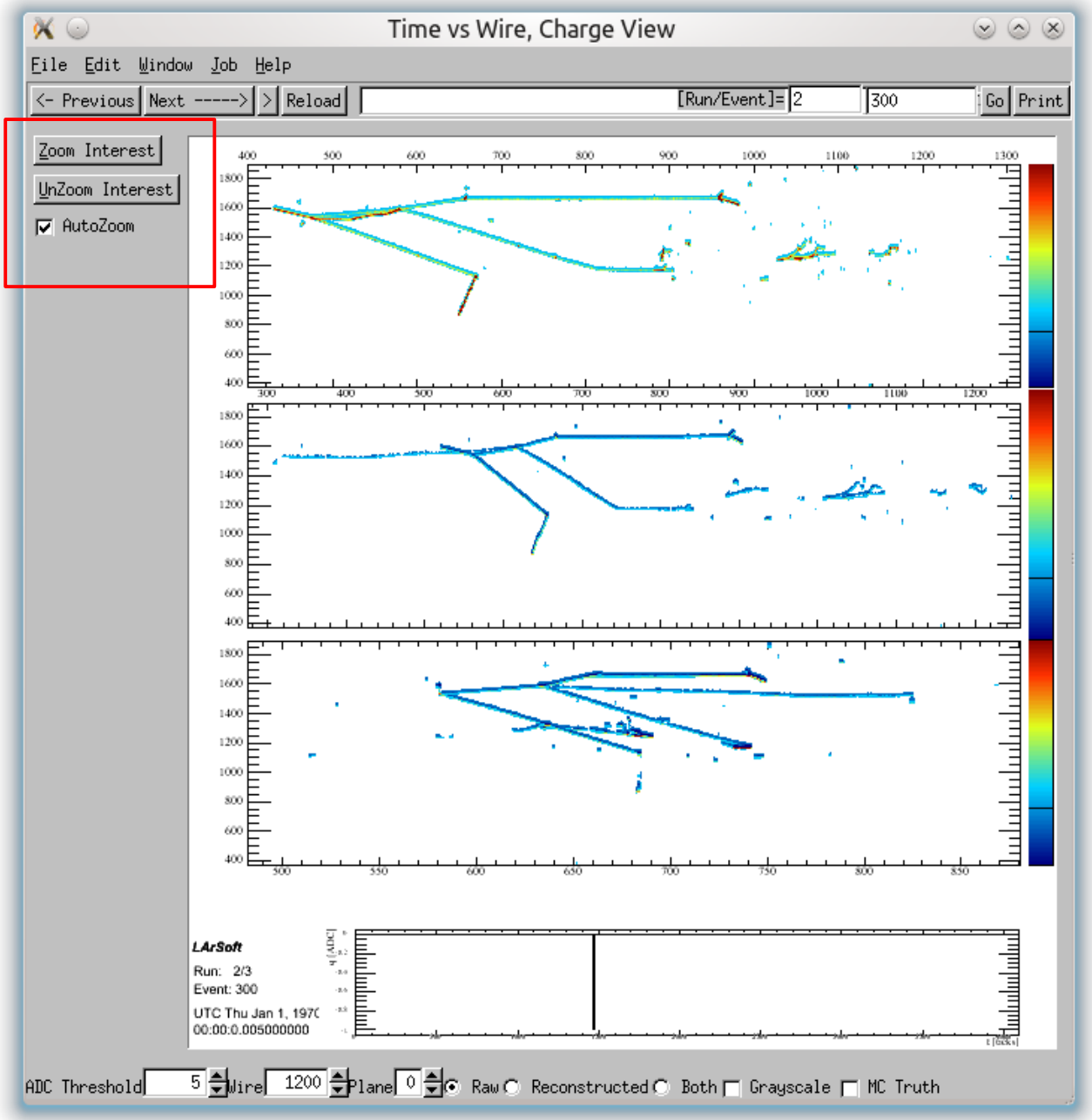
New buttons are:

Zoom Interest – zooms to the smallest rectangle encompassing all rawhits above the threshold.

UnZoom Interest – unzooms.

AutoZoom – toggles the default behavior you get when reloading the event.

All of these work for RawData only! Functionality for Hits coming soon.



New Option Service:

EvdLayoutOptions + changes in evdservices.fcl

Setting ShowSideBar: 0 Returns to previous EventDisplay behavior:

```
############################
standard_evdlayoutopt:
{
 ShowSideBar:         1        # toggle extra sidebar visibility option
 AutoZoomInterest:  1        # toggle the auto zoom to interesting region option
 PrintTotalCharge:    1        # Print out the sum of collected charge
}

argoneut_evdlayoutopt:      @local::standard_evdlayoutopt
argoneut_evdlayoutopt.ShowSideBar:     0
argoneut_evdlayoutopt.AutoZoomInterest:      0
argoneut_evdlayoutopt.PrintTotalCharge:       0

microboone_evdlayoutopt:       @local::standard_evdlayoutopt

lbne_evdlayoutopt:       @local::standard_evdlayoutopt
```

Charge Sum

- For now Prints to std::out
- Again, for now works on the RawData: sums up the rawhits before calibration – probably not the most precise thing to do.
- Put the BirksCorrectionAmplitude(...) method in LarProperties – it assumes the user has calculated the correct effective pitch for a track.
- The EventDisplay also prints out a value using this correction and the mean wire pitch – even worse but provides a hook for the better thing to do:
- It should work better once it's implemented on calibrated signals and reconstructed hits. However it still won't be very precise if you get vertical tracks in a view.

Next Steps

- Implement the above functions for reconstructed data.
- Add some mouse zoom functions? (hopefully)
- Add a simple endpoint to 3D geometry position conversion to be able to id tracks exiting the chamber on top or bottom (endpoints mouse selected) (hopefully)
- Let me know if you have any comments.