Helpful hints whilst using the event display

The Views

As alluded to in the getting started examples page, the top panel shows the collection plane, whilst the other two are the induction planes. Plane number decreases (2,1,0) from the top to the bottom.
You will notice;

- There is a colour Z scale showing red as the largest charge deposited for a hit.
- You can change the ADC Threshold, this sets the minimum ADC value to be shown.
- You can change the Wire and Plane to be shown in the window with ADC values for each Tick. This can also be done by clicking on the relevant part of the panel.

If reconstruction has been performed on the ROOT file used in the event display the reconstructed hits are shown in the three panels as open black squares.

The ADC vs Tick panel

Three differently coloured lines can be shown in the panel, each corresponding to a different quantity as follows;

- Black – Raw digits, the ADC values measured on the wires.
- Blue – The signal after an FFT has been applied to the Raw Digits to remove the effects of E-field and electronics responses.
- Orange – The Gaussian distributions

The black is shown in 'Raw' and 'Both', and the blue and orange lines in the 'Reconstructed' and 'Both' views.

Discerning which TPC tracks go through.

By default the event display shows the wires which we hit in TPC1, however it is likely that no hits were recorded in TPC1. To see which wires were hit in other TPC's you need to change the TPC you are looking at.
This is done by; Edit -> Configure Drawing -> Raw Drawing Options.
This opens up a new window with four tabs ( Raw, Reco, Color, Simulation ). One of the options in the 'Raw' tab is 'TPC' changing this to any number ( 0 – 7 ), pressing Enter/Return and then clicking 'Apply' will refresh the view to the desired TPC.

This can be somewhat of a wild goose chase however as you have to cycle through all the TPC's to determine which have hits and which don't. Luckily there is another window which can be opened which shows the TPC's which have hits.
Opening; Window -> Ortho3D, opens such a window.
In order to be useful you then have to make it show you the MCTruth tracks.
In the 'Simulation' tab of the window opened above there is an option 'ShowMCTruthTrajectories' which is defaulted to 'false'. Changing this to 'true', pressing return and then clicking apply will show the MCTruth tracks through the cryostat.

Bringing up reconstructed tracks in Ortho3D

By going on the 'Reco' tab of Configure Drawing and setting;
DrawTrackSpacePoints:       1
DrawTracks:                 1
TrackModuleLabel:           (some reconstruction label – [stitch] / [costrk] )
This will show the reconstructed tracks on both the Ortho3D and the reconstructed tab on the event display. If TrackModuleLabel is costrk you will see a different colour for each segment of track in each

TPC, if stitch is used then the whole track will be one colour. It can be easier to see the tracks and spacepoints on the event display window if you set the view to GreyScale.
NB. Setting DrawTracks to a number greater than 1 will show the TrackID associated to the track, so it can be easily ascertained which Track ID corresponds to which visualised track.