

GCR calibration improvements

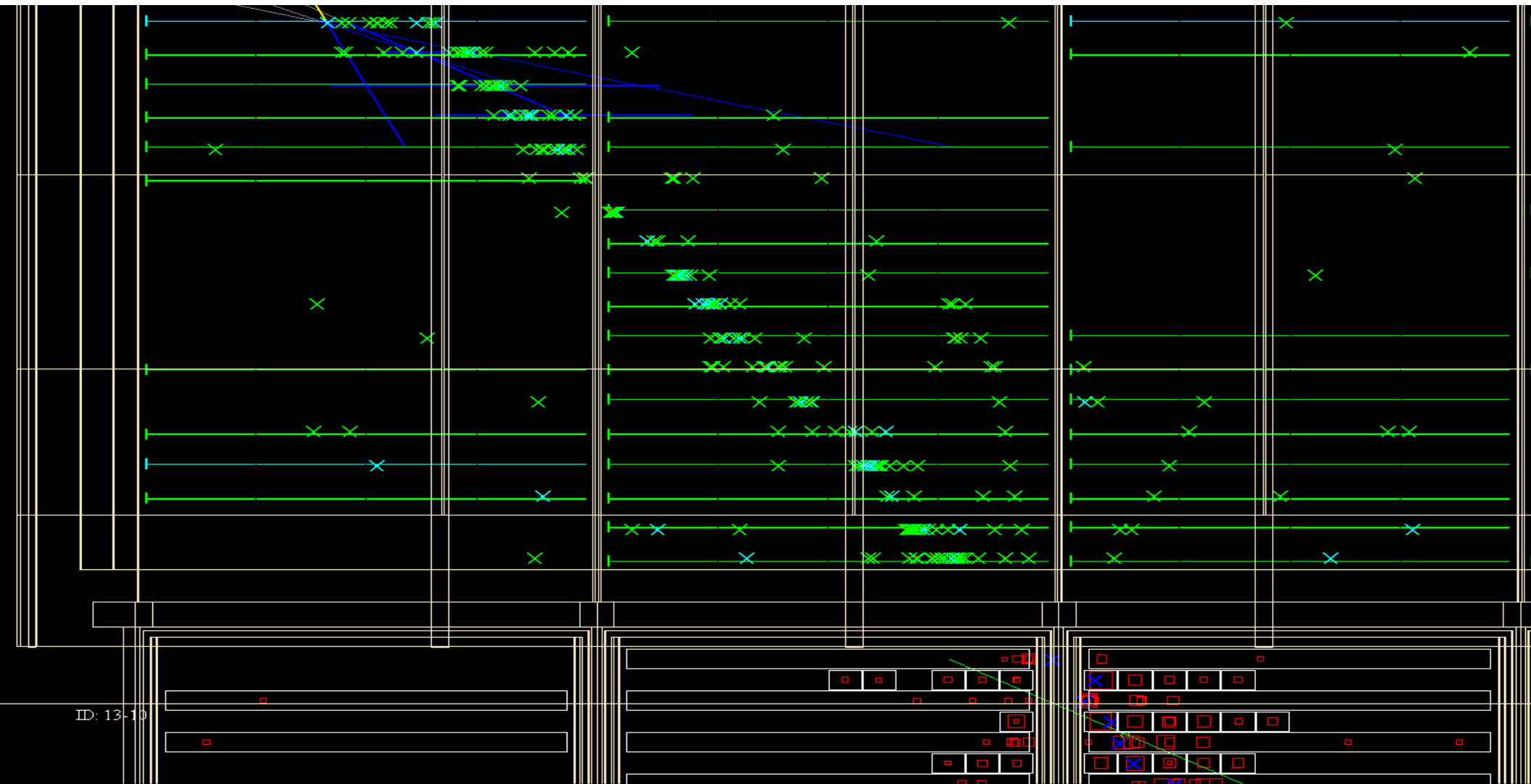
- I will be back to France next year, in Montpellier with the LPTA group. I am rather TKR oriented but this could prove helpful in improving the GCR calibration for heavy ions. So I agreed with Fred to start looking at this issue.
- I still have close to everything to learn, so these few slides are just a way to introduce myself and get 'officially' started....
- Many recent issues with GR v13rX and new ROOT external libs, should be solved in a couple of days.
- One thing I (re-)learned while talking with Leon is that one should make sure that the patrec step checks the width of clusters by default. Need to be turned off for heavy ions :
 - `TkrInitSvc.TkrTestWideClusters = false;`

A few possible directions proposed by several people

- **Solution CAL only** : reconstruct the longitudinal direction based on crystal L/R asymmetry, as for heavy ions the deposit should be high enough that the noise is not a problem anymore.
 - I am not the expert, but certainly worth understanding this in detail, I would guess
- **Make use of moment analysis in TKR** : `TkrFilterFirst.FilterToolName="TkrFilterTool";`
 - Fills the TDS with info. No persistency seems to be in place.....
- **'Modify' the TKR fitter** :
 - Use only wide clusters
 - Increase the weight of the wide clusters in the fit
 - Fit the CAL direction to the first layers in TKR (see Bill's presentation yesterday)

Tagging wide clusters with a different color

- Wide clusters in cyan, $\#strips > 5$. Code is in my in CVS but has been “switched off”. Will come back soon, if everyone agrees (I cant make it optional, as far as I can tell).



The truncated data

- Expect to be the most challenging aspect of the problem
- Leon wrote the code to simulate it, and to put the relevant info in TDS.
- I recently wrote the persistency so that it can be retrieved from recon.root, in CVS but again 'switched off' in order to get a clean v13 release out..... more soon.
- I have no clue how to attack this problem yet, but it is in principle possible to modify the configuration to define different buffer depths.... Can be particularly welcome for a dual fit first TKR layers+CAL
- **In conclusion** : more soon, I hope!
 - Run gcr calib on Iron, and then the RootAnalysis code from Fred to reproduce the problem and get acquainted with the code
 - Dig in recon/merit what could be used to study possible improvements (CAL+TKR info to redo a fit in ROOT, etc....)
 - I strongly sense that coding inside Gaudi framework will be necessary pretty quickly, even before the solution to the problem is found/suspected.