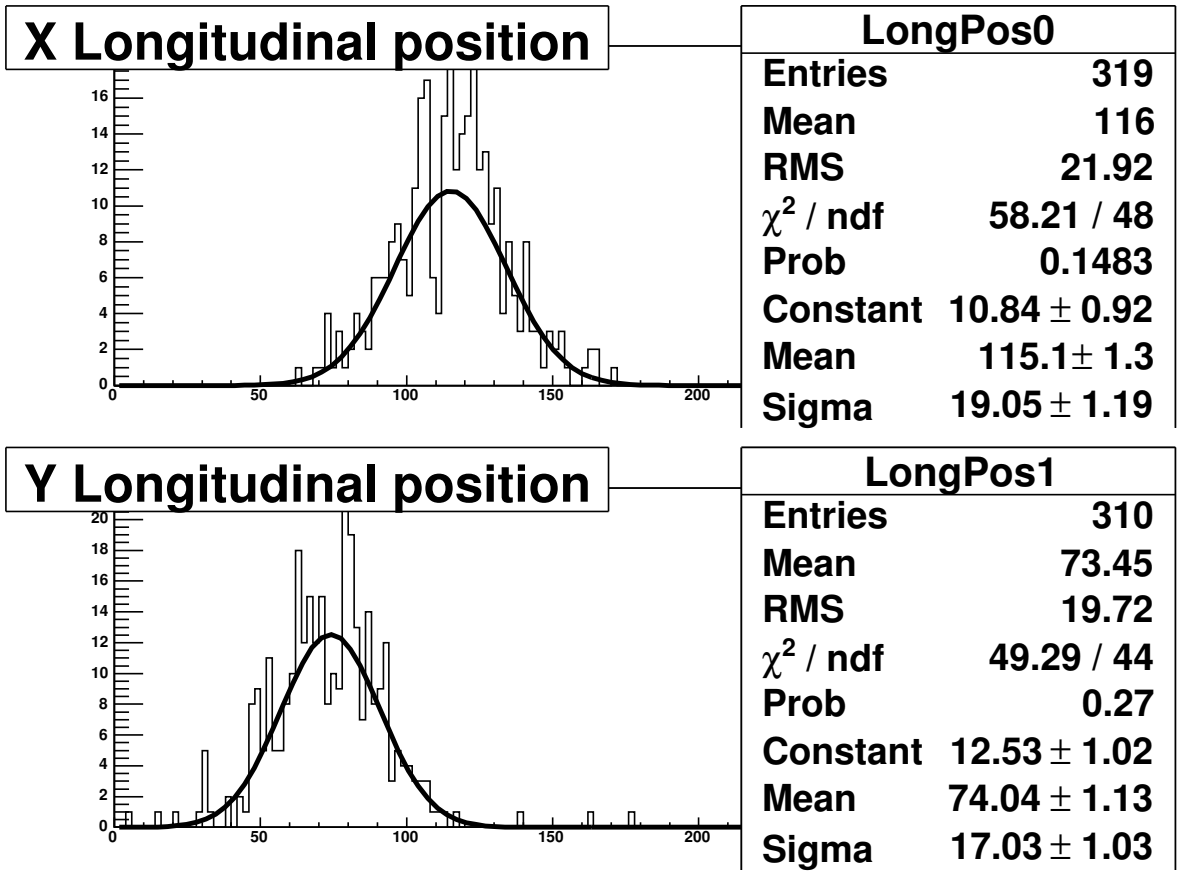
CAL MIP finder status

- Main goal: improve background rejection in order to loosen other cuts and to gain some effective area
- Strategy (as proposed by Bill):
  1. use layer energy as a measure of path length in that layer
  2. use energy locations to fit a line
  3. test the algorithm on simulated muons
  4. turn to DC1 protons and tune the algorithm; lot of hand-scanning required (FRED)
  5. turn to DC1 γs and tune again: how often (depending on the energy) will a γ produce a MIP-like segment in the CAL (e.g. in > 3 layers) ?
  6. combine MIP-finder and clustering informations
- Status:
  1. Gleam v4r2 installed
  2. we know how to define a source in Gleam and how to read the ouptut files (mc, digi, recon) using a RootTreeAnalysis macro (thanks to Benoît)
  3. RootTreeAnalysis and MeritTuple classes merged in one single ROOT macro

to read simultaneously mc, digi, recon and merit variables for any event

4. much time spent to understand the geometry in Gleam. Still some work to do here, e.g. how to go from instrument coordinate frame to a single tower or layer frame
5. whereas the longitudinal position of deposited energy is not used in Recon variables (CalXDir, etc.), we only use the L/R asymmetry to measure the position



- In progress:
  1. we just finished the implementation of a χ^2 fit to a 3D line (first results very soon !)
  2. if it works properly, we'll then turn to large angle muons hitting 2 crystals in 1 layer, using the energy as a measure of path length (not used yet)
  3. in view of DC1 proton scanning, Eric is installing the "old" Gleam v3r3p7 (DC1 version) and testing its compatibility with FRED (some DC1 background files already transfered from SLAC ftp site to GAM)
- Fred and Sylvain arriving at NRL on Monday for I&T