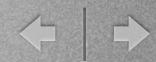
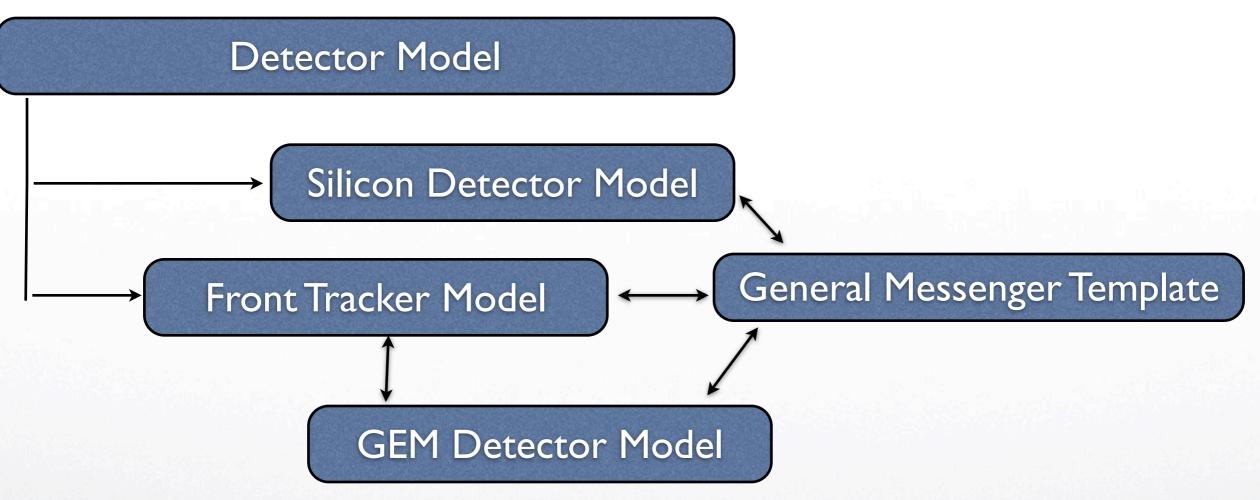




# GEANT4 Simulation of GEM Tracker

## Simulation Outline



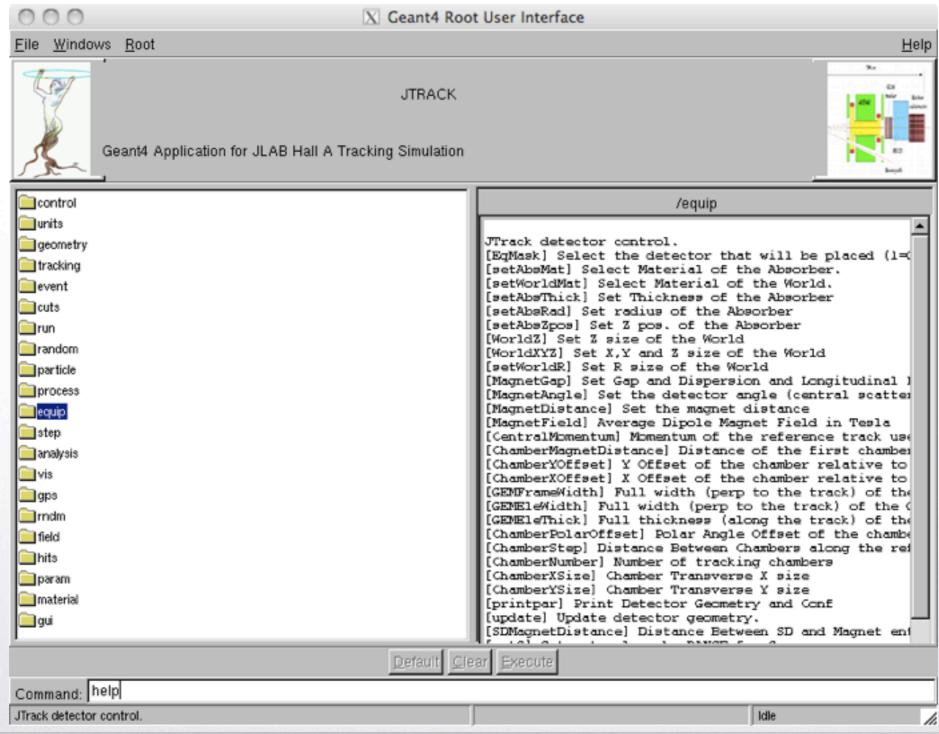


The single detector modules are "separated" from the "global" detector model in order to achieve code modularization. Any detector can be manipulated by its own commands, arranged in a logic tree.



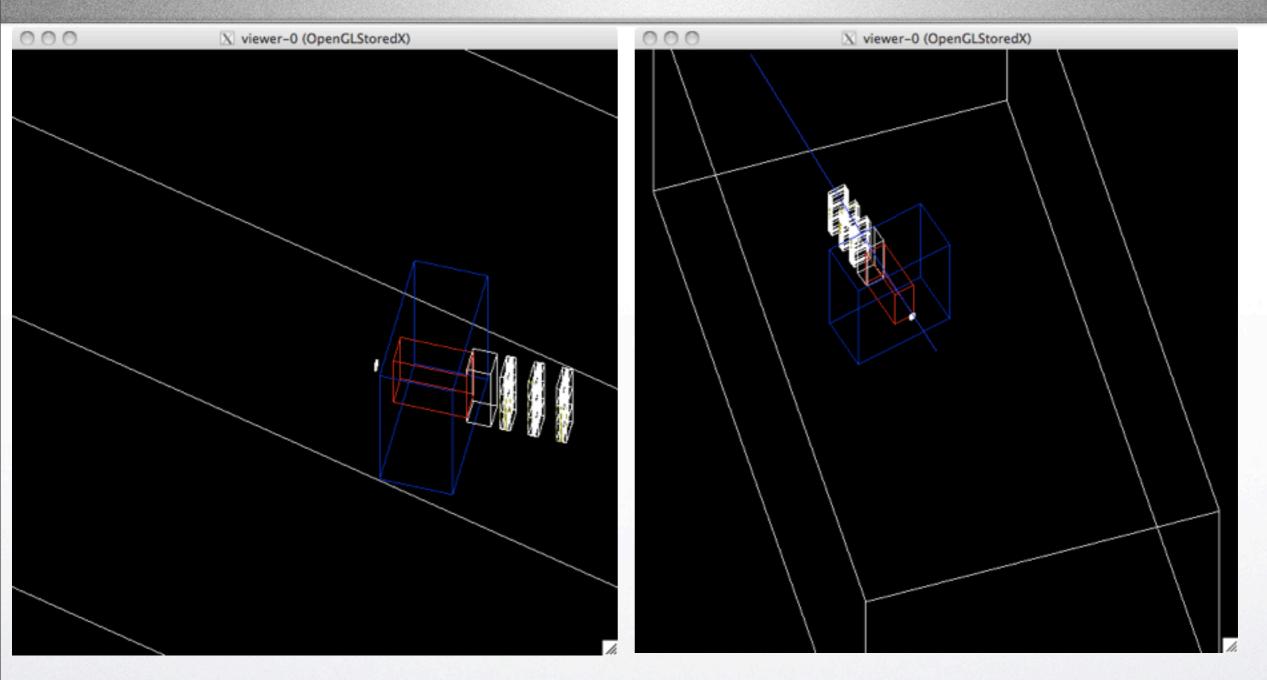


#### Simple (optional) GUI and configuration logging added.



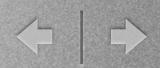


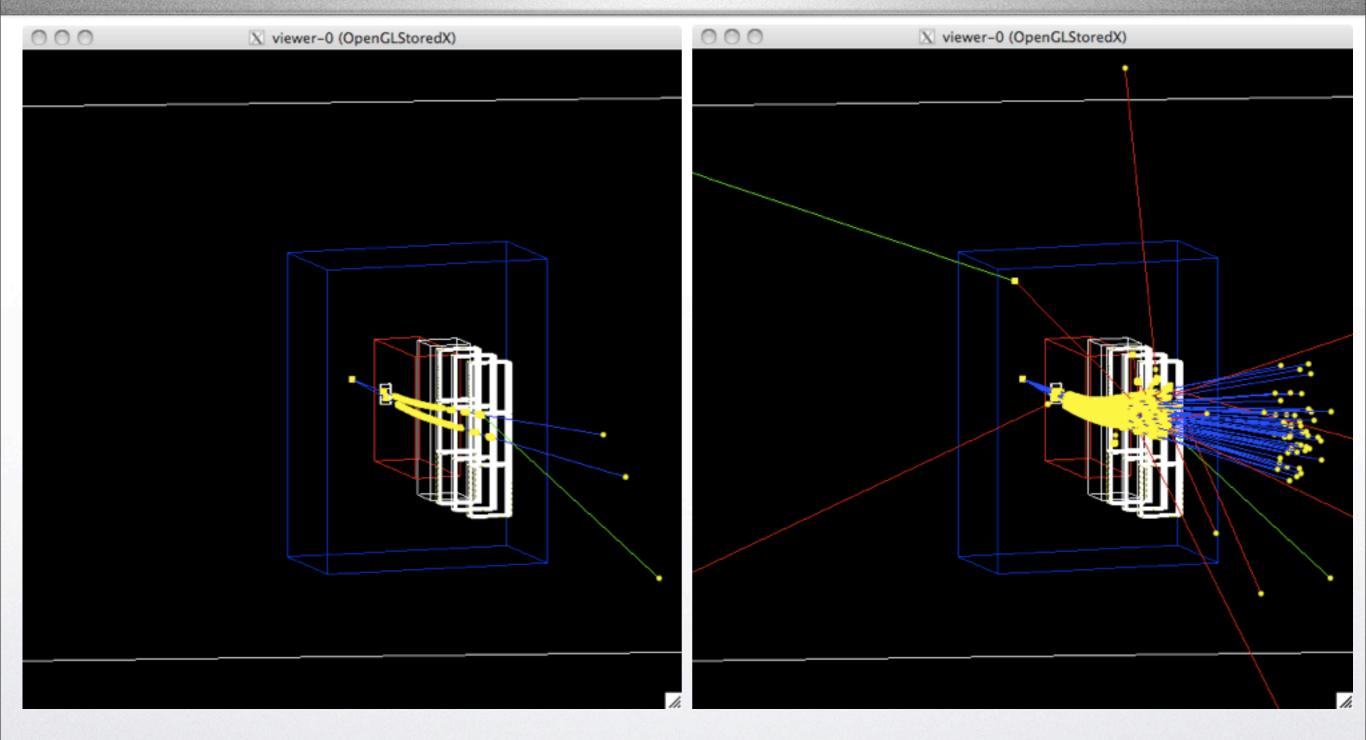




Example of geometry



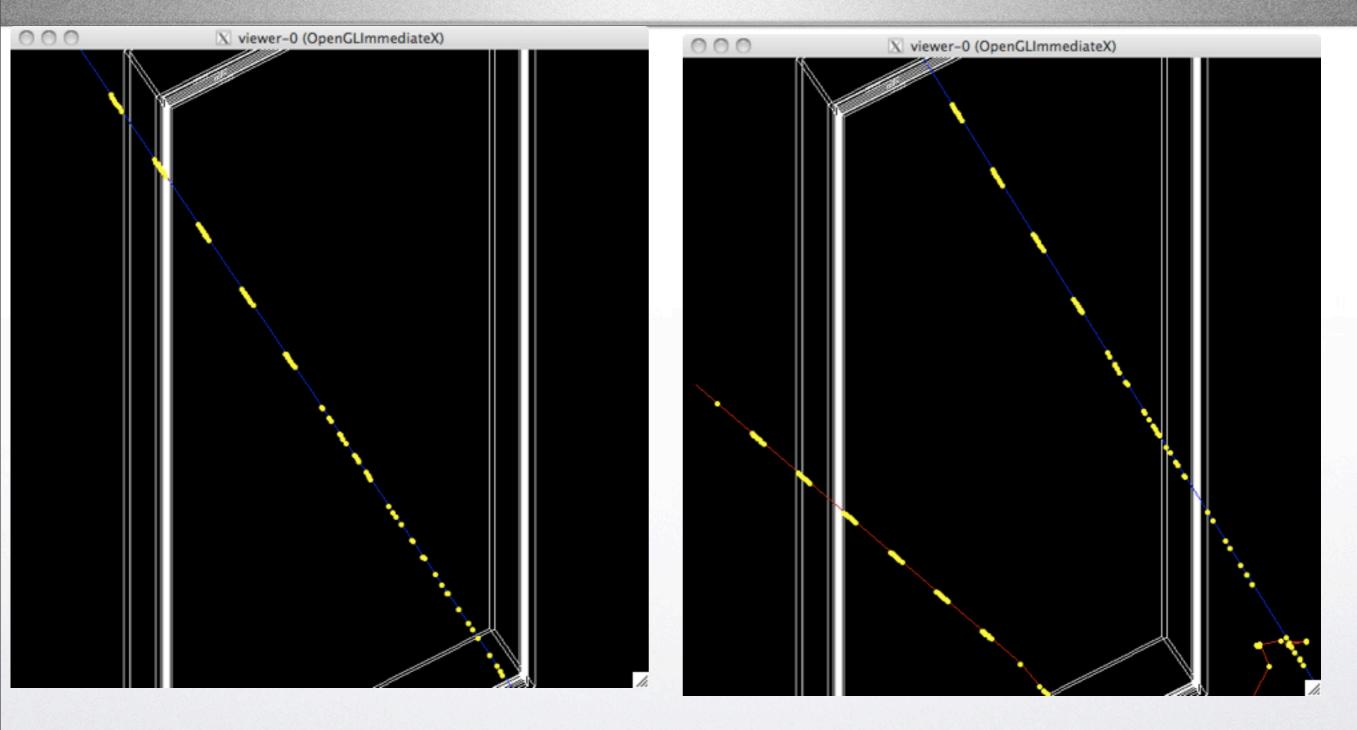




Example of running simulation



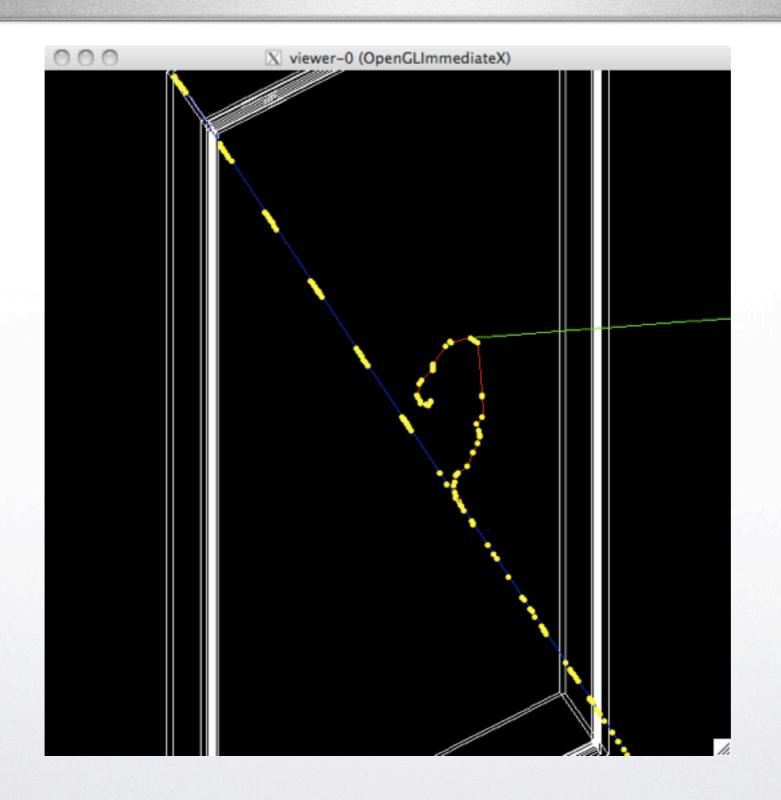




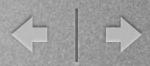
Zoom on a chamber during a simulation

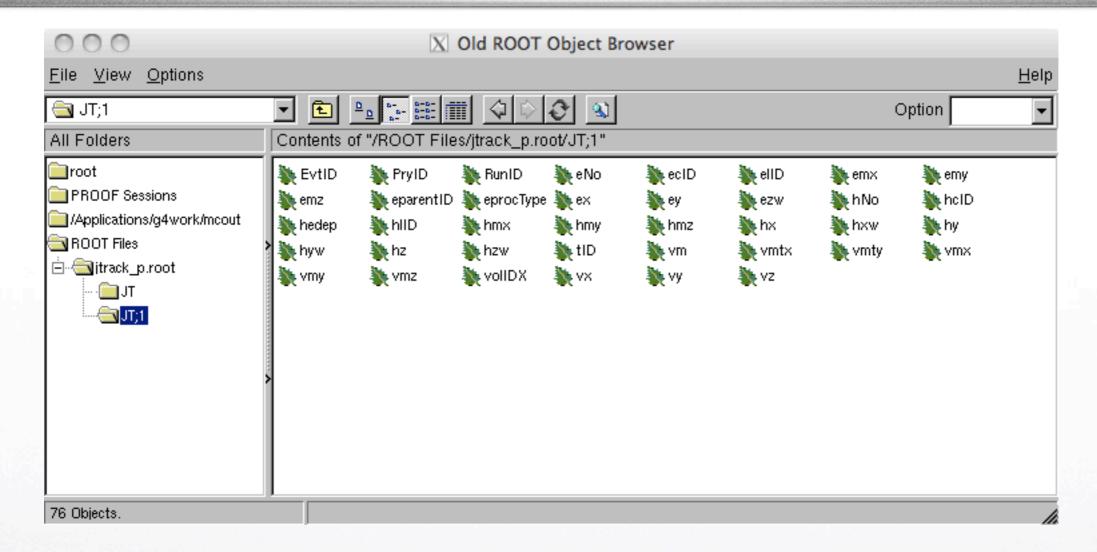










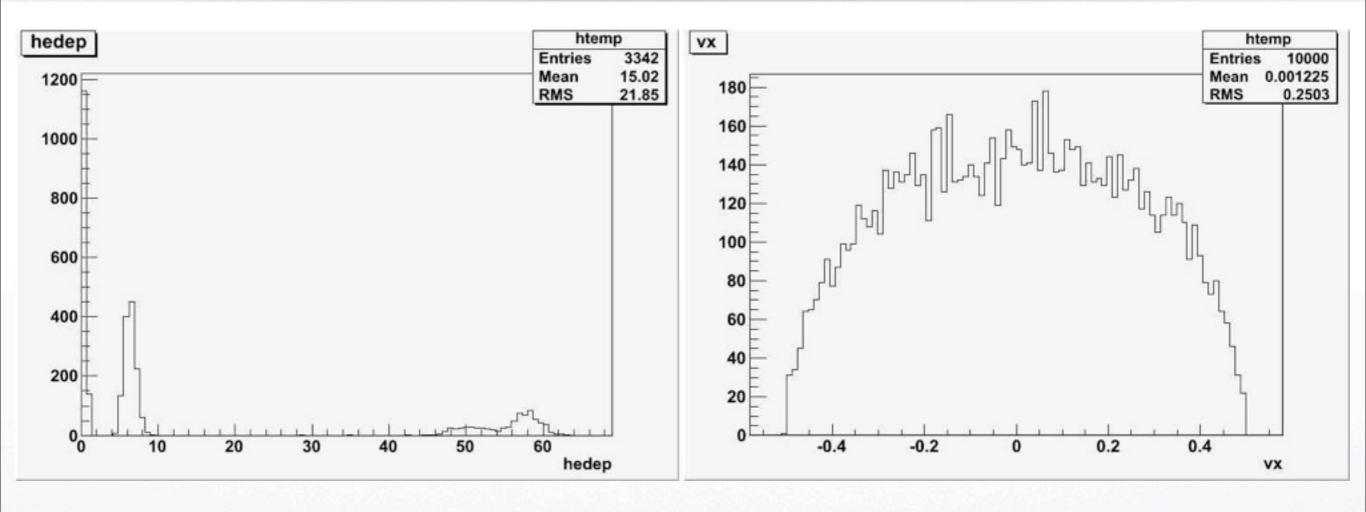


hcID: chamber index

(hx, hy, hz): entrance point on the drift gap (hxe, hye, hze): exit point on the drift gap

hedep: energy deposited in the drift gap (!E)

(hmx, hmy, hmz): entrance momentum on the drift gap (hmxe, hmye, hmze): exit momentum on the drift gap

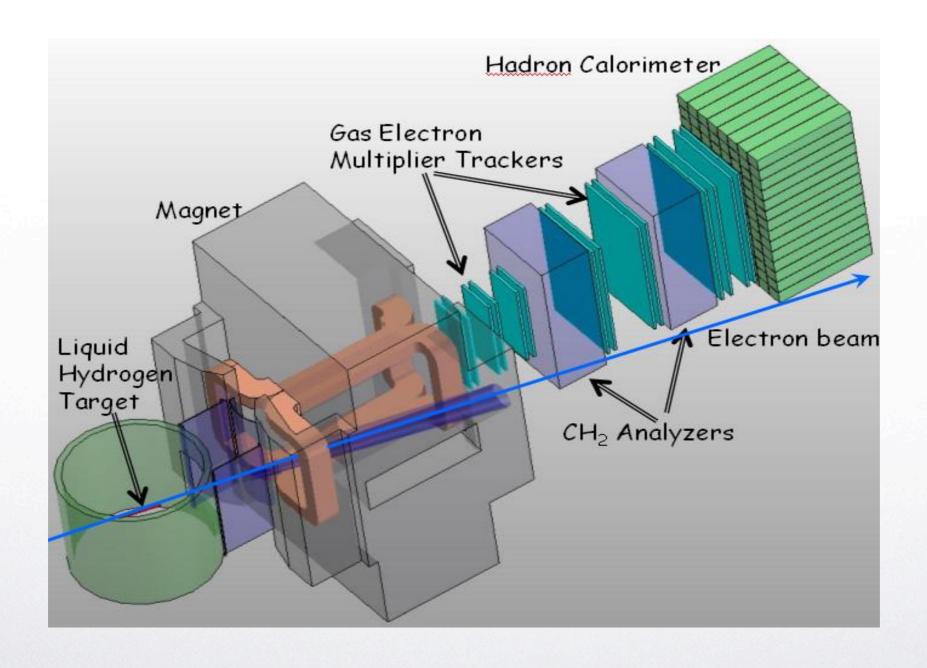


(Simulations, proton source)



### + | +

#### The plan is to model the whole tracker.





- "Realistic" and customizable event generator
- Modularization of the remaining detectors (magnet...)
- "Tuning" of the Physic Process List
- Presumably many other things