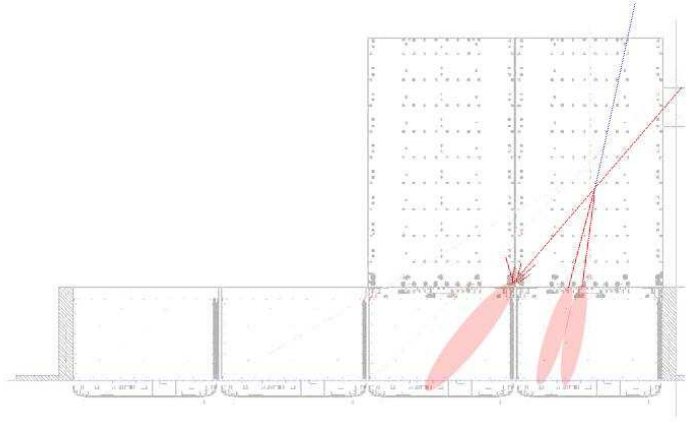
GLAST CERN 2006 Beamtest



Cal Energy Profile
Tkr1CoreHC

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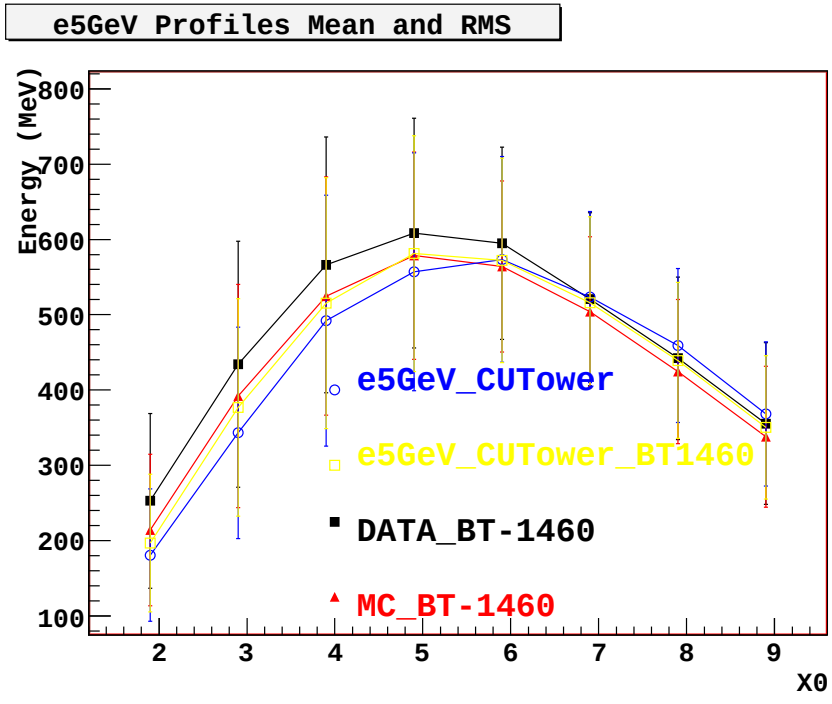
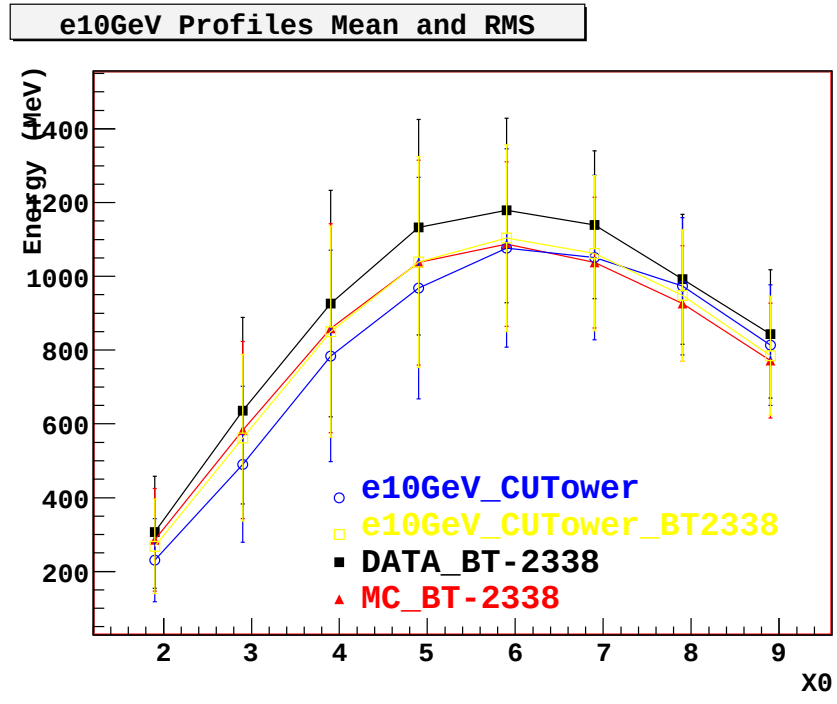
Beamtest Analysis - June 4^{th}, 2007

Cal Energy Profile

- Improved G4StdAlone simulation with :
  - CU Calorimeter geometry : 8layers, 12 columns with gaps
  - Possibility of having beamtest06 particles in input (thanks Francesco)
- Look at energy profiles for :
  - G4StdAlone (Blue) : CUTower geometry, simple beam
  - G4StdAlone (Yellow): CUTower geometry, beamtest06 particles
  - Beamtest Data (Black)
  - Beamtest Monte-Carlo simulation (Red)

Energy Profiles



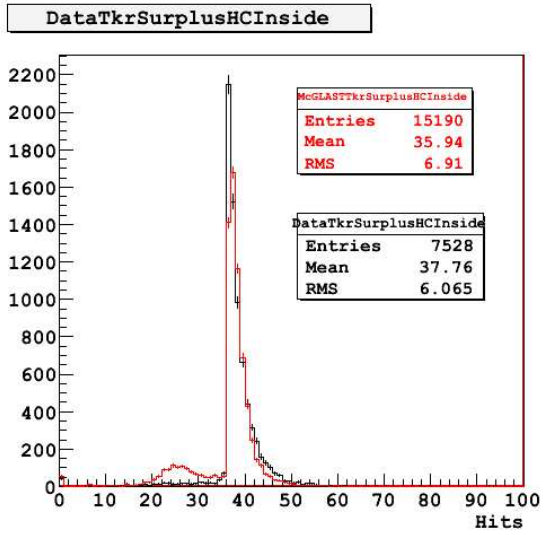


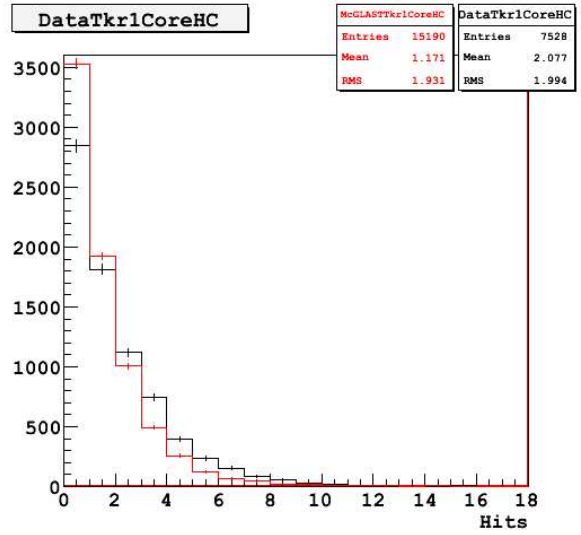
- magical matching between the G4 Standalone simulation and the beamtest data disappeared in leakages...
- very good agreement between the G4Standalone improved simulation using beamtest06 beam particles and the full BTR MC !
- Good check for consistency !
- different way to go...(open discussions)

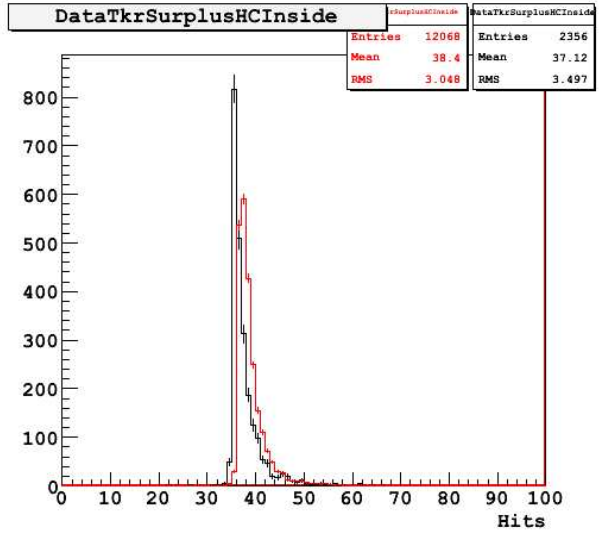
Tracker Merit Variables

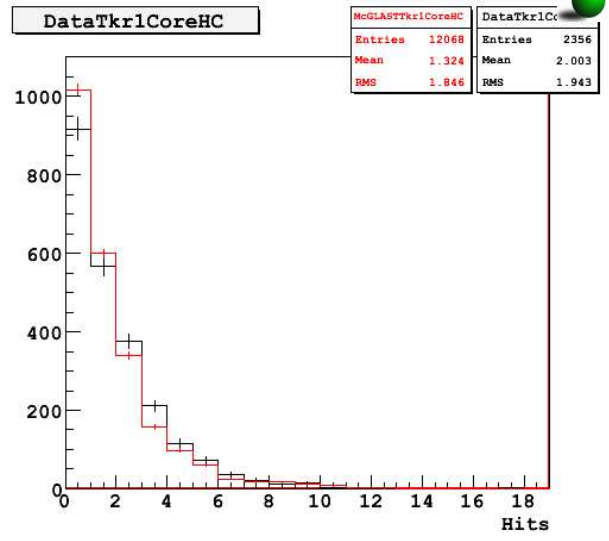
- Tkr1CoreHC : Number of clusters within a roughly cylindrical region)(default radius 10 mm) around the hits in each plane between the first and last on the best track, excluding the clusters that belong to the track itself
- TkrSurplusHitInside : Number of clusters inside an energy- and angle-dependent cone centered on the reconstructed axis of the best track and starting at the head of track 1. Only hits in layers with at least one x and one y cluster in the tower are counted.
- Both variables count clusters

protons



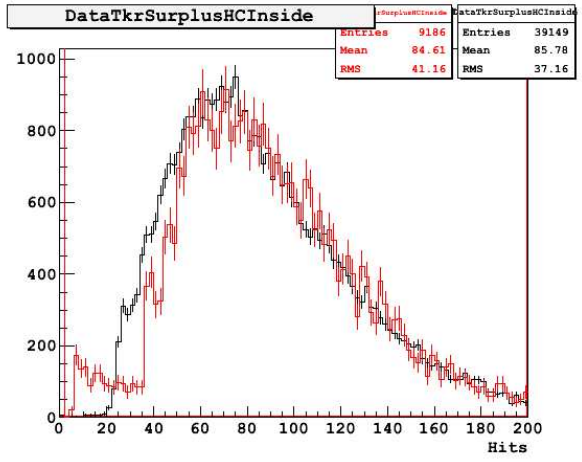


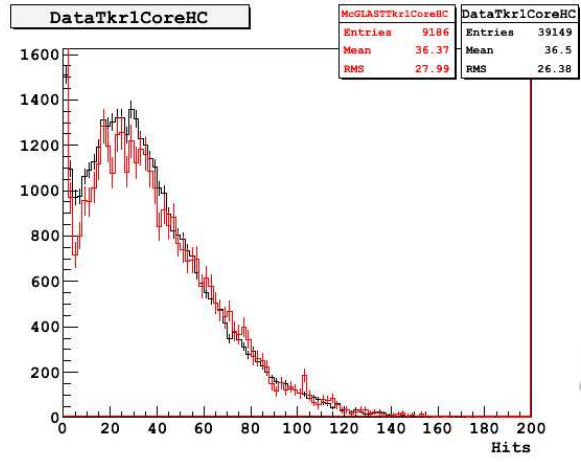


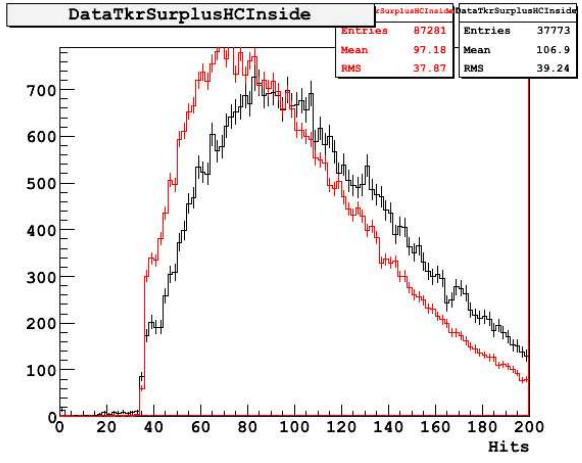


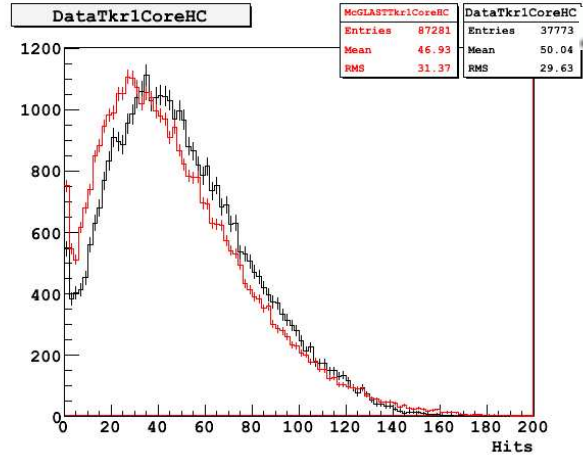
- BT-1423 : 6GeV protons
- BT-1755 : 150GeV protons

electrons









- BT-2338 : 10GeV electrons
- BT-2039 : 50GeV electrons

Tkr1CoreHC

- agreement for 10GeV electrons
- discrepancy for both 50GeV electrons and protons (not that bad at 150GeV)
- ...in the same way (may help)
- need to check tagged photon runs