Update on TKR response to electrons

LowEnergy physics for high energy runs

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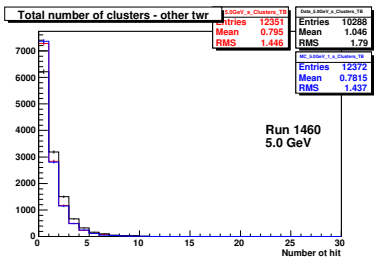
BeamTest EVO meeting - April 16, 2008

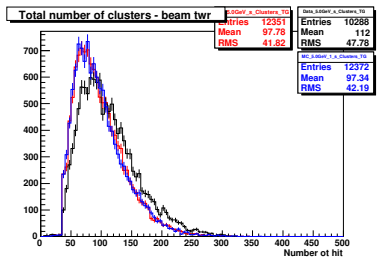
- New MC (v8r130101p1) for a set of e^- runs provided by Johan.
- LowEnergy and GLAST were used and compared with data (v7r1215p0).
- We observed:
  - No big effect at low energy (up to $\sim$ 10 GeV) as expected
  - Surprising increase in the number of hit at higher energy
- Here we will show a results for 2 test runs:
  - run 1460 - 5 GeV/c
  - run 2039 - 50 GeV/c
- reports for all the runs can be found on the attached file *reports_EleLowEnergy_16_4_08.zip*

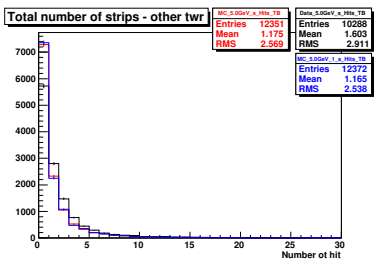
List of new runs

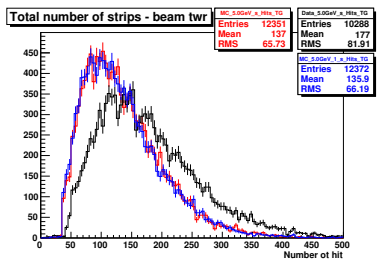
Run ID	Momentum (GeV/c)
1240	0.5
1259	1.0
1433	2.5
1460	5.0
2338	10
2082	20
2039	50
1981	100
1911	200
1922	280

run 1460, 5 GeV/c:

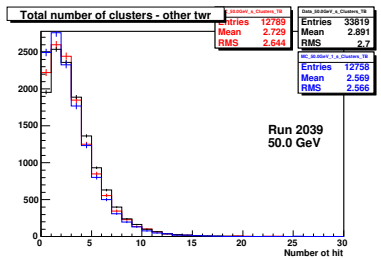


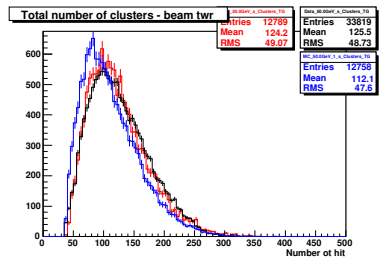


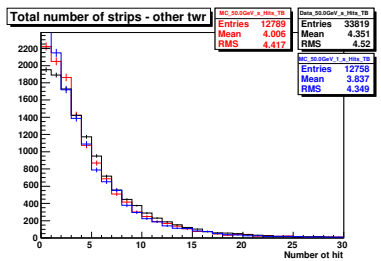


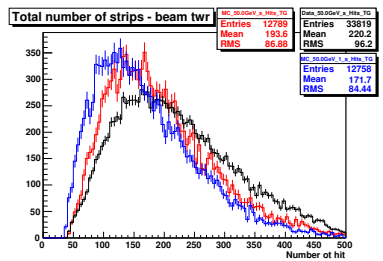


run 2039, 50 GeV/c:

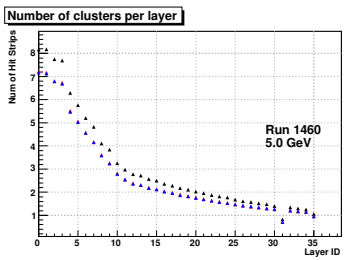


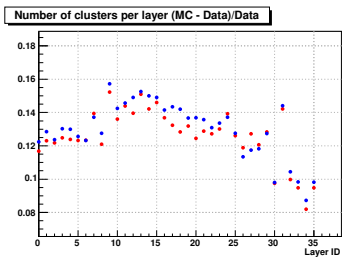


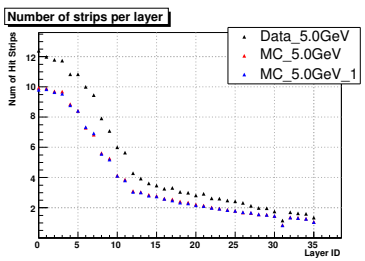


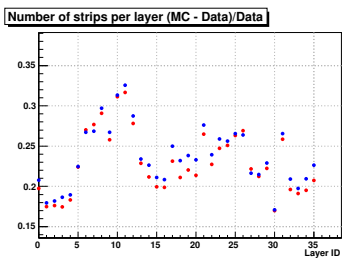


run 1460, 5 GeV/c:

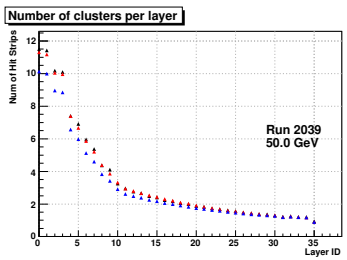


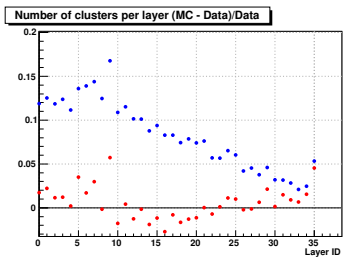


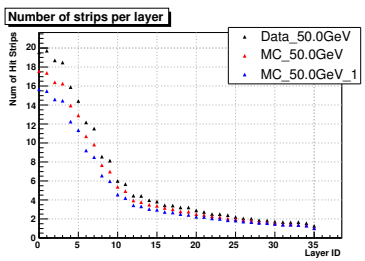


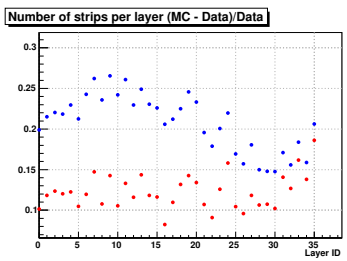


run 2039, 50 GeV/c:

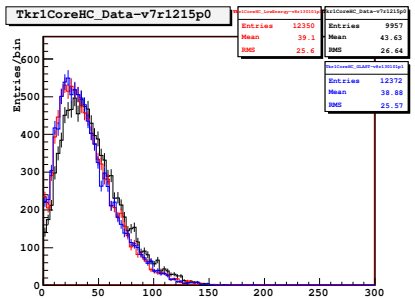


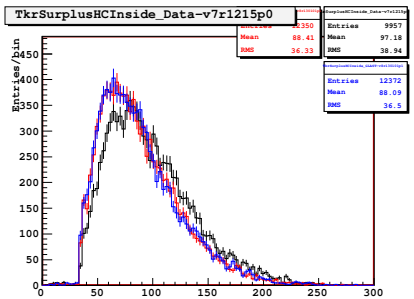


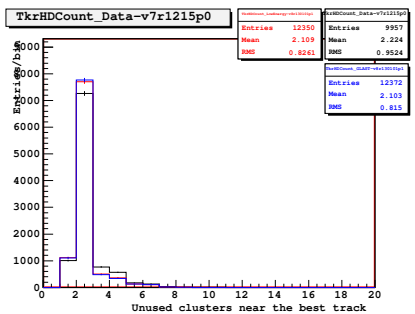


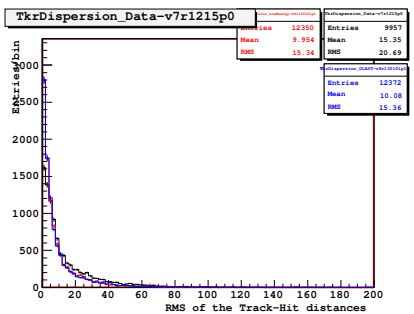


run 1460, 5 GeV/c:

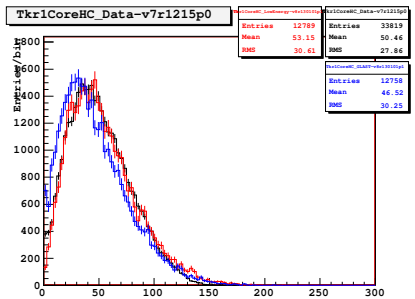


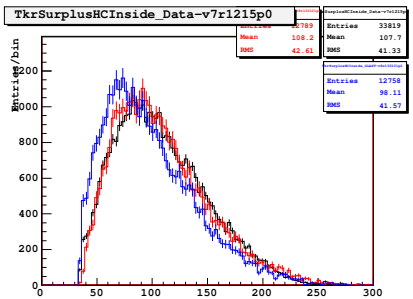


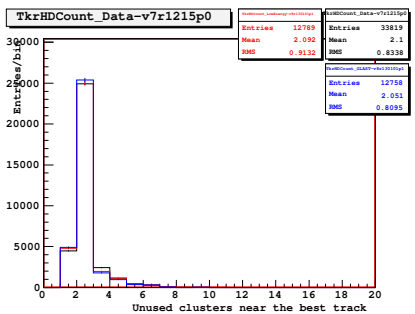


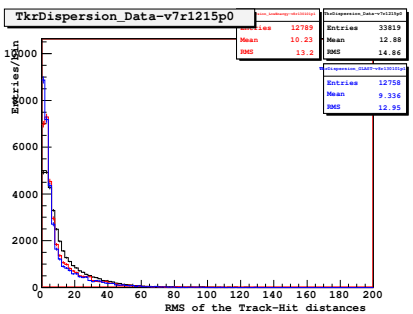


run 2039, 50 GeV/c:

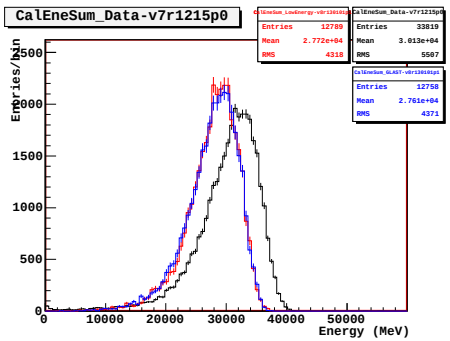


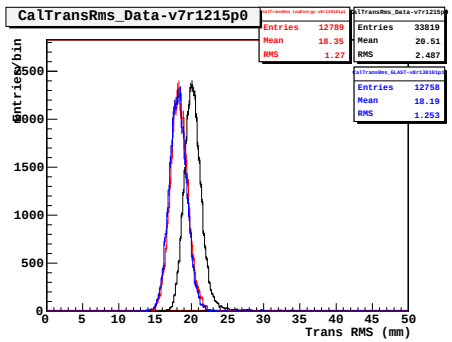


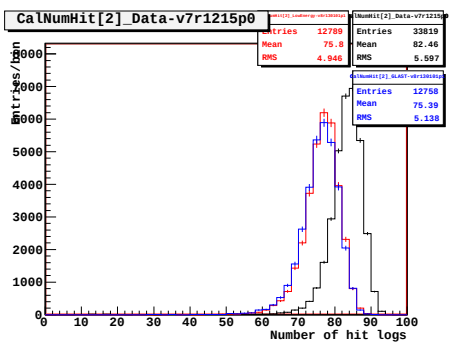


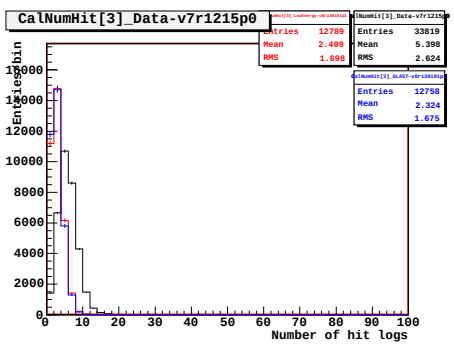


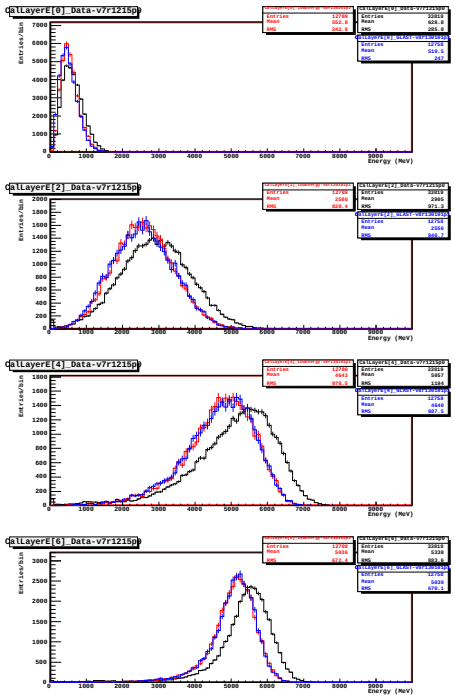
No difference for the CAL variables, also at high energy.











- Better strips/cluster multiplicity agreement with LowEnergy for high energy runs.
- No differences for low energy runs
- No effect on the CAL variables at any beam energy.
- Need to understand if there is a bug somewhere.
- We are in contact with Geant4 people at CERN
- LowEnergy model can be used with any primary particle energy, but has significant differences only for E $<$ 10 MeV