

Simulation – Test beam Comparison for ECAL

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Goals

- Compare with ECAL test beam data of *inner* modules (work in common with Ivan Korolko).
- *Study:*
 - Non-linearity effects in small size cells (simulation of non-linearity is only implemented now for outer modules *but not yet activated*)
 - Shower shapes
 - ...
- *Output:*
 - Improve simulation of non-linearity effects in ECAL inner modules
 - Geant4 Physics Validation group (Alberto Ribon) is interested in this study

By-products

- For this study, we will try to use Gauss software with *as little modification as possible*, then it will be possible also to study:
 - Impact of Geant4 cuts applied for the ECAL simulation
 - Contribution of “neutral energy”
 - Impact of Gauss specific energy cut
- Simple setup (2 geometry xml files and 1 option file)
 - Could be used also as *simple test bench* when moving to newer Geant4 releases to verify stability of visible energy.

