

GLAST CERN 2006 Beamtest



LAC Study Data vs MC

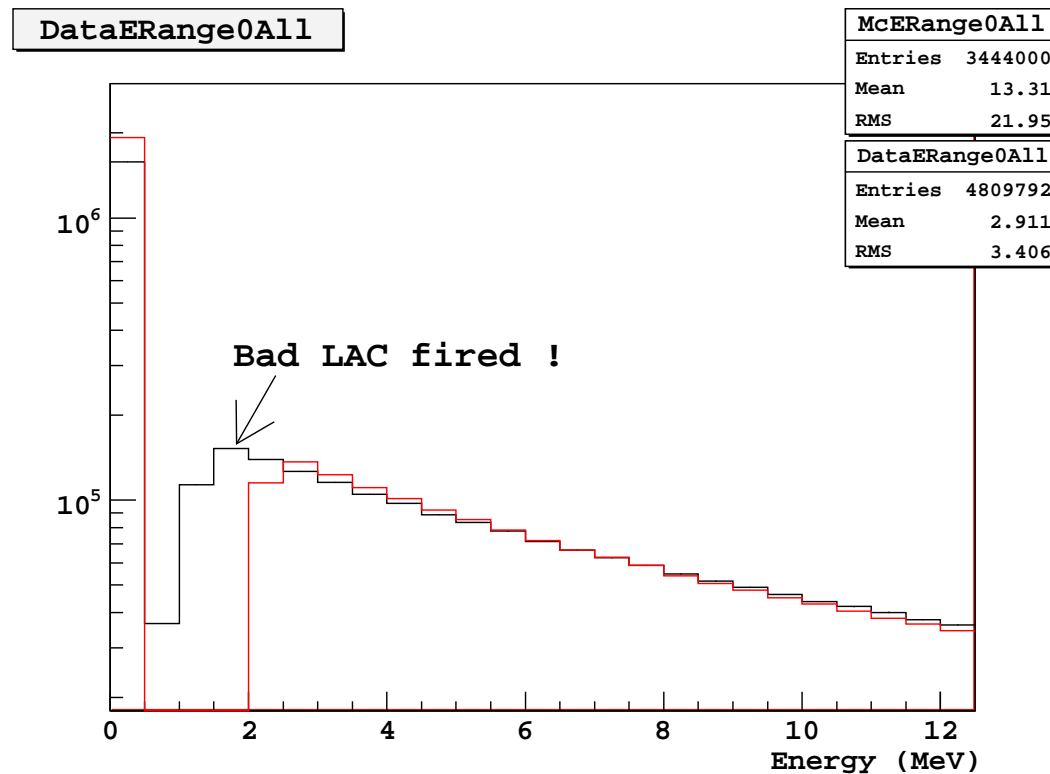
Johan Bregeon

Beamtest Analysis - April 23rd, 2008



Unrealistic LACs in MC

- LAC thresholds in MC do not correspond to Data
→ try to get into details



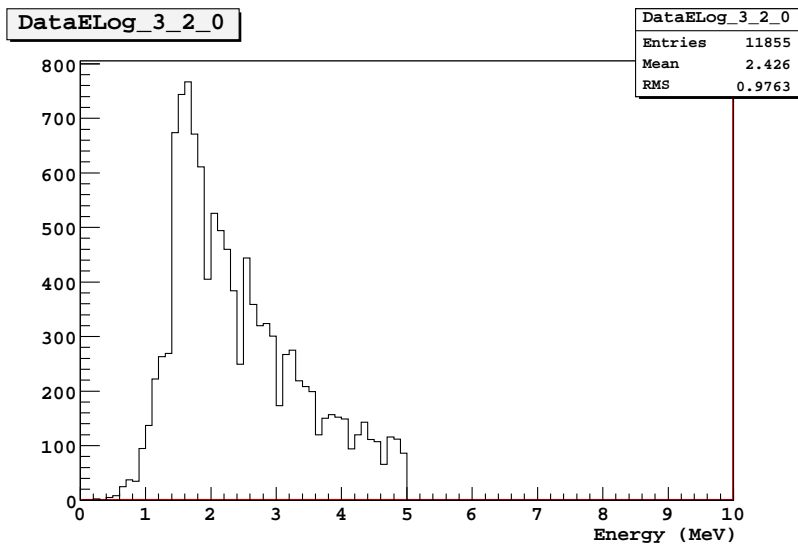
Procedure

- Work (almost) as we'll do for data monitoring on orbit
- Histograms ($0 - 10MeV$)
 - △ filled using the caltuple for each layer/col/side/range0
 - △ $CalXtalFaceSignalAllRange[2][layer][col][0][0]$
 - △ usual cut on $DeltaEventTime > 1ms$
- *Alarm algorithm* that analyzes the distribution and get the value of the edge, i.e. the LAC threshold
- *Alarm processor* that reads the thresholds from the output xml file and plots the distribution
- Get mean and rms of the distributions run by run for Data and MC

Histograms

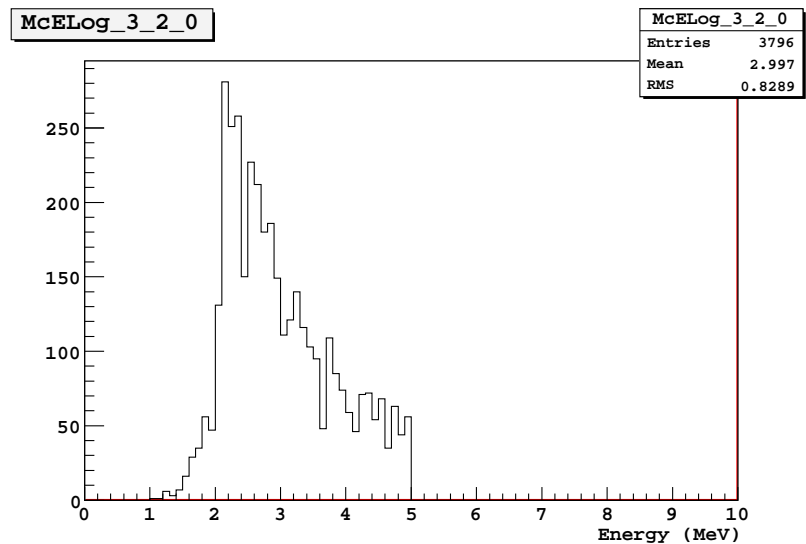
● Data 2338 : 3rd layer, 2nd column

● LAC value found = 1.05



● Mc 2338 : 3rd layer, 2nd column

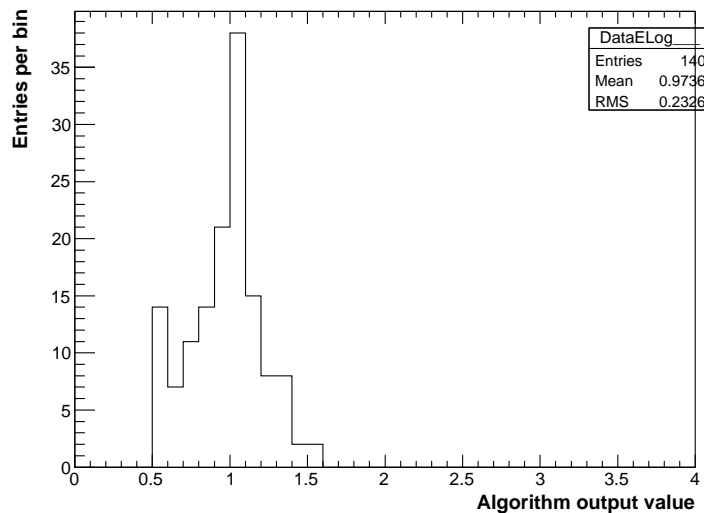
● LAC value found = 1.75



LACs for a run

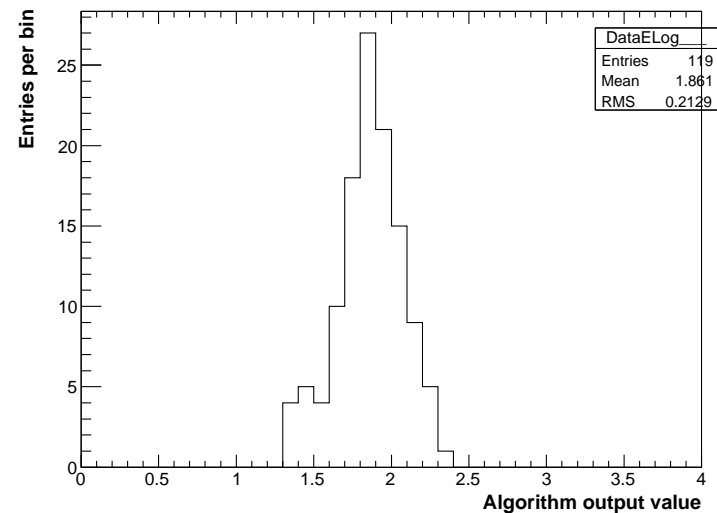
● Data run 2338 : all LAC thresholds detected

● Mean = $0.97 MeV$



● MC run 2338 : all LAC thresholds detected

● Mean = $1.86 MeV$



LACs for many run

- MC LACs around 1.90MeV and Data LACs around 0.95MeV
 - Data quite stable through the beamtest
- We have to lower LAC thresholds to 1MeV in MC

