Testbeam Analysis at Victoria

LAr week 18/03/99

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Analysis plans

- hec note on noise issues (aim at end April)
- hec note on e/h (aim at end May)
- hec note on August 98 results and MC comparison (April and August 98)

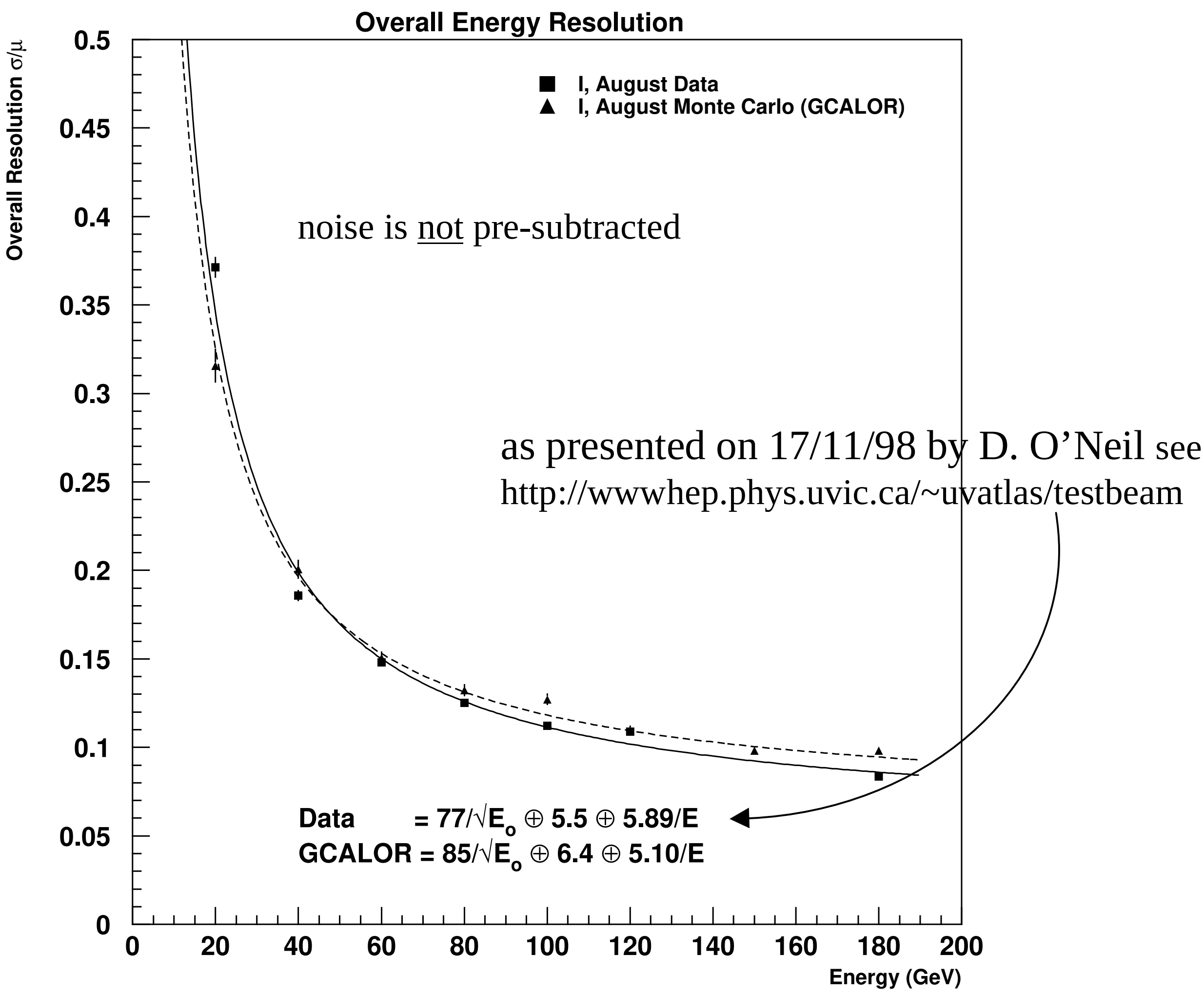
Comparison with Monte Carlo

• MC ntuples received in Feb 99 (Thanks to A. Kiryunin and D. Salihagic)

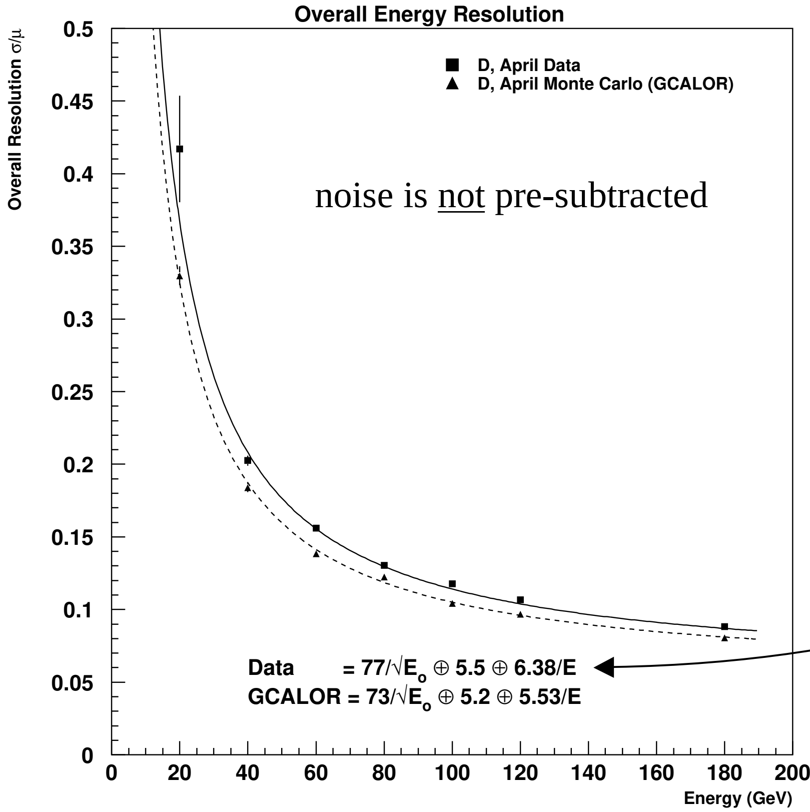
• same analysis program used as for the data ntuples: it works very well!

• The Monte Carlo noise generated should be documented (for example on the web page from which the ntuples are downloaded)

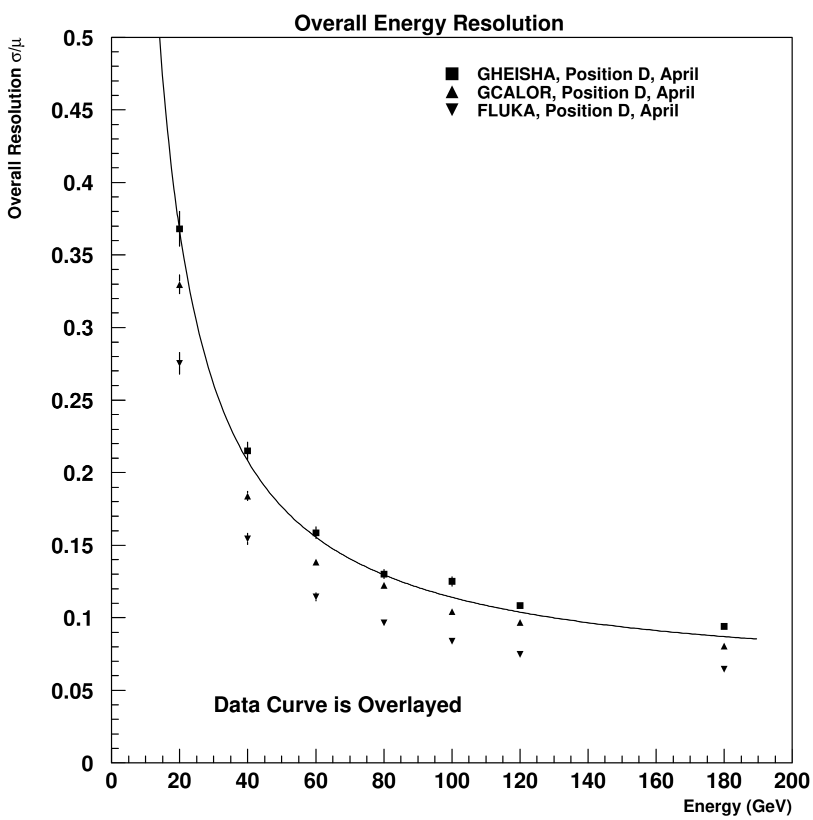
• here the noise is not pre-subtracted



April 98



as in LARG-99-001



Noise Studies

A hec note is being written to document the noise performance as experienced in offline analysis

- to compare with future runs
- to set standard plots for such comparison

Types of data sample considered:

- random triggers from “typical” data runs
- dedicated random trigger runs

Typical plots include

- pedestal rms (adc) vs channel number
- noise (GeV) vs channel number
- covariance (GeV^2) scatter plot and histograms
- correlation coefficient scatter plot and histograms

Other possible information

- noise (GeV) of typical clusters
- cubic fit vs digital filtering noise (from electron resolution 3-par fit)
  - eg 3-cell cluster point H April 98

eg digital filtering $\frac{\sigma}{E} = \frac{(22.48 \pm 0.24)\%}{\sqrt{E_\circ}} \oplus (0.0 \pm 0.7)\% \oplus \frac{(0.491 \pm 0.043)\mathrm{GeV}}{E_\circ}$

cubic fit $\frac{\sigma}{E} = \frac{(22.96 \pm 0.25)\%}{\sqrt{E_\circ}} \oplus (0.0 \pm 0.4)\% \oplus \frac{(0.771 \pm 0.033)\mathrm{GeV}}{E_\circ}$

giving here a factor of 1.57 ± 0.15

- problems encountered in August 98

as presented on 17/11/98 by D. O’Neil see http://wwwhep.phys.uvic.ca/~uvatlas/testbeam