Observation of fission in Pb-Pb interactions at 158A GeV

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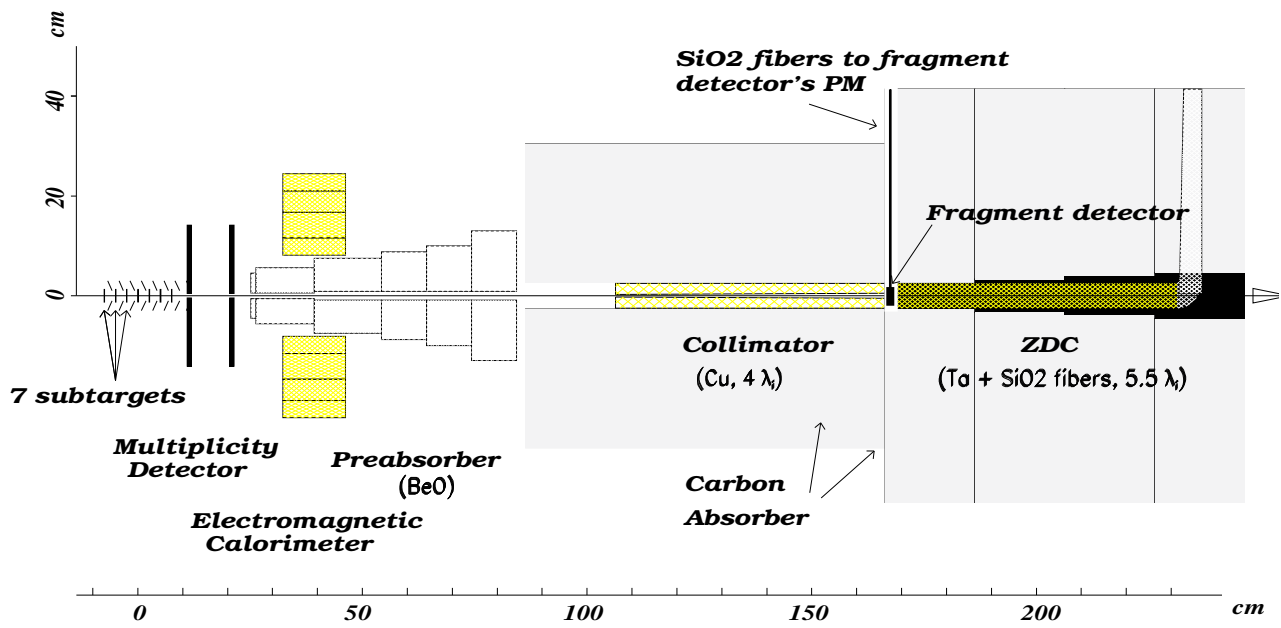
https://hal.in2p3.fr/in2p3-00000738

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Figure 1: Experimental layout: the fragment detector and the standard NA50 detectors in the target and hadron absorber region are shown.

(a)

24 mm

to p.m.

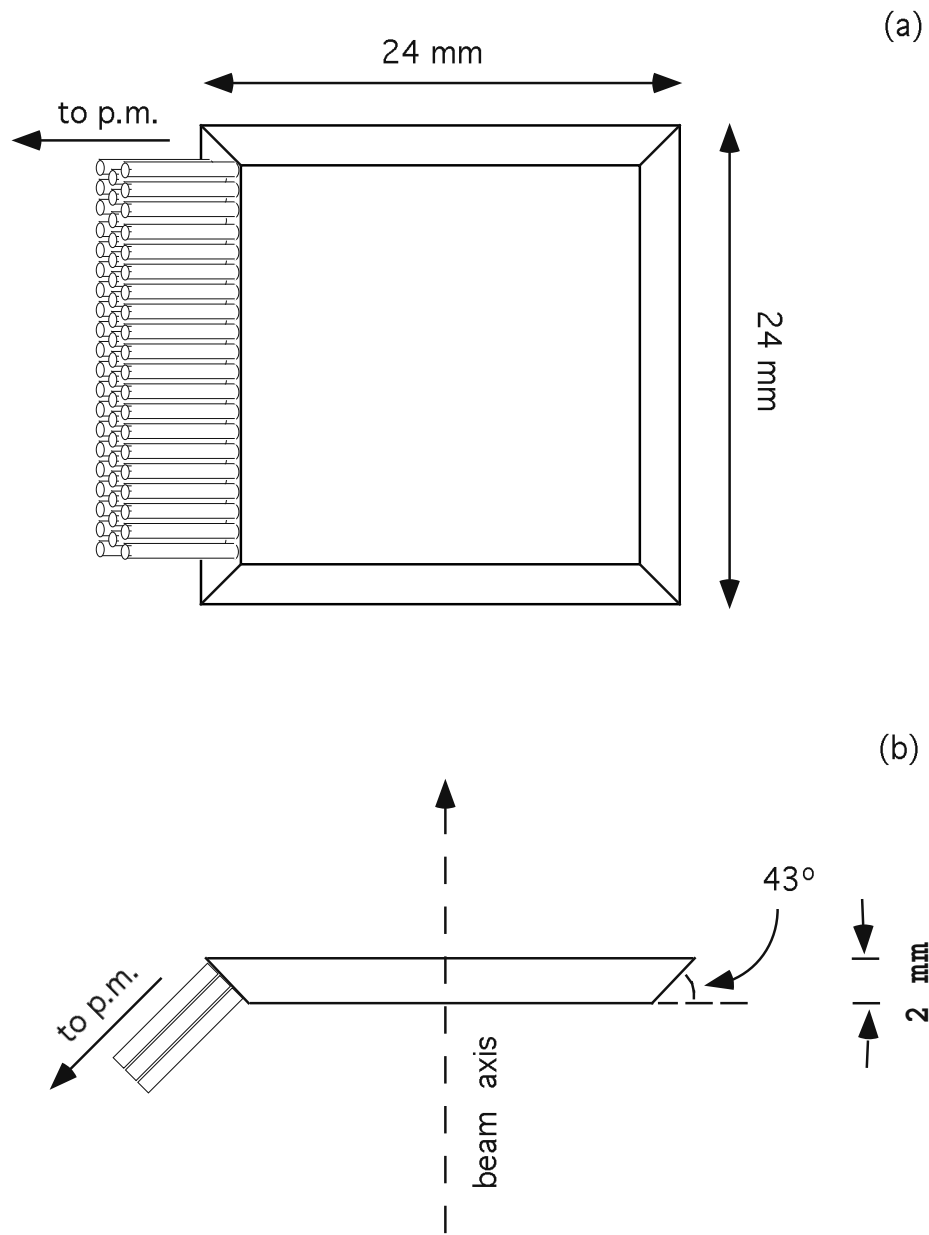24 mm

(b)

43°

2 mm

to p.m.

beam axis

Figure 2: Structure of the fragment detector : (a) front view (the beam enters into the drawing); (b) top view. Note that for the sake of a clear presentation only a sample of the quartz fibers is shown and the fiber diameter is not in scale with respect to the quartz blade.
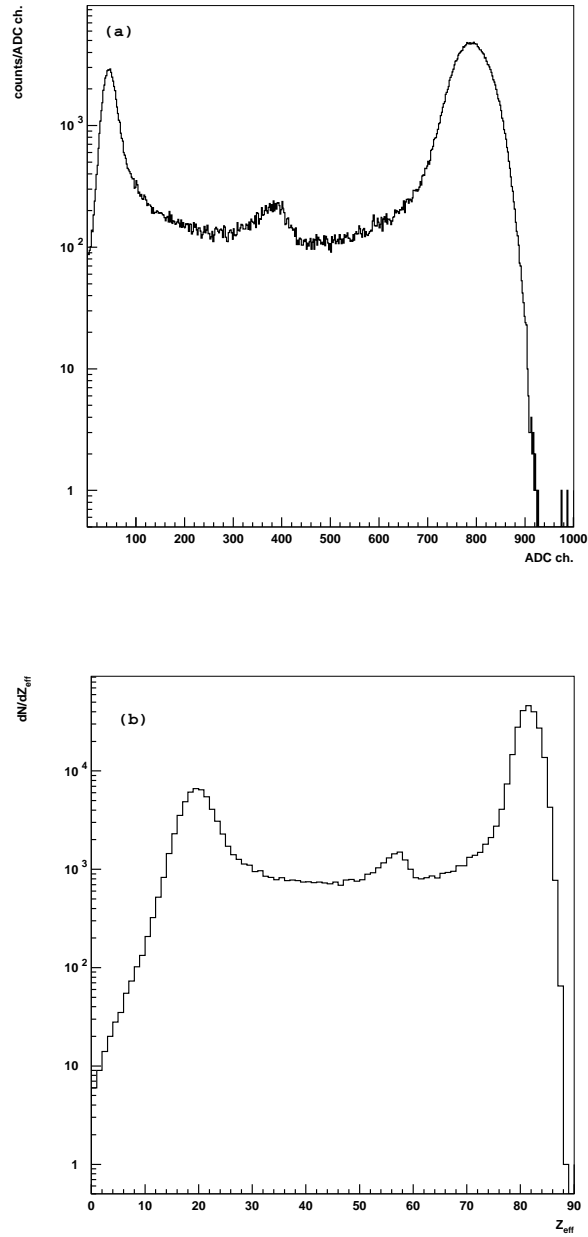
Figure 3: (a) Light output (ADC channels) and (b) Z_{eff} spectra measured by the fragment detector. The variable Z_{eff} is defined in the text.
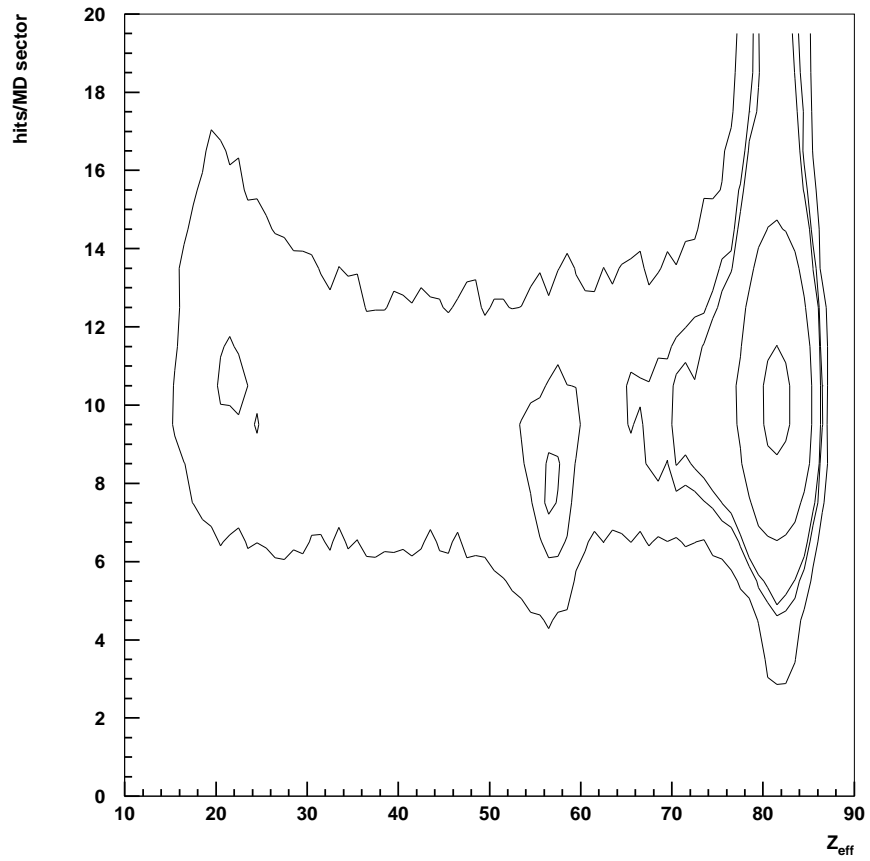
3

Figure 4: Contour plot of the number of hits per multiplicity detector sector
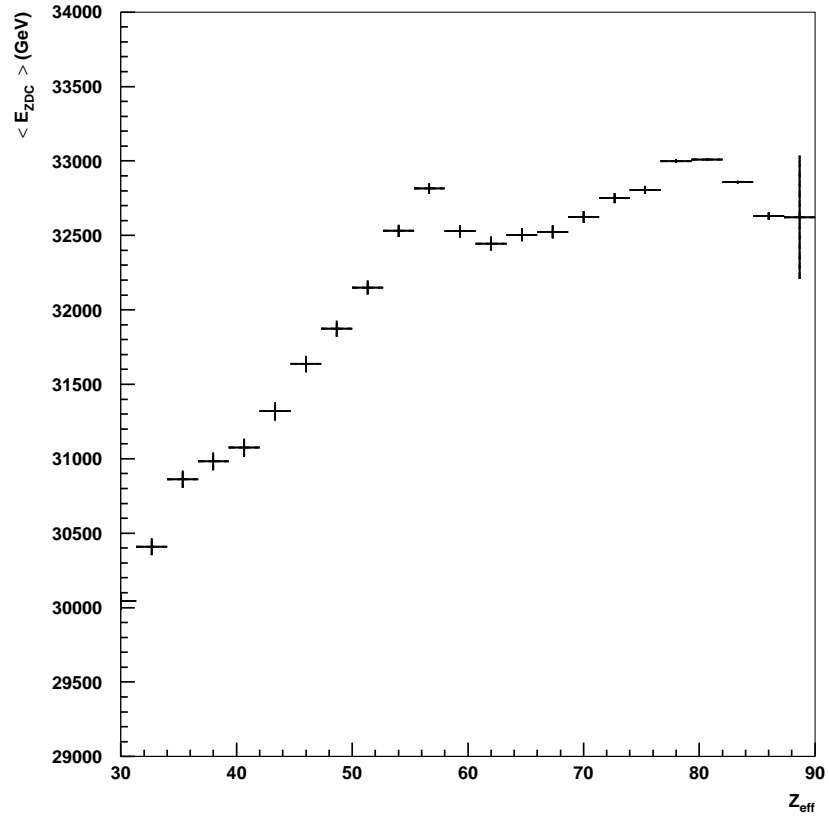(y axis) versus Z_{eff} (x axis).

Figure 5: Mean value of the zero-degree energy ($< E_{ZDC} >$) per bin of Z_{eff}, plotted as a function of Z_{eff}.
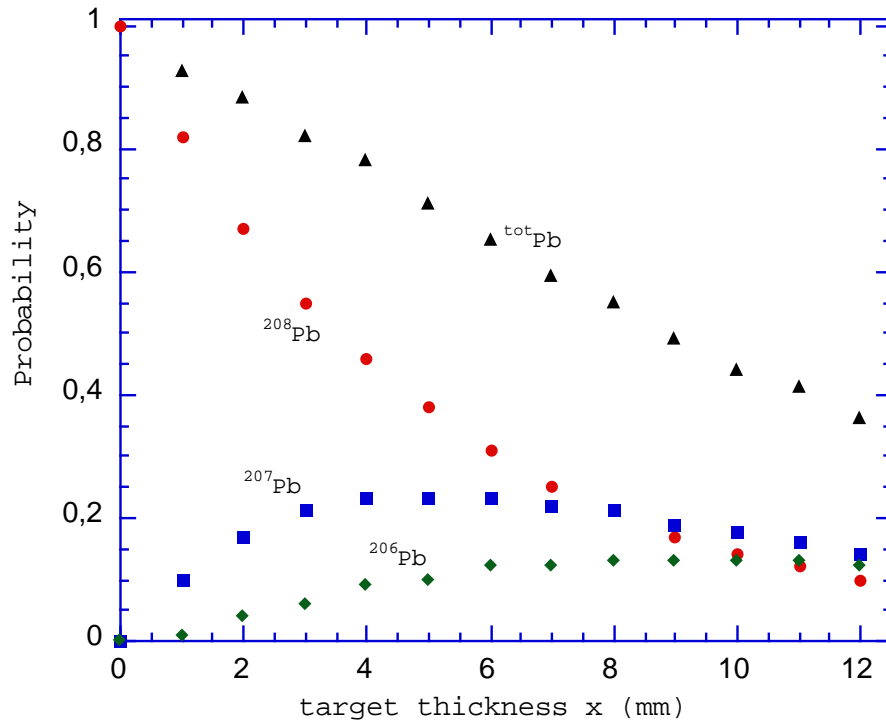
Figure 6: Probability of finding a ^{206}Pb (diamonds), ^{207}Pb (squares) and ^{208}Pb (circles) as a function of the depth x in the target. The sum of these probabilities $(^{tot}P(x)$, see text) is also shown (triangles).