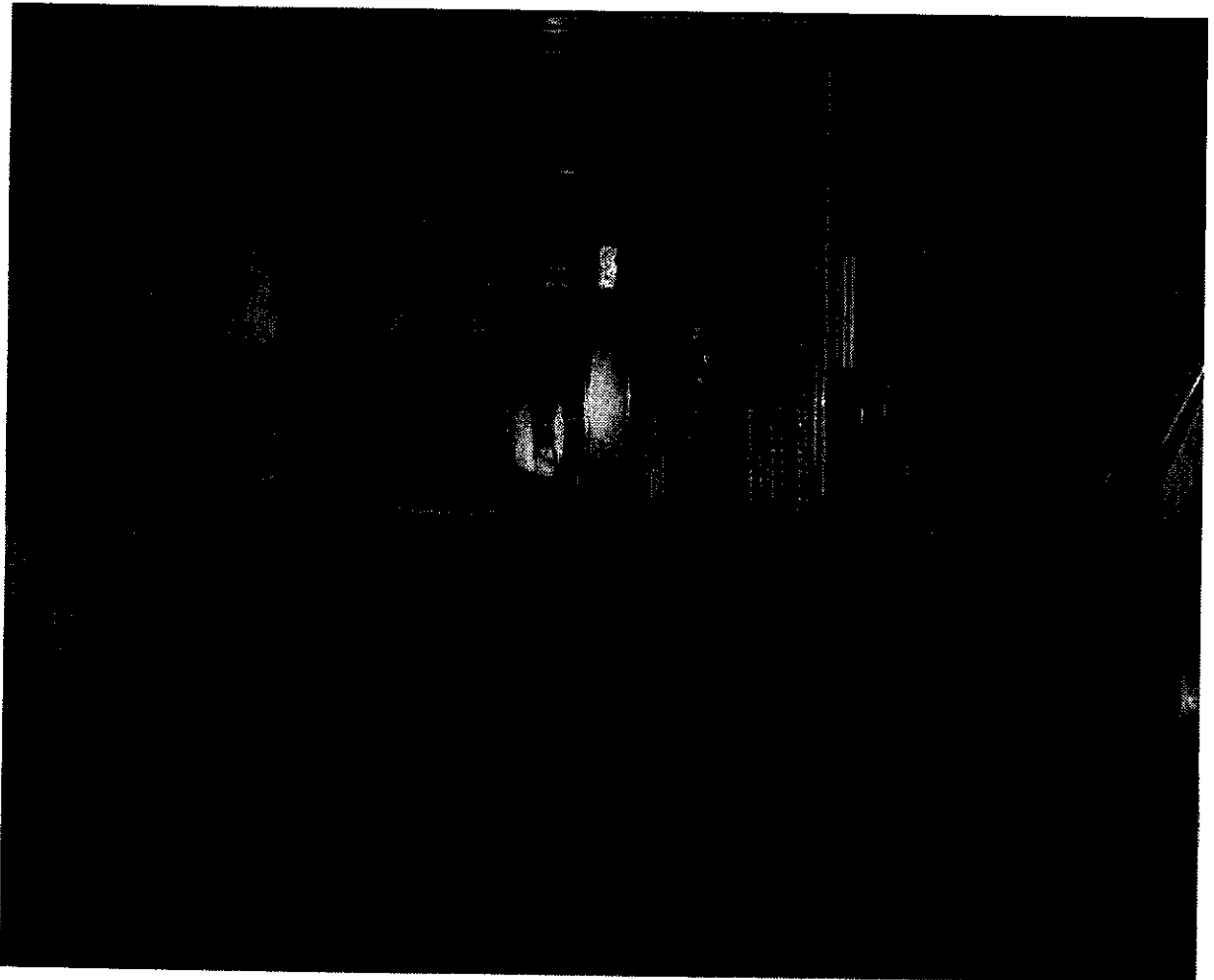


Calorimeter with W.L.S.F Readout

Akio Miura

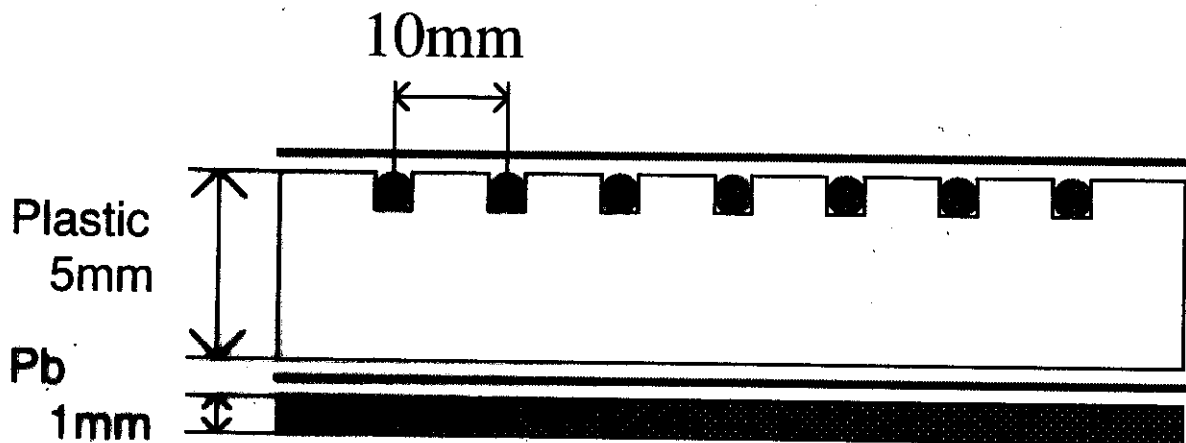
Dept. Phys. Yamagata Univ.



1m Module

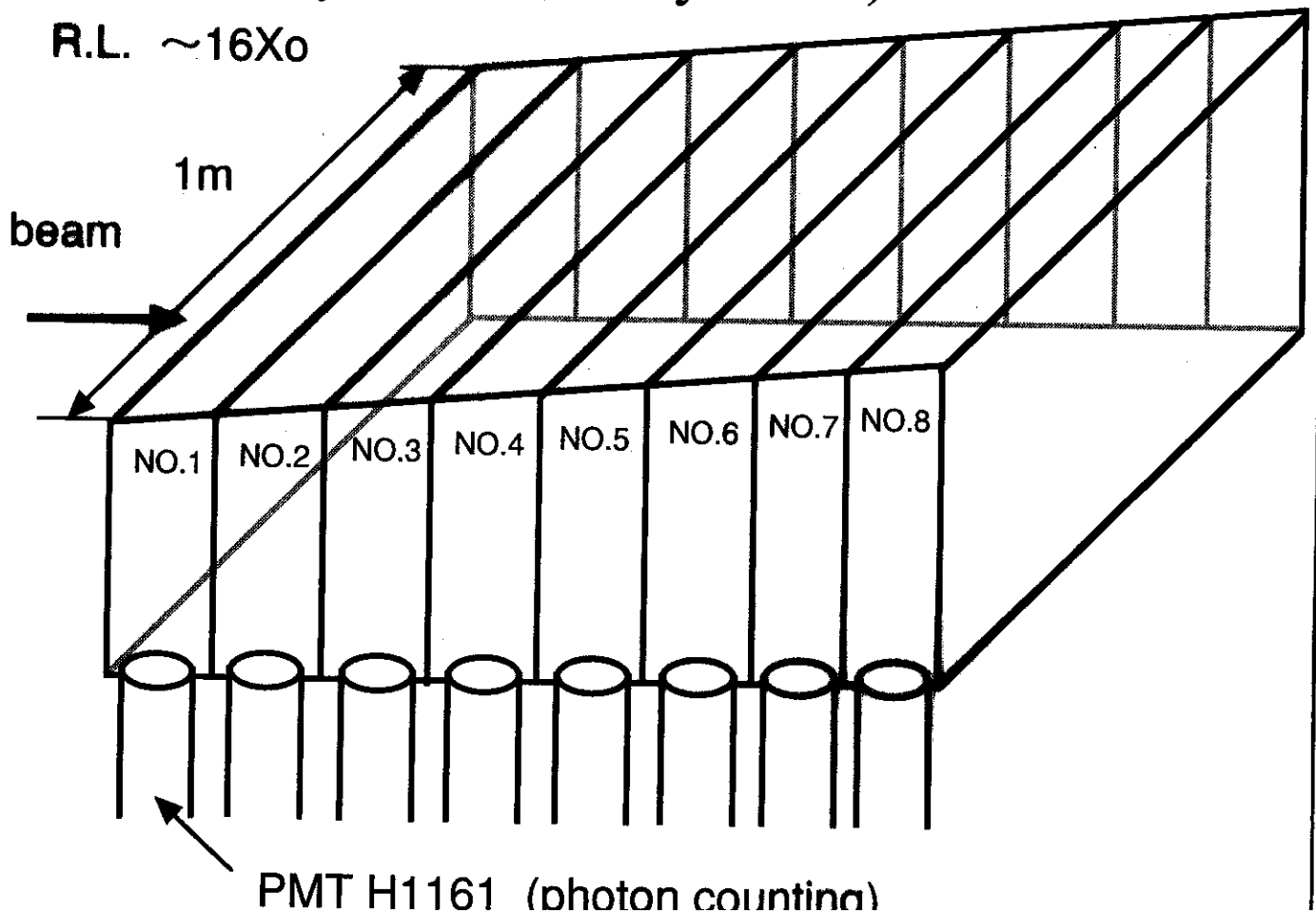
11 layers

scintillator : MS-resin, Extrusion
(PPO:1%, popop:0.02%)
fiber : BICRON BCF-91A



86 layers (11 layers \times 6, 10 layers \times 2)

R.L. $\sim 16X_0$



KEK-PS T1 Beam Line

- Momentum

0.4~1.5 GeV/c

- Particle

e^{\pm} , π^{\pm} , p

- Trigger mode

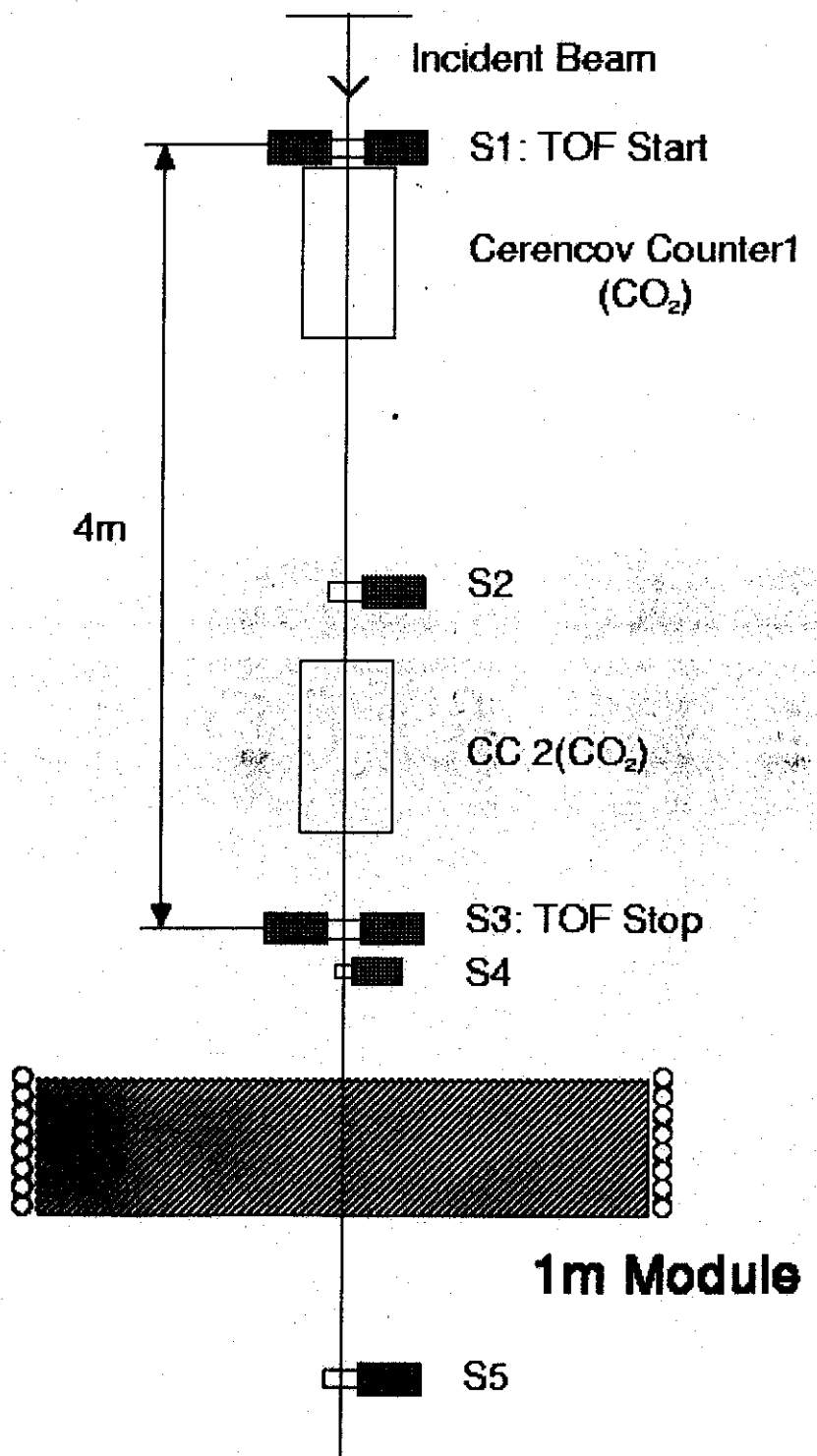
- 1、 Electron(C1*C2)
- 2、 Hadron(C1,C2 veto)
- 3、 Pedestal
- 4、 LED

- Trigger Rate

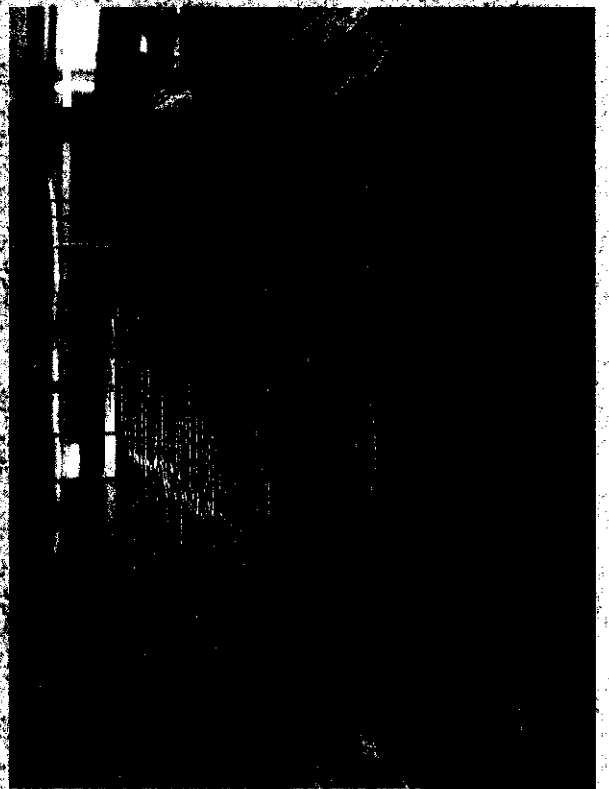
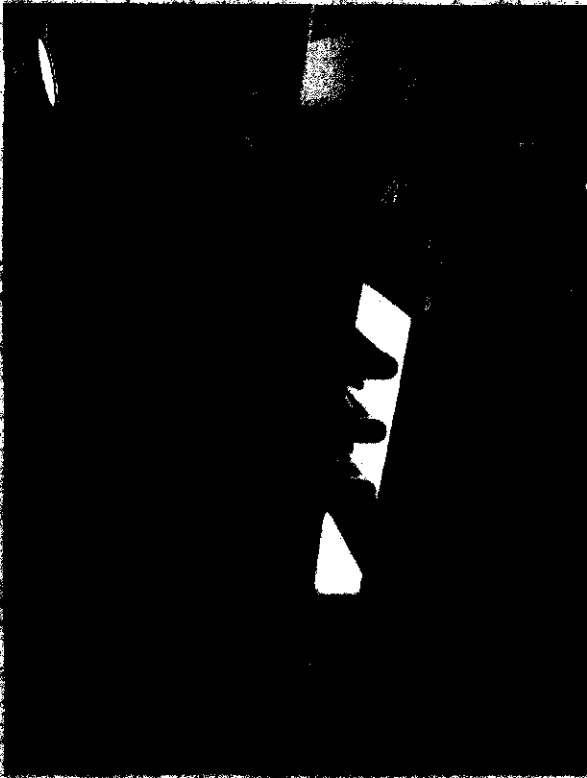
- 1、 e 2~10 /sec
- 2、 Hadron 30~600 /sec

- Calibration

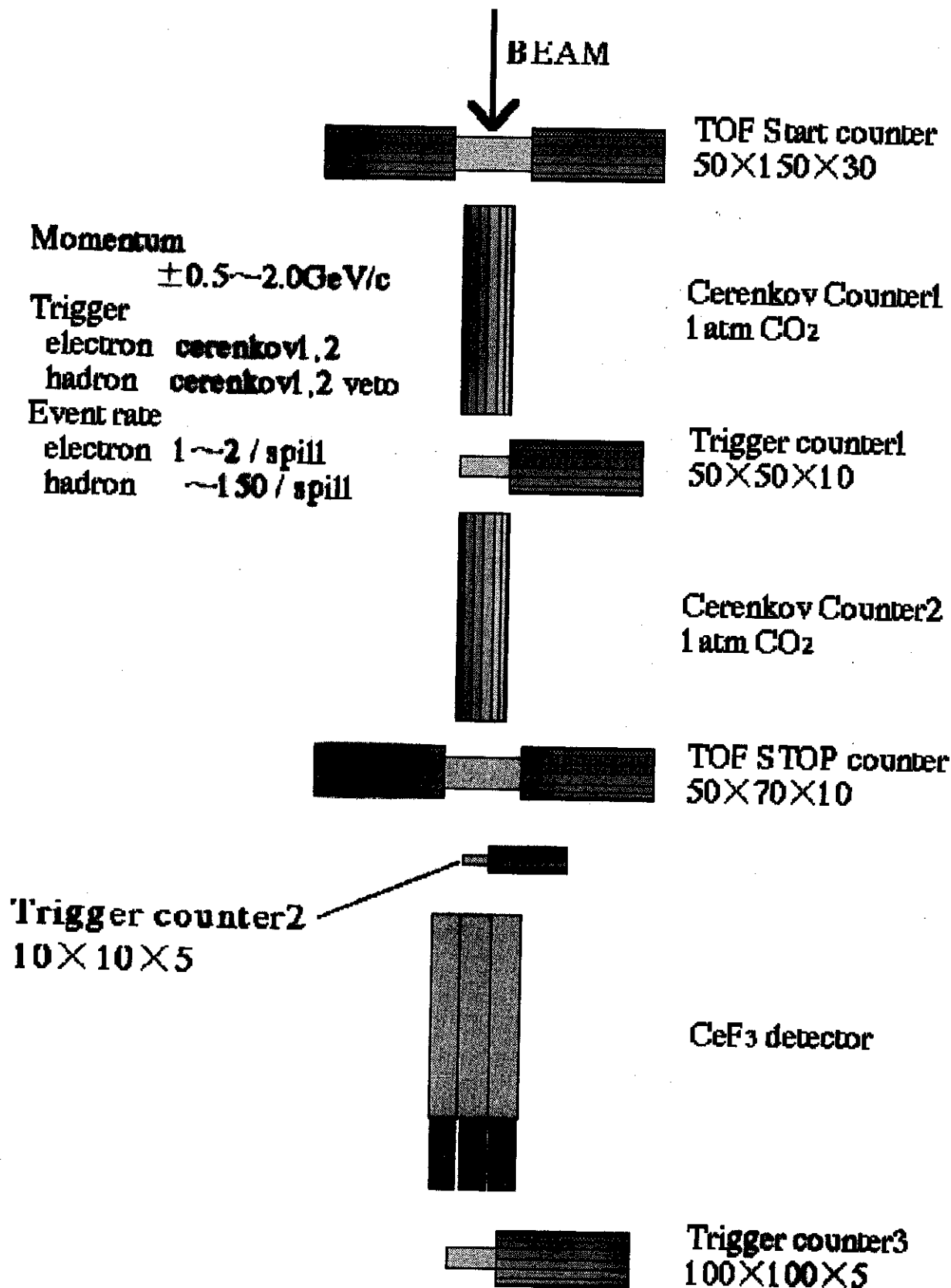
Hadron (call S5)



Construction Procedure

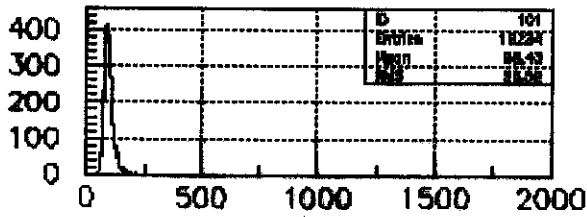


T1 beam line

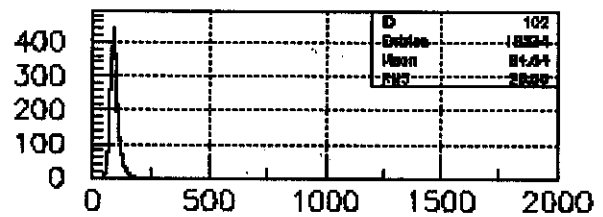


π^- 1.0GeV

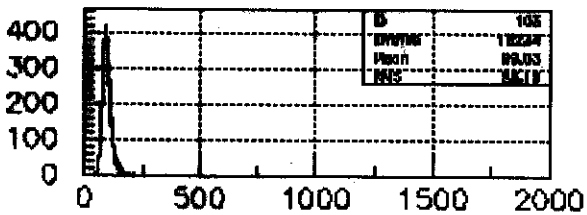
2000/12/18 12.12



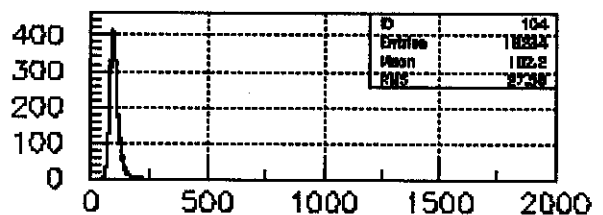
1m ADC01



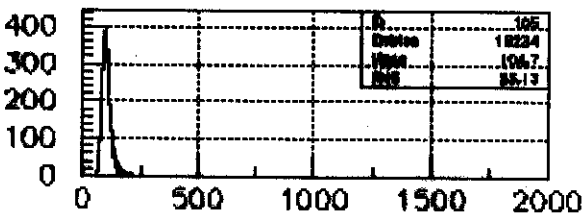
1m ADC02



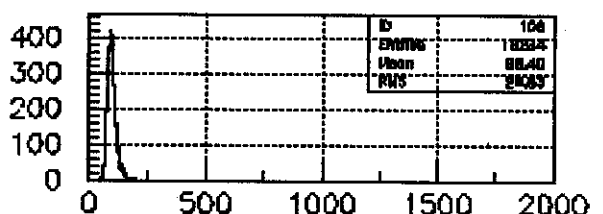
1m ADC03



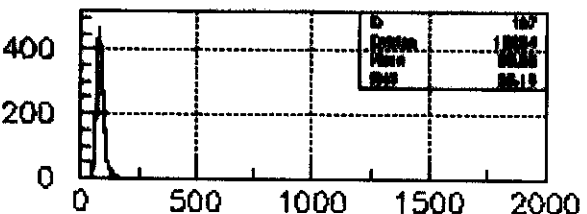
1m ADC04



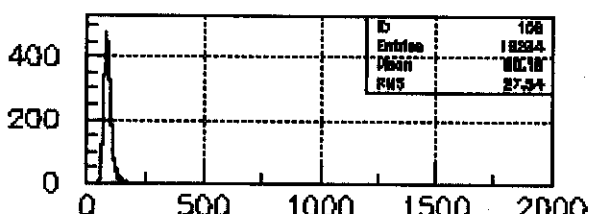
1m ADC05



1m ADC06



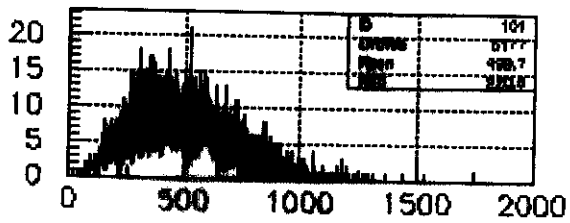
1m ADC07



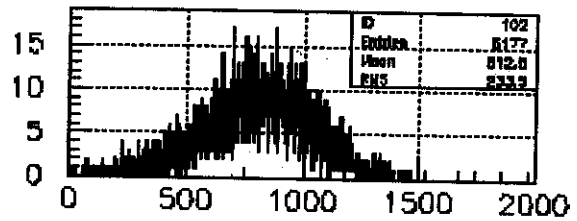
1m ADC08

Electron 1.0GeV

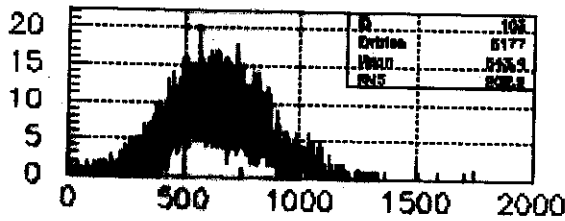
2000/12/16 11.59



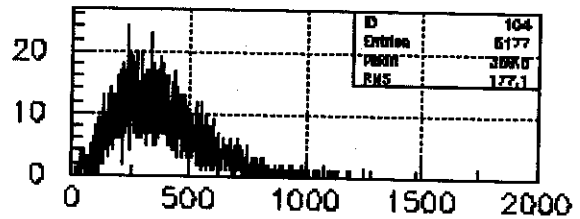
1m ADC01



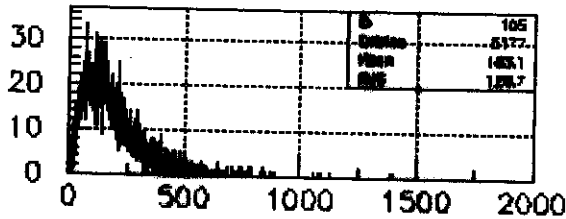
1m ADC02



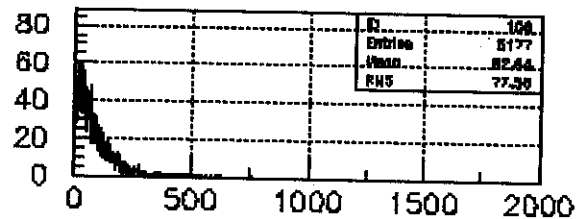
1m ADC03



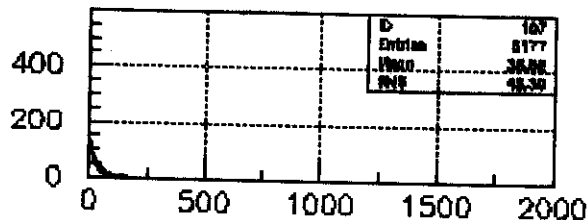
1m ADC04



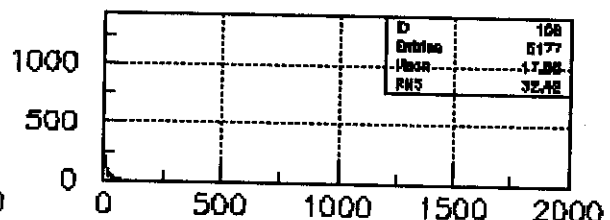
1m ADC05



1m ADC06

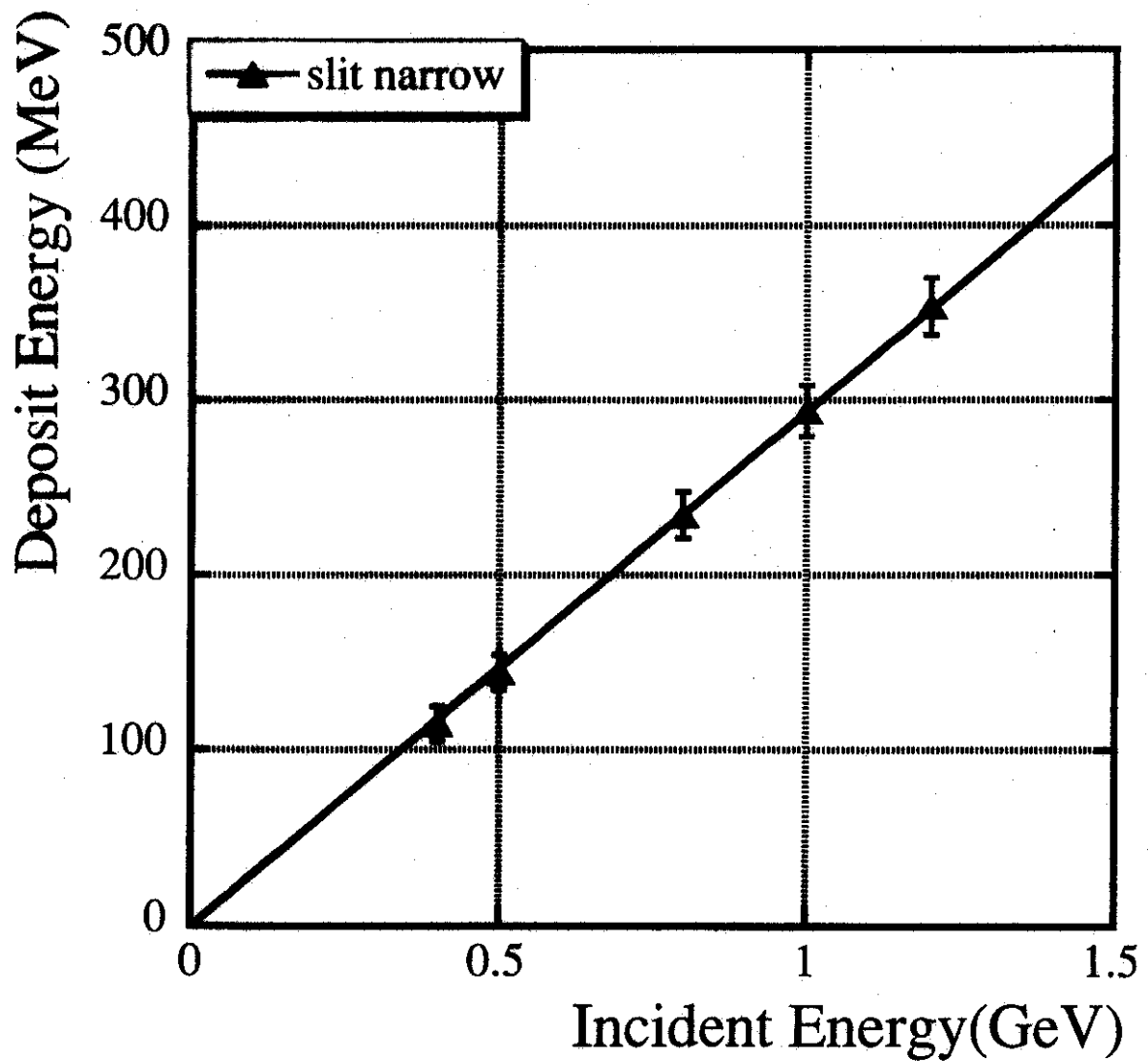


1m ADC07

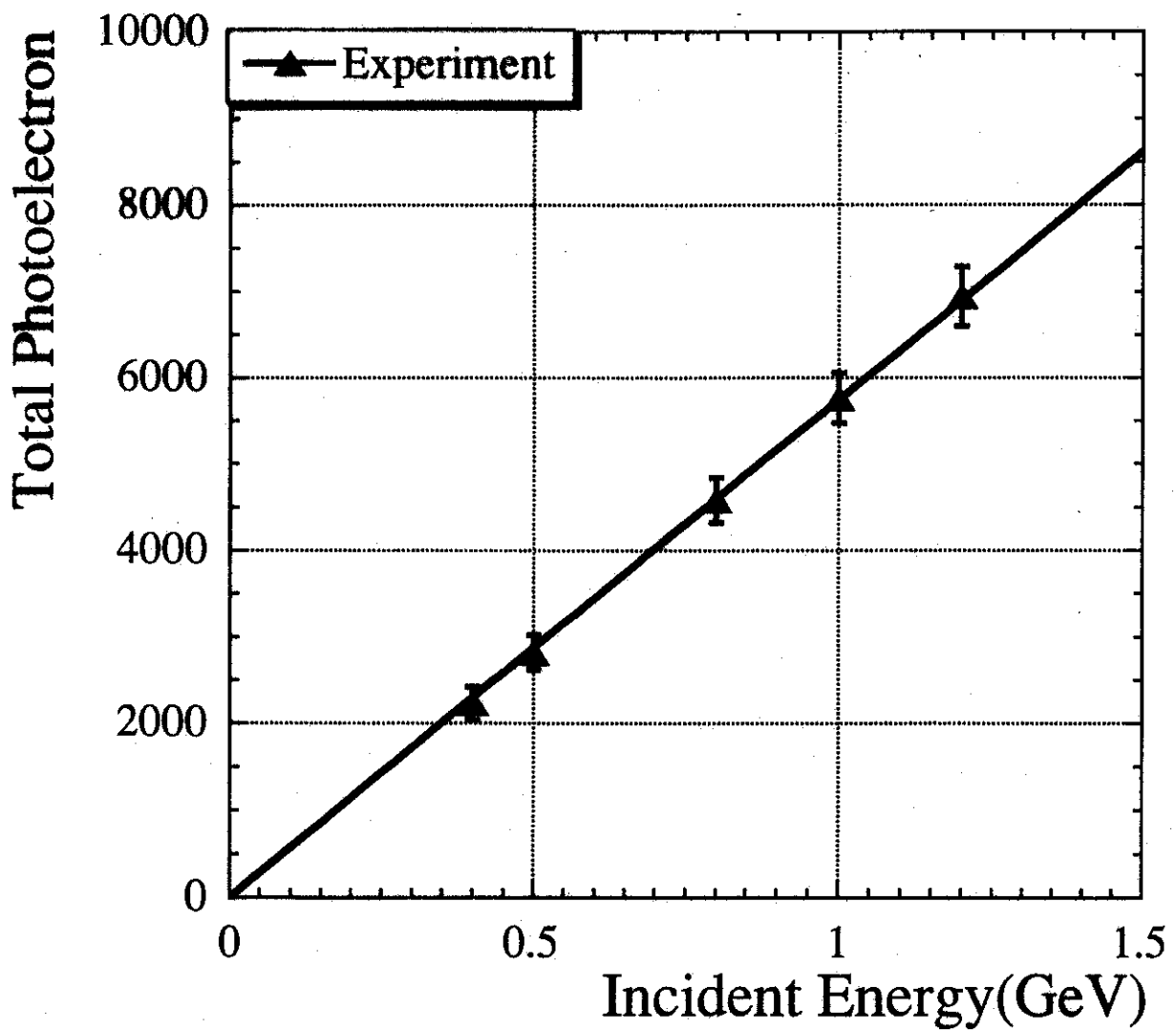


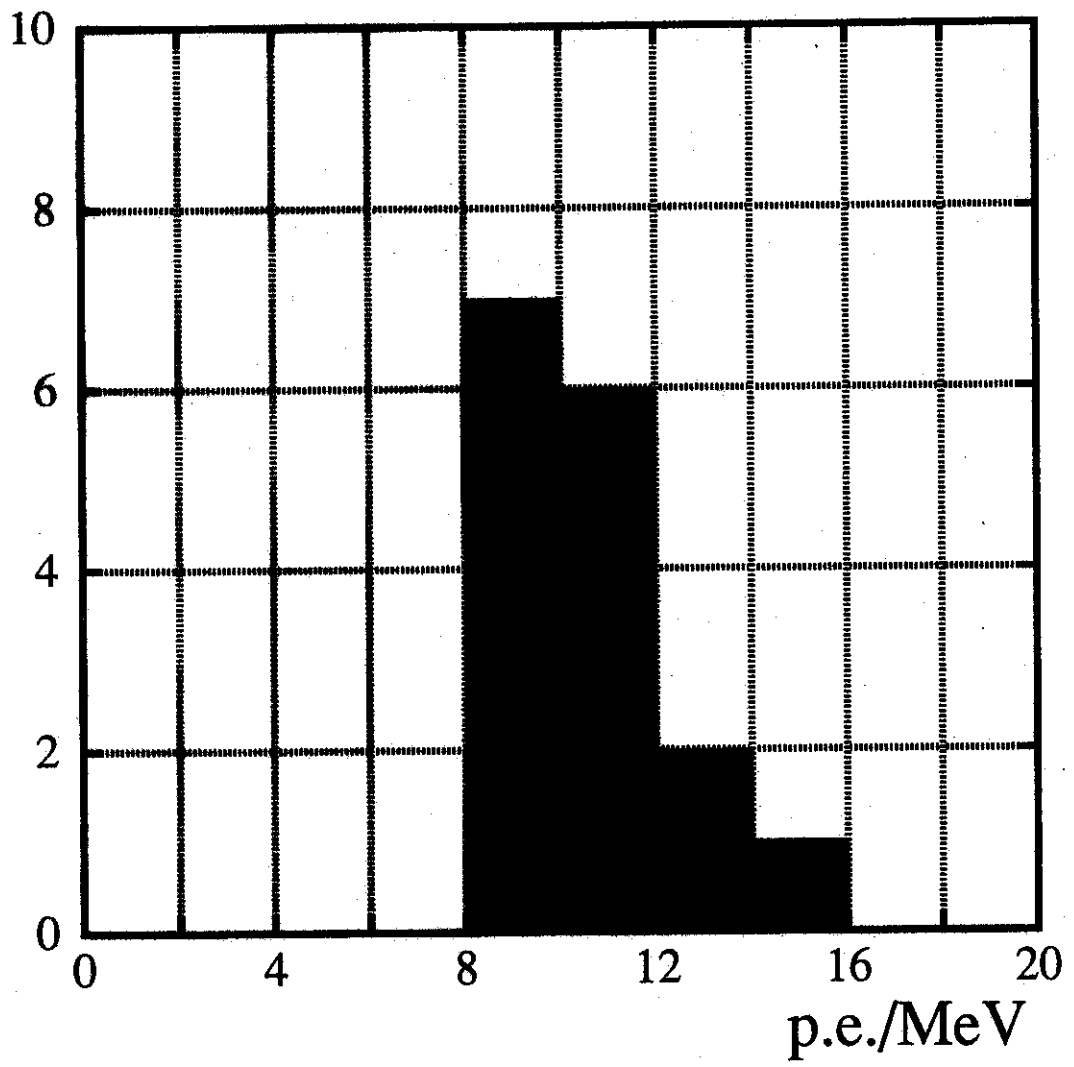
1m ADC08

$$\text{DepositE(MeV)} = (293.35 \pm 1.05) \cdot \text{E(GeV)}$$

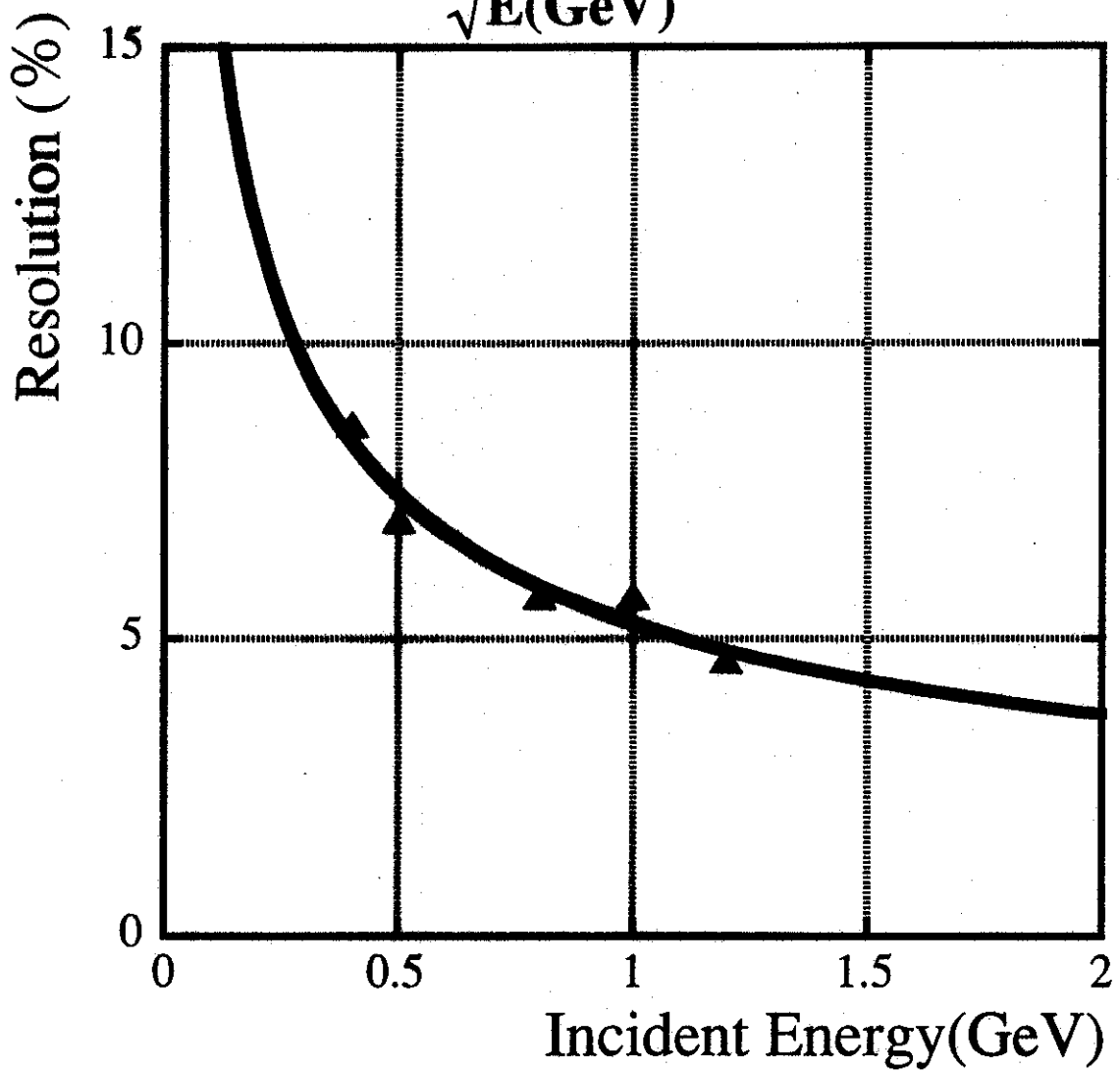


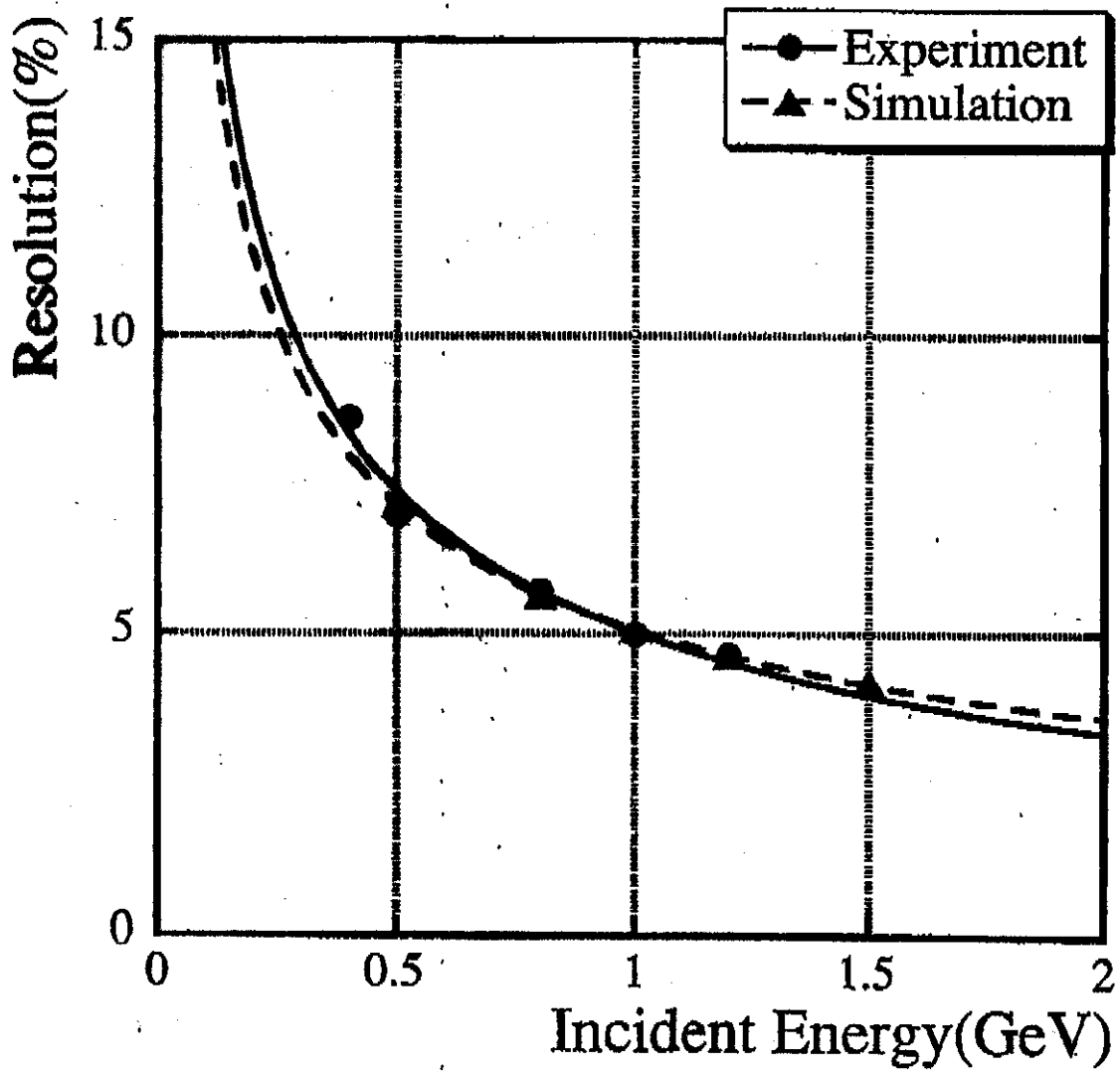
$$\text{p.e.} = (5747.5 \pm 27.5) \cdot E(\text{GeV})$$





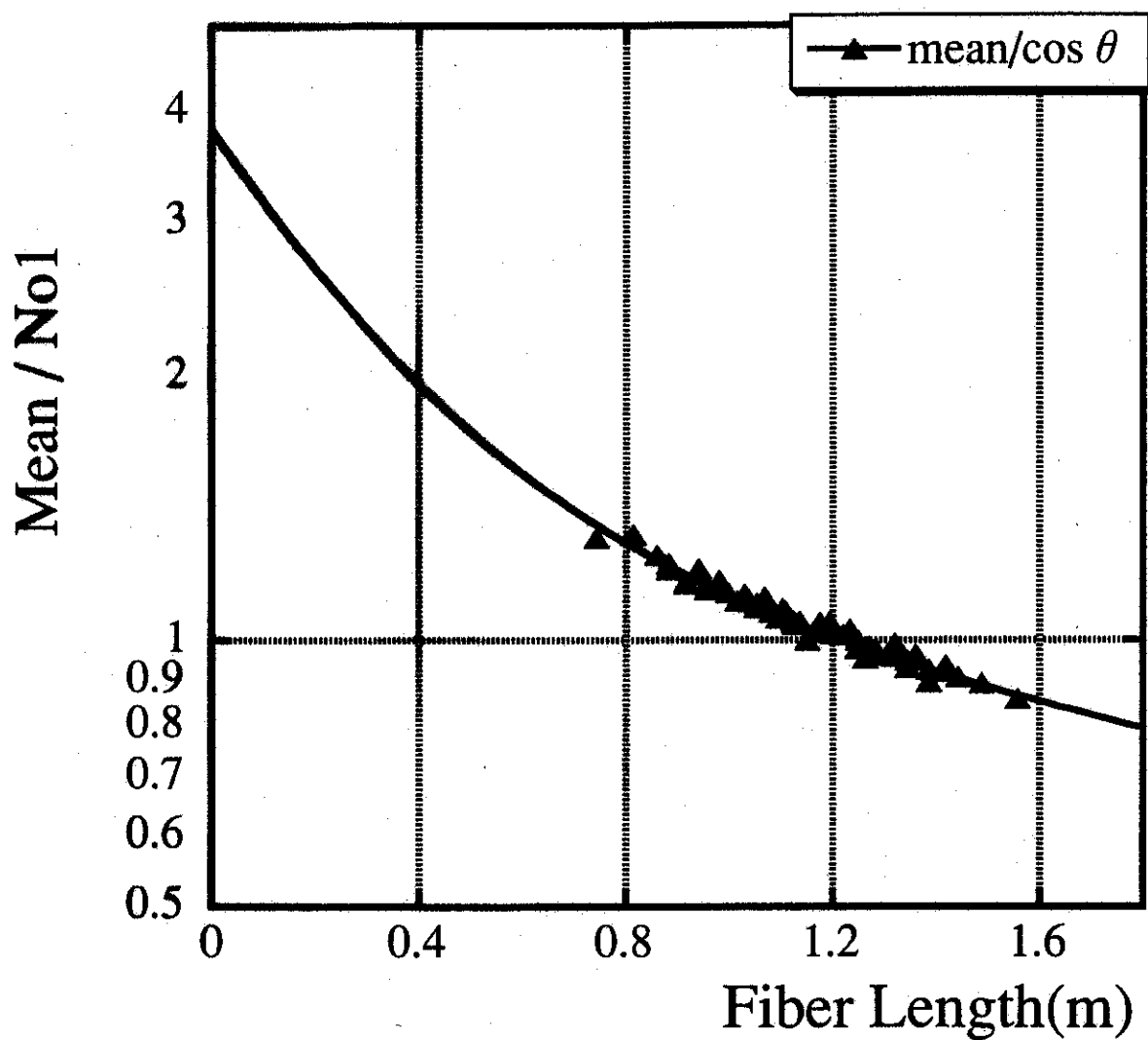
$$R(\%) = \frac{(5.26 \pm 0.75)}{\sqrt{E(\text{GeV})}} + (0.01 \pm 0.93)$$



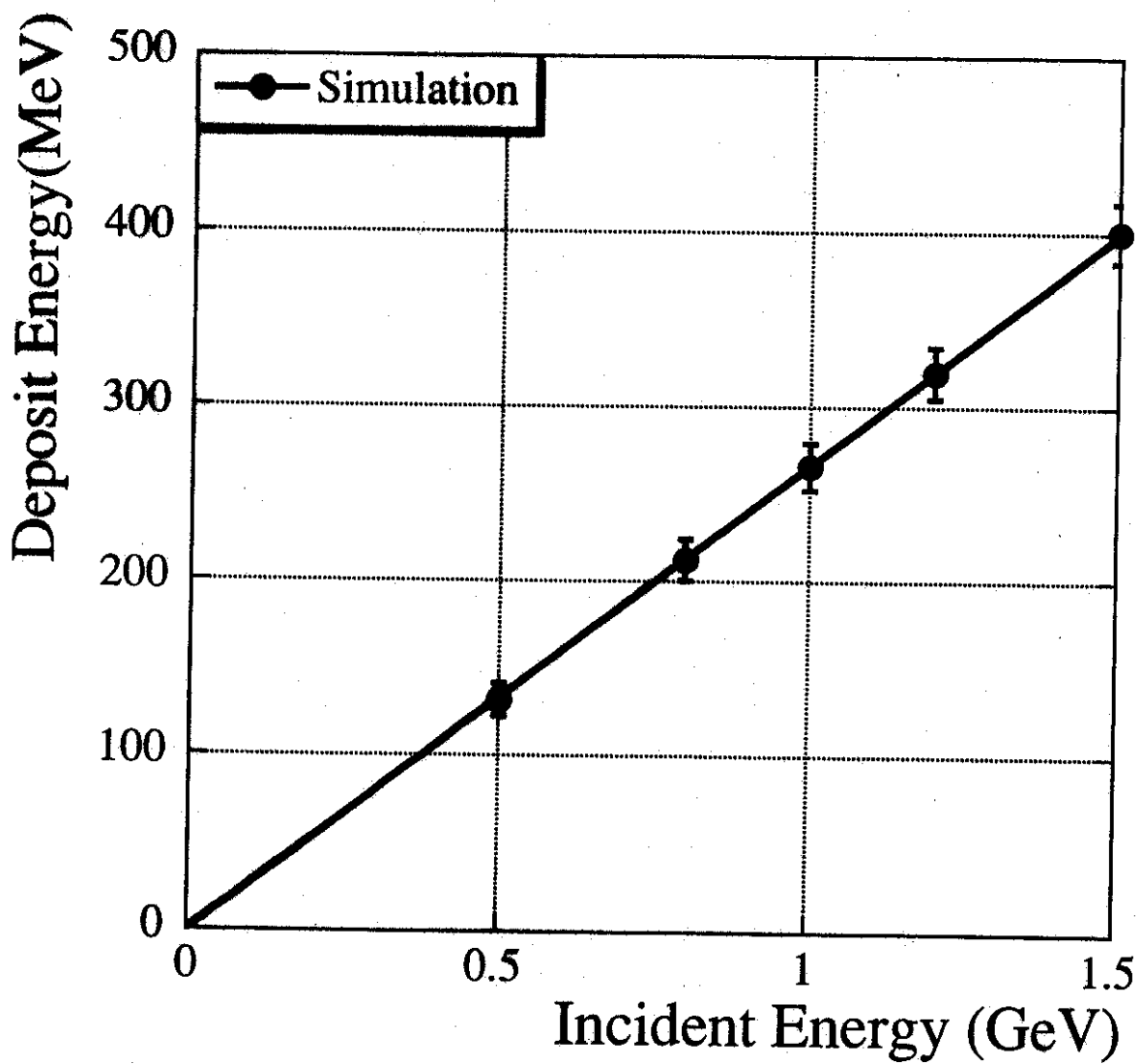


$$0.89 \exp(-x/0.973) + 0.63 \exp(-x/4.71)$$

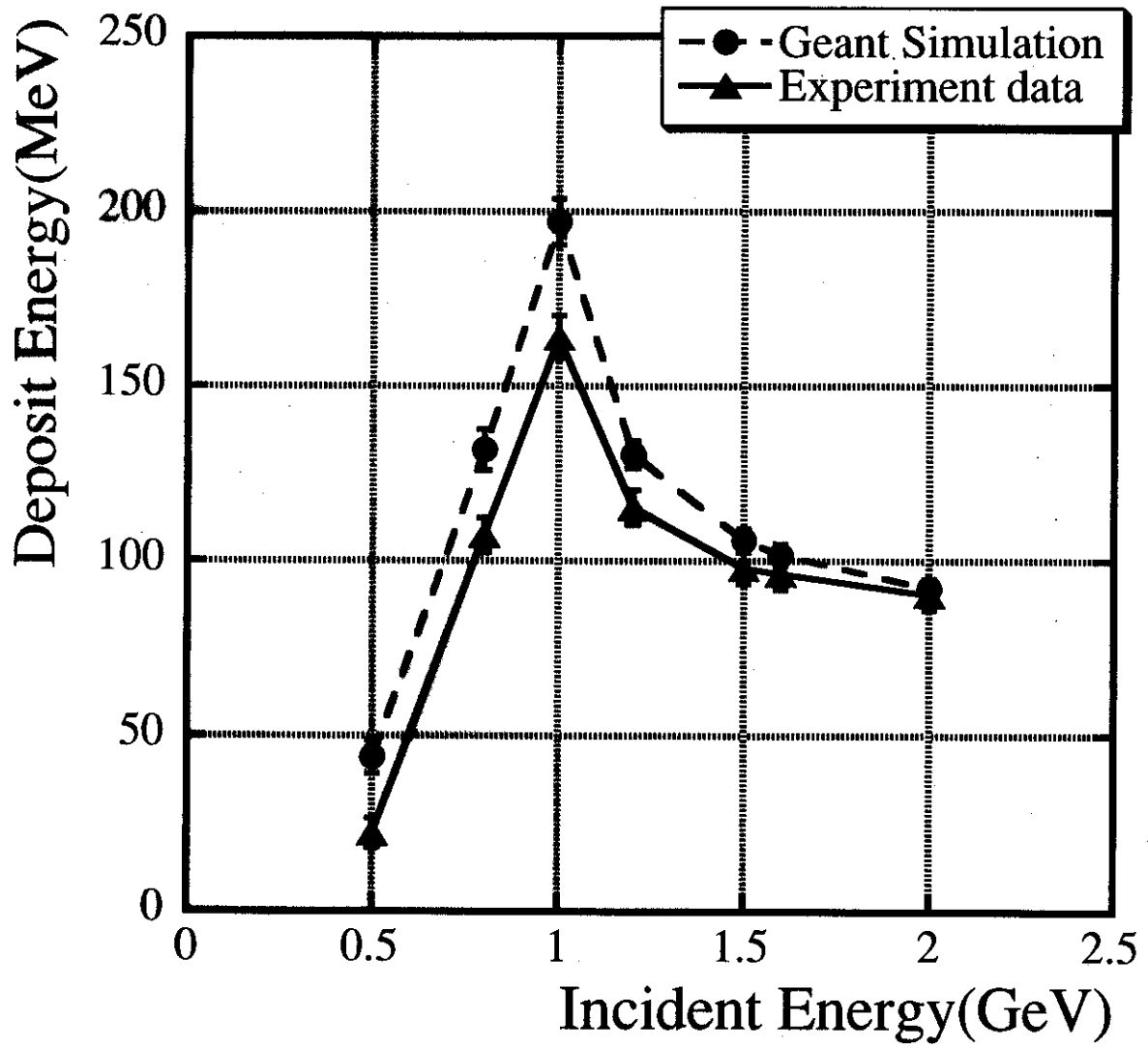
$$Y = 2.51 \exp(-x/0.347) + 1.31 \exp(-x/3.46)$$



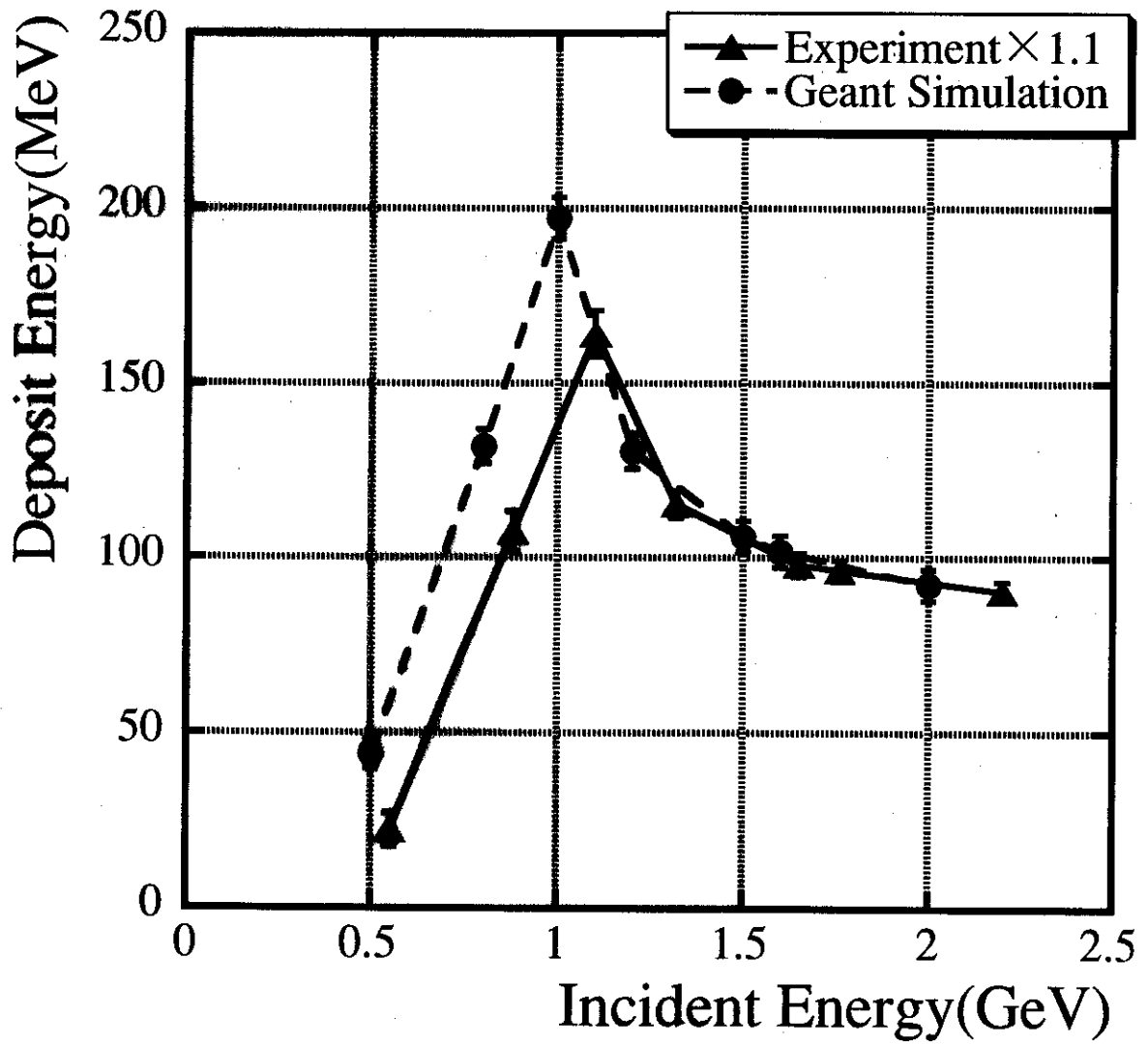
$$\text{DepositE(MeV)} = (266.25 \pm 0.43) \cdot \text{E(GeV)}$$



Proton

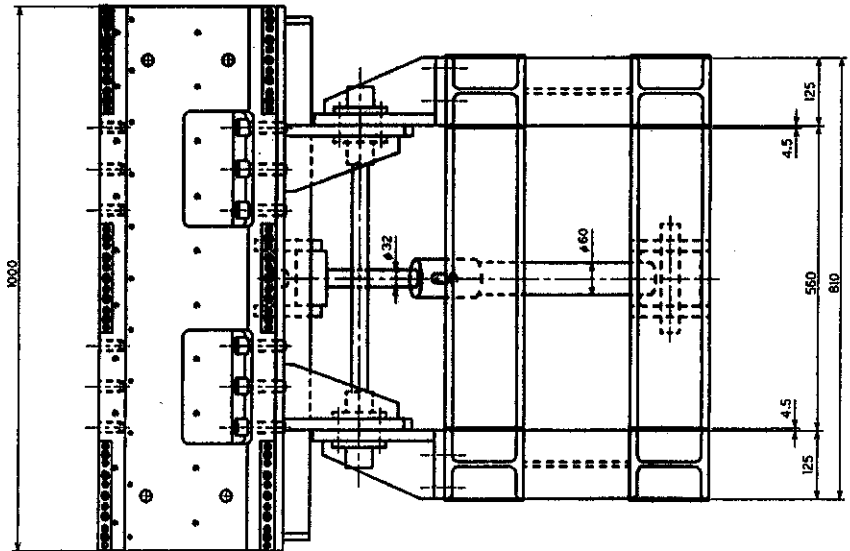
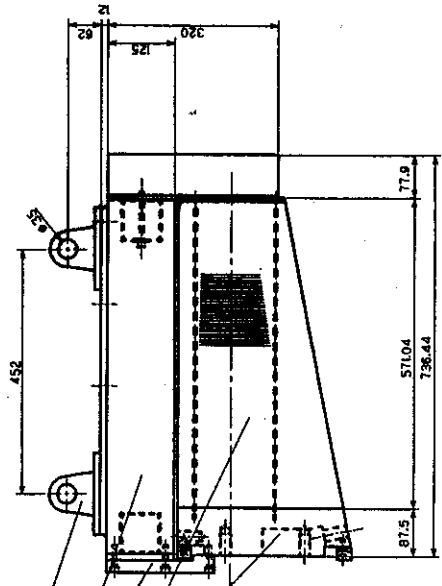
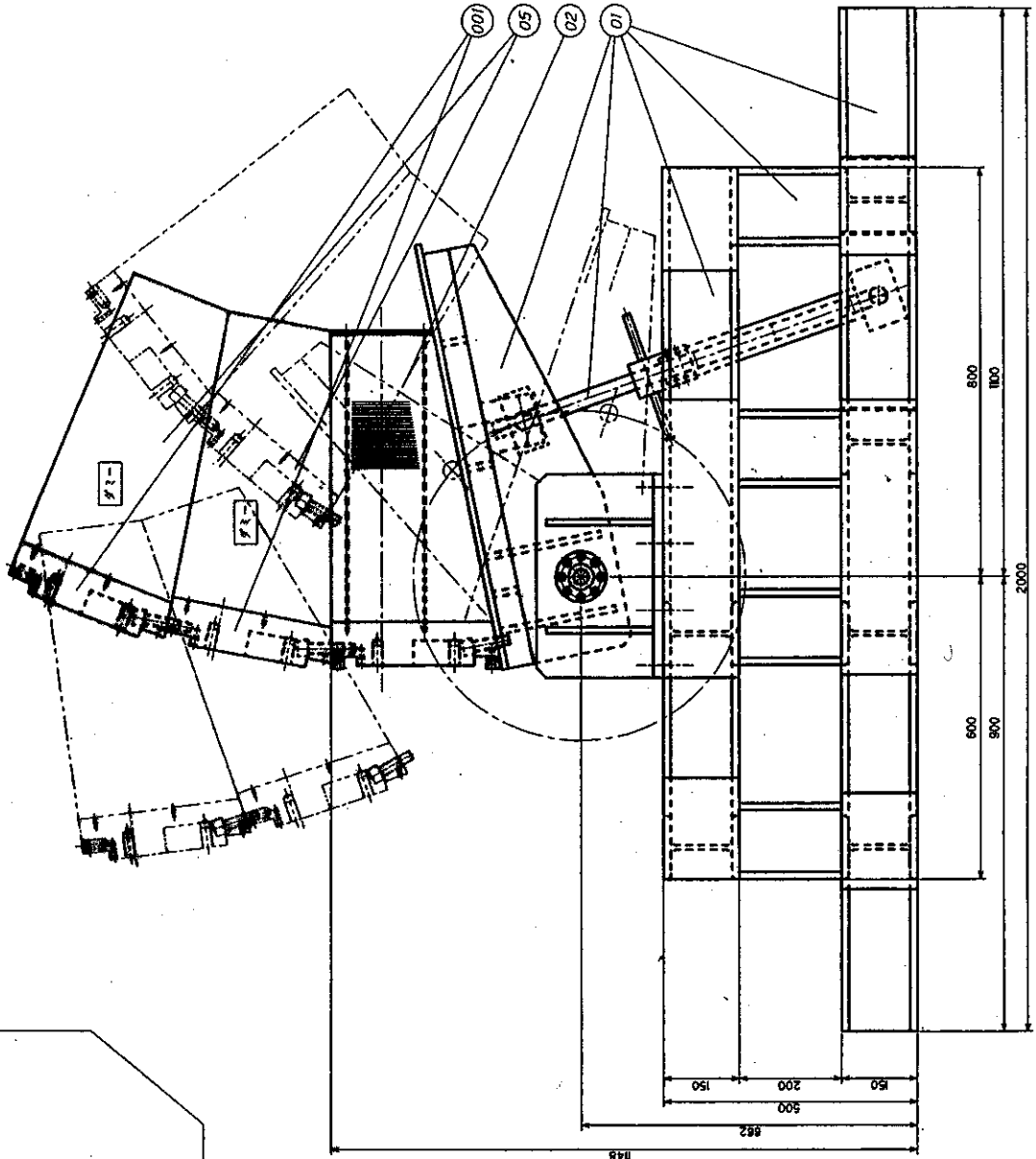


Proton



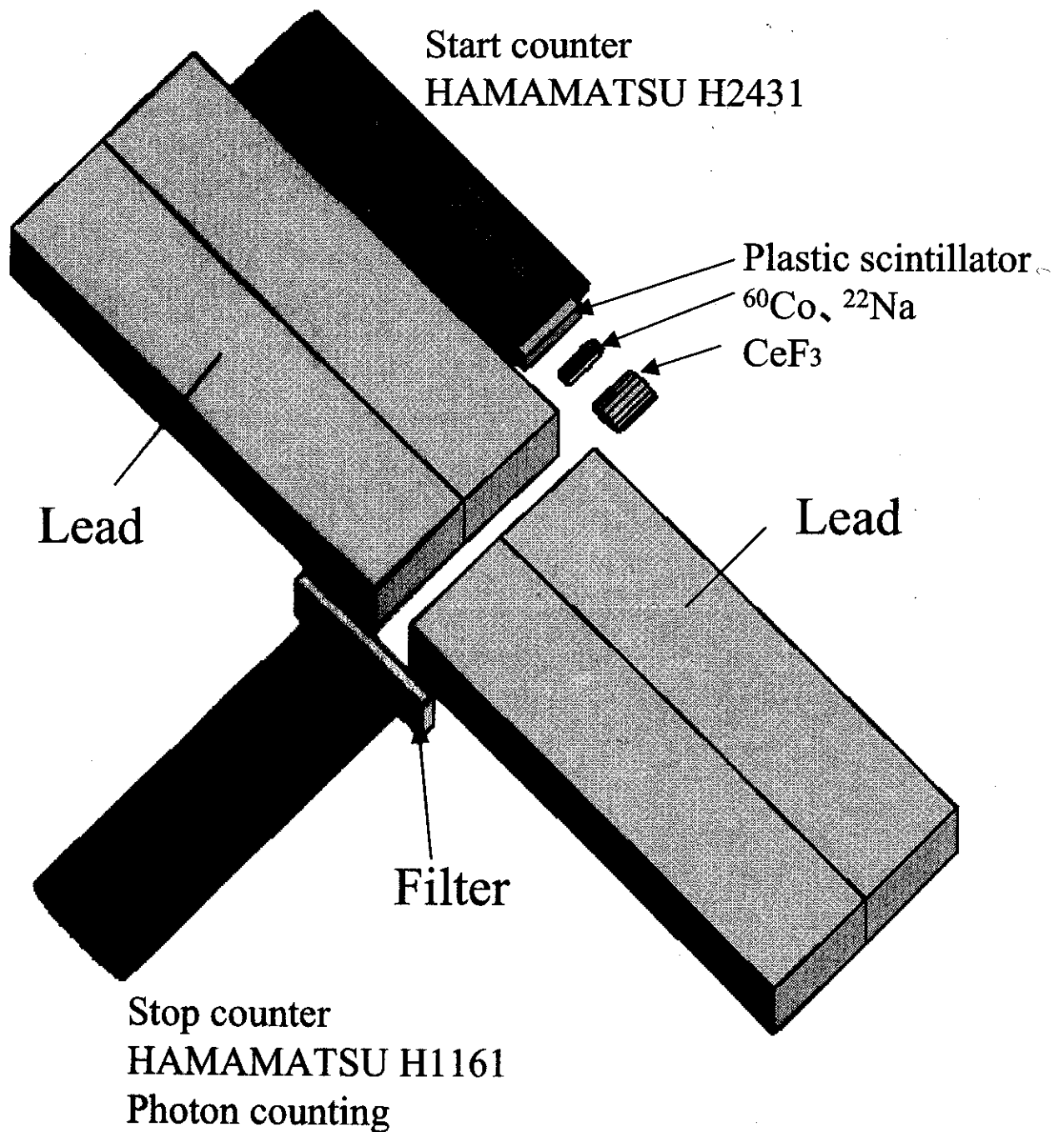
01	機台	機台	機台	機台	機台
02	機台	機台	機台	機台	機台
03	機台	機台	機台	機台	機台
04	機台	機台	機台	機台	機台
05	機台	機台	機台	機台	機台

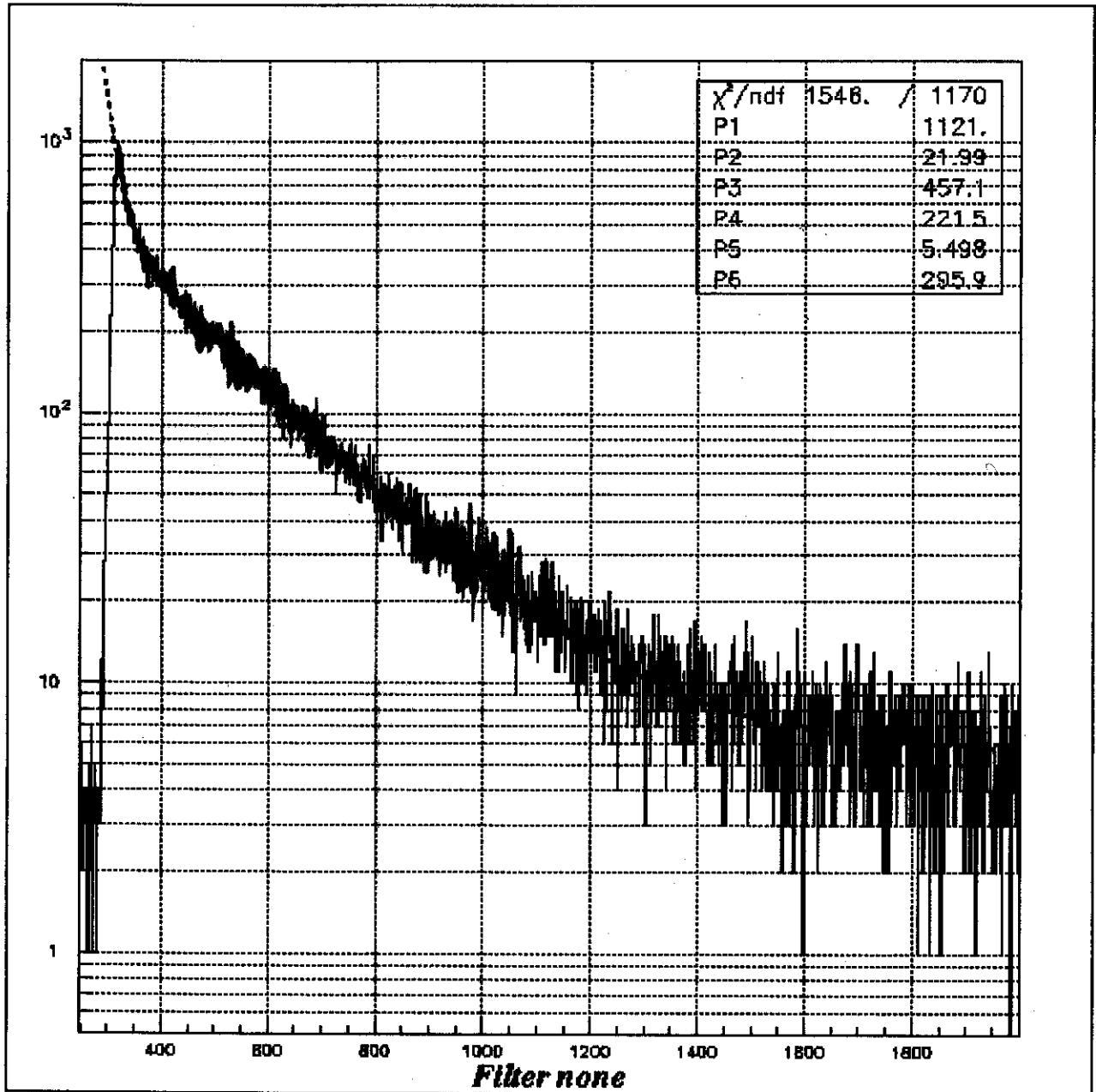
仕様	仕様	備考
機台の最大傾斜角	約 ±30°	設計値
機台の最大重量	約 670kg/部	機台の最大重量
機台の最大長さ	約 450kg/部	機台の最大長さ
機台の最大幅	約 1950kg	機台の最大幅
機台の最大高さ	約 1000mm	機台の最大高さ
機台の最大傾斜角	約 4000kg/cm	機台の最大傾斜角
機台の最大傾斜角	約 160kg/mm ²	機台の最大傾斜角
機台の最大傾斜角	約 2500kg/g	機台の最大傾斜角



図名	図号	図種	図尺	図例	図示	図説	図注	図号
2000.04.27	2000.04.27	3.5	1/3.5	1	1	1	1	1
F39型実験装置								
ハレル部屋設置及び保守仕様書								

Decay Time Measurement





Fitting function

129.54ps / ch

$$p_1 \times e^{\left(\frac{-x}{p_2}\right)} + p_3 \times e^{\left(\frac{-x}{p_4}\right)} + p_5$$

$$P_2 = 2.9\text{ns}, P_4 = 29.0\text{ns}$$