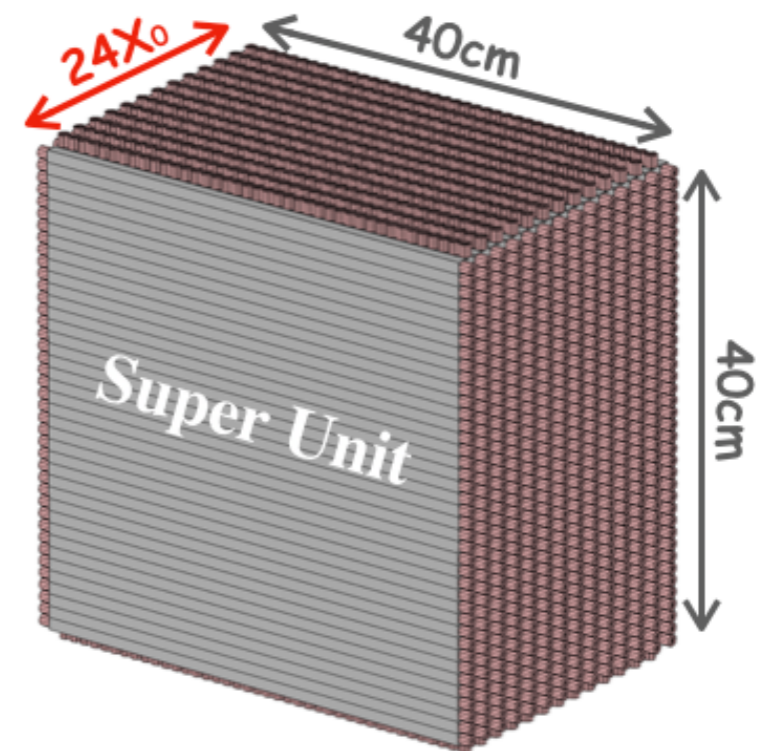
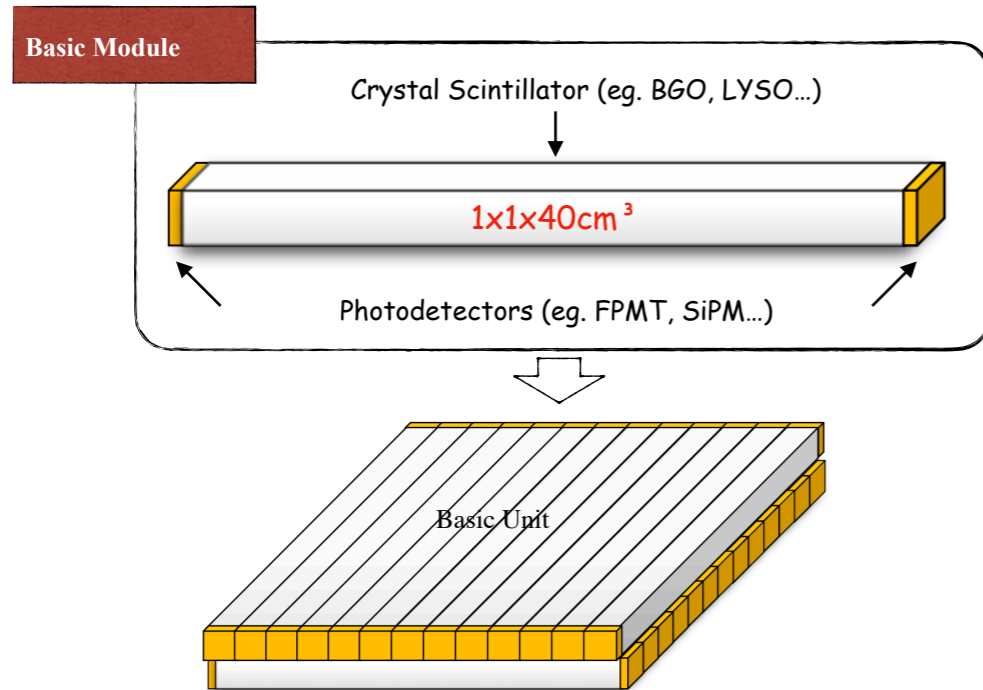
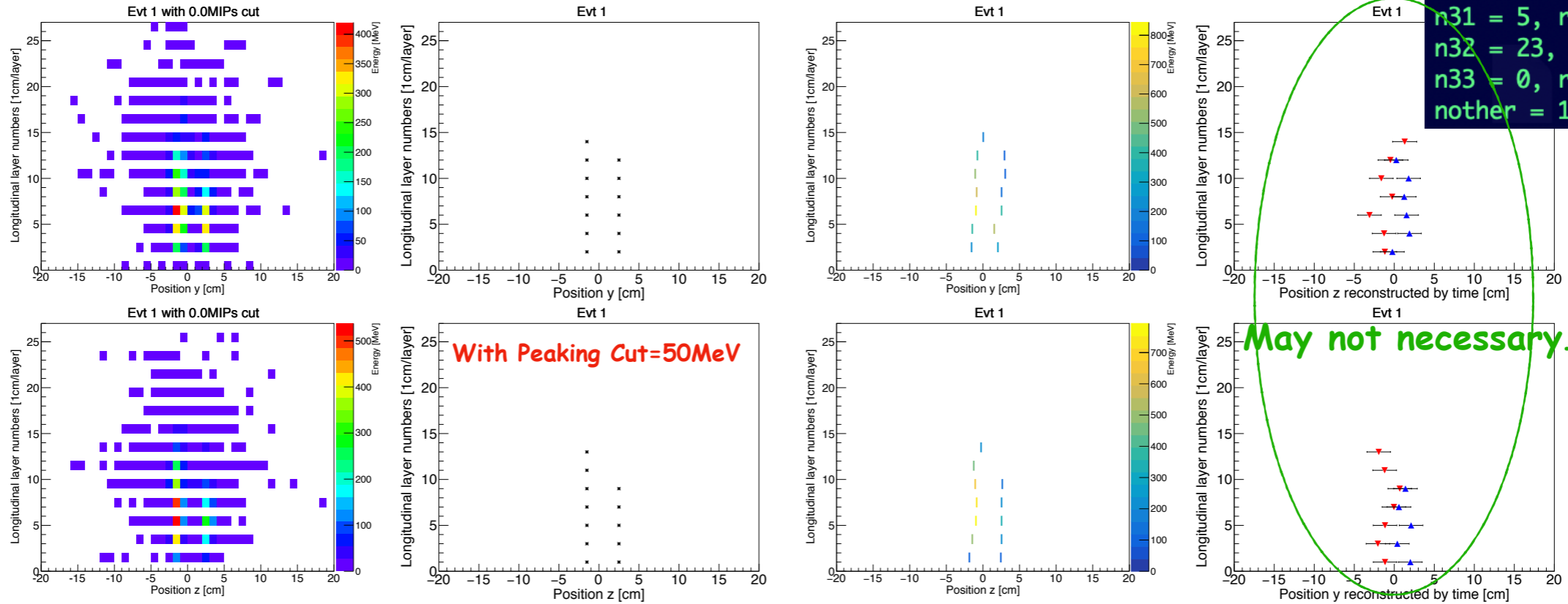


# Reconstruction of diphoton on ECAL Tower

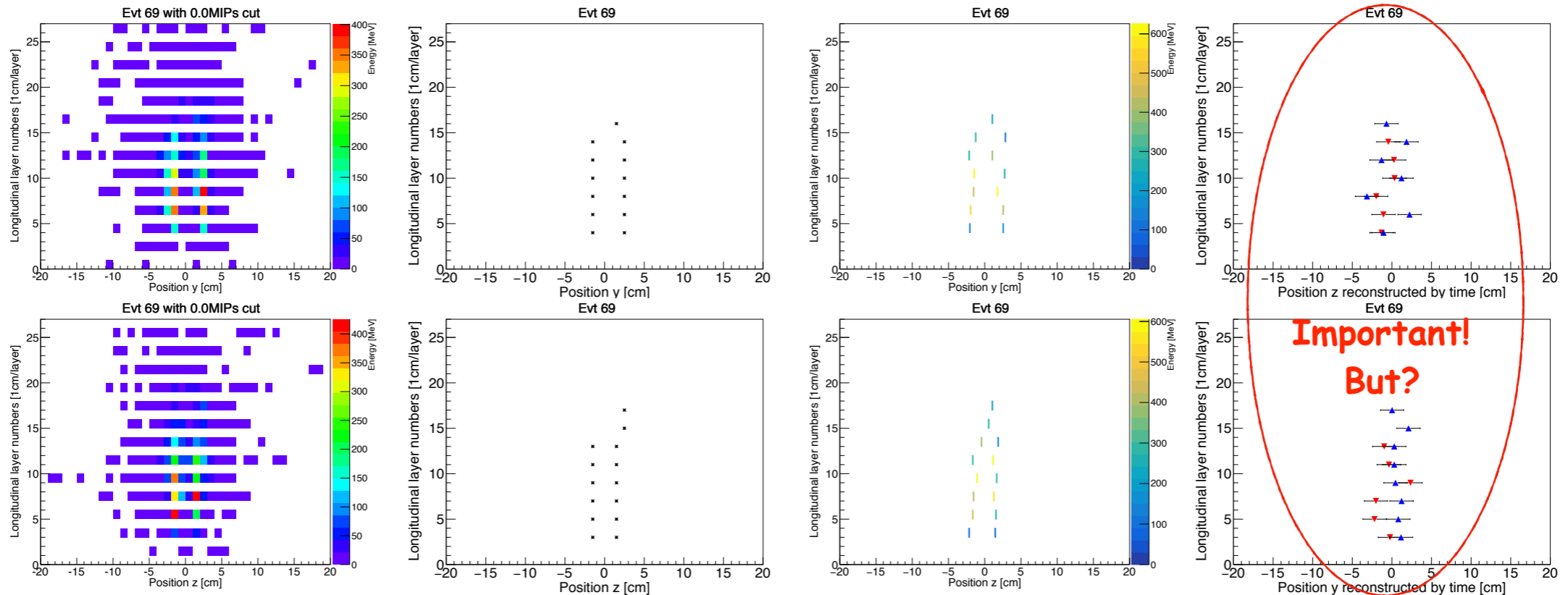


# Reconstruction of $10\text{GeV } \pi^0$

There are 1000 events.  
 n11 = 63, ratio = 6.3%  
 n21 = 274, ratio = 27.4%  
 n22 = 634, ratio = 63.4%  
 n31 = 5, ratio = 0.5%  
 n32 = 23, ratio = 2.3%  
 n33 = 0, ratio = 0%  
 nother = 1, ratio = 0.1%



\* 1 \* 0 \* 3231.1254 \* -9.536730 \* 7 \* 3449.8880 \* -10.44410 \* 7 \*  
 \* 1 \* 1 \* 1565.0707 \* 21.330423 \* 6 \* 1011.1802 \* 25.473534 \* 5 \*



\* 69 \* 0 \* 2330.4511 \* -16.73407 \* 6 \* 2222.0537 \* -12.83199 \* 6 \*  
 \* 69 \* 1 \* 2227.6637 \* 19.448733 \* 7 \* 2378.6731 \* 12.409615 \* 8 \*

# Transverse Energy Distribution

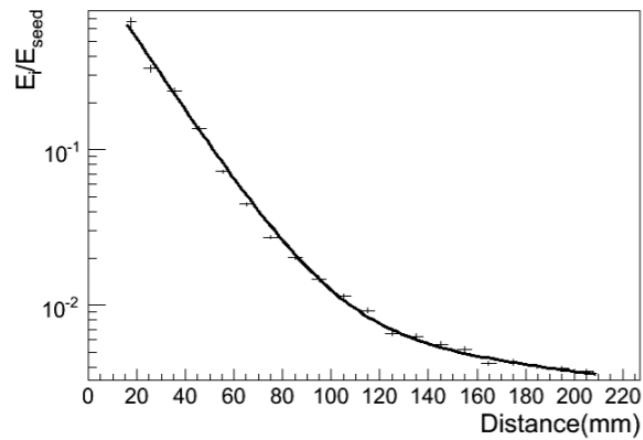
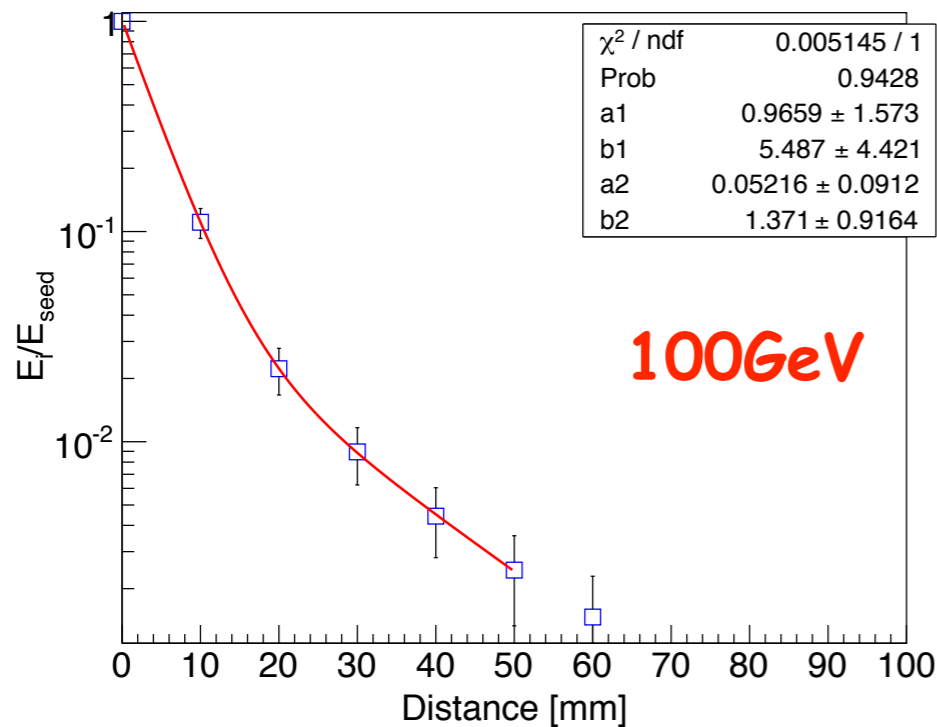


图 4-6 簇射在晶体中的横向发展示意图

图 4-6 所示的分布可以用下面的公式拟合：

$$\frac{E_i}{E_{seed}} = a_1 \exp\left(-\frac{b_1 |x_i - x_c|}{R_M}\right) + a_2 \exp\left(-\frac{b_2 |x_i - x_c|}{R_M}\right), \quad (4.3)$$

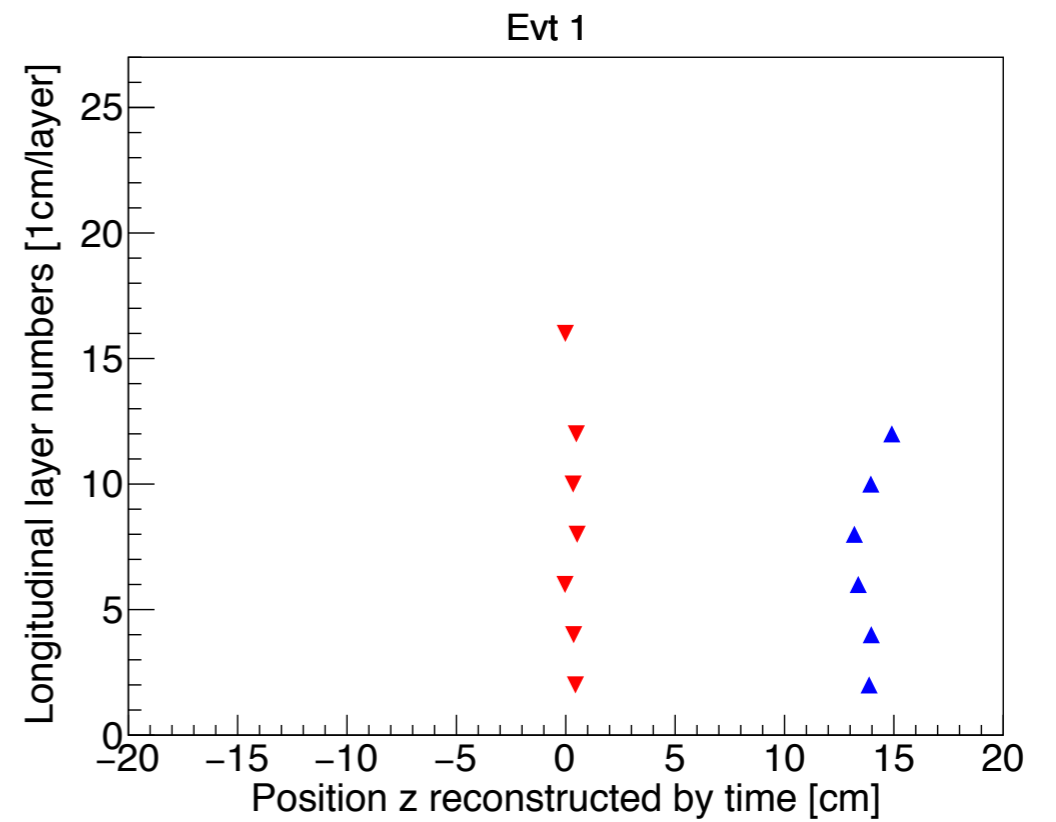
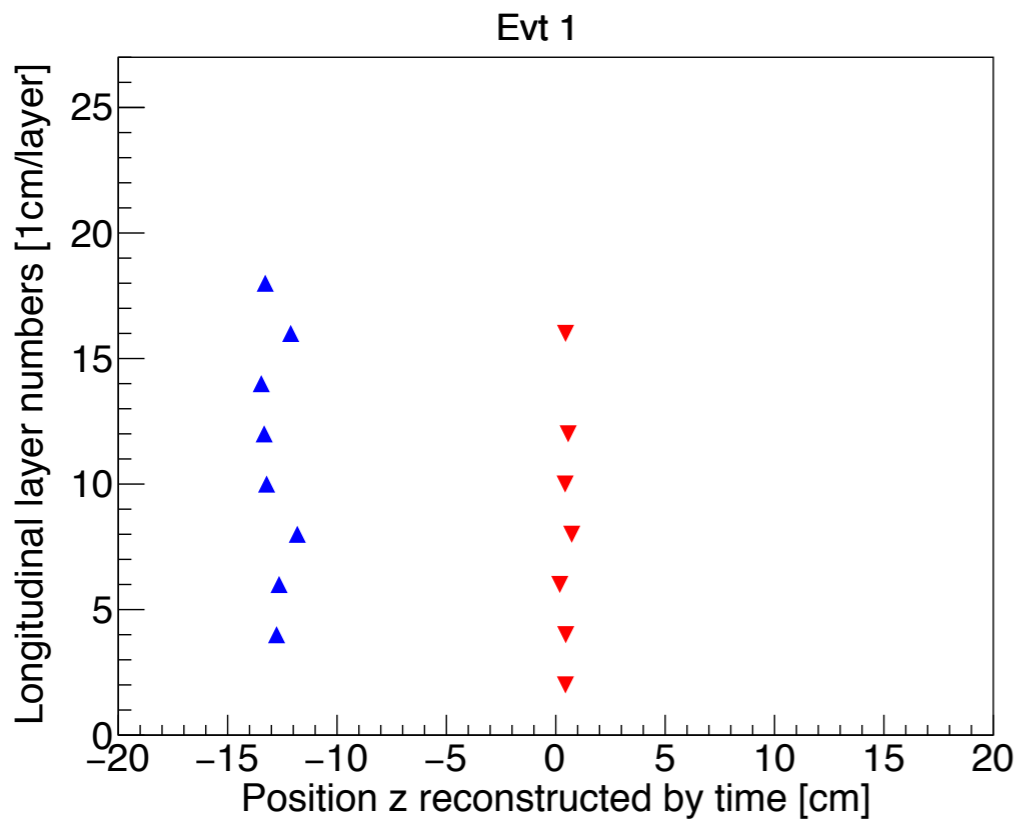
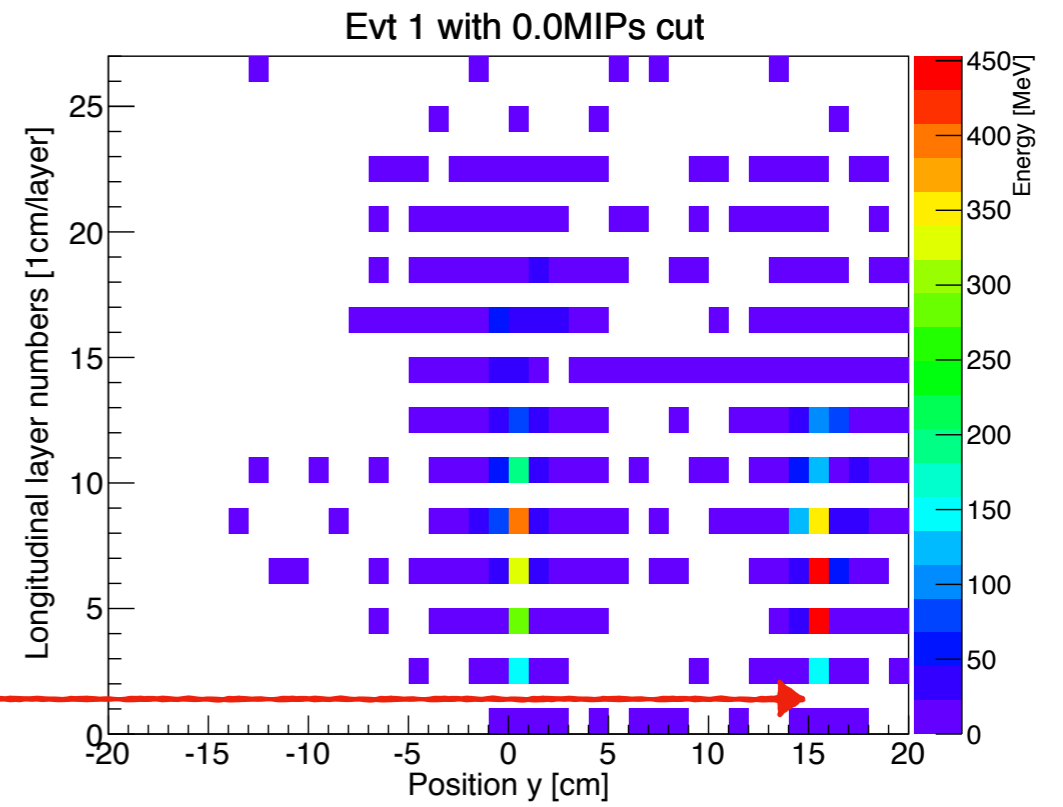
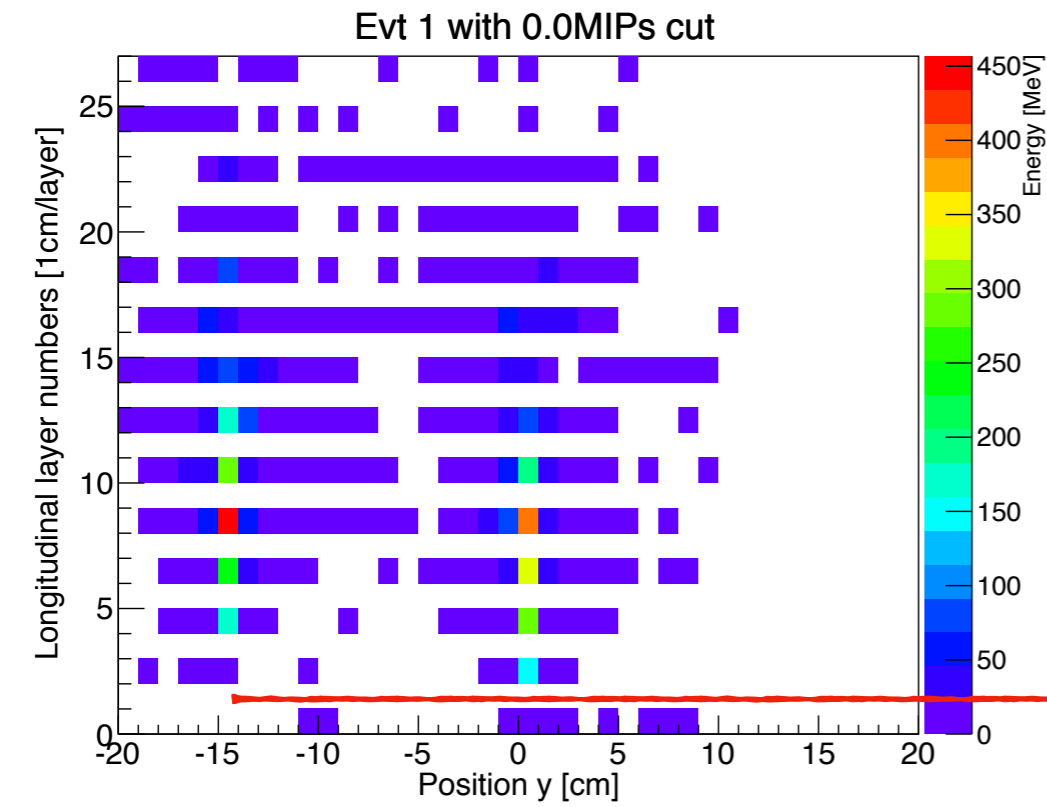
其中  $R_M$  为 moliere 半径， $a_1$ ， $b_1$ ， $a_2$ ， $b_2$  为拟合参数。



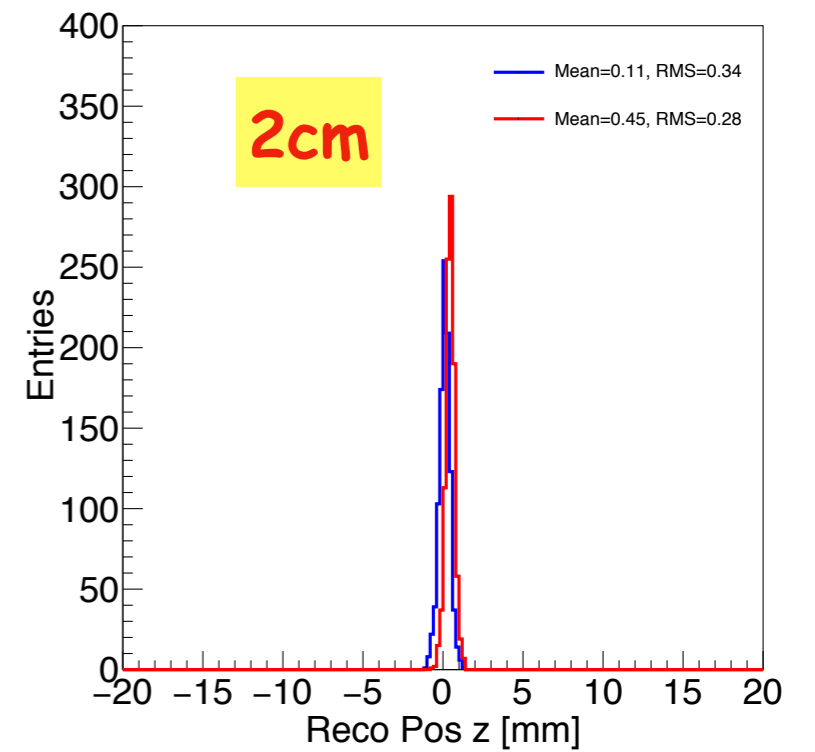
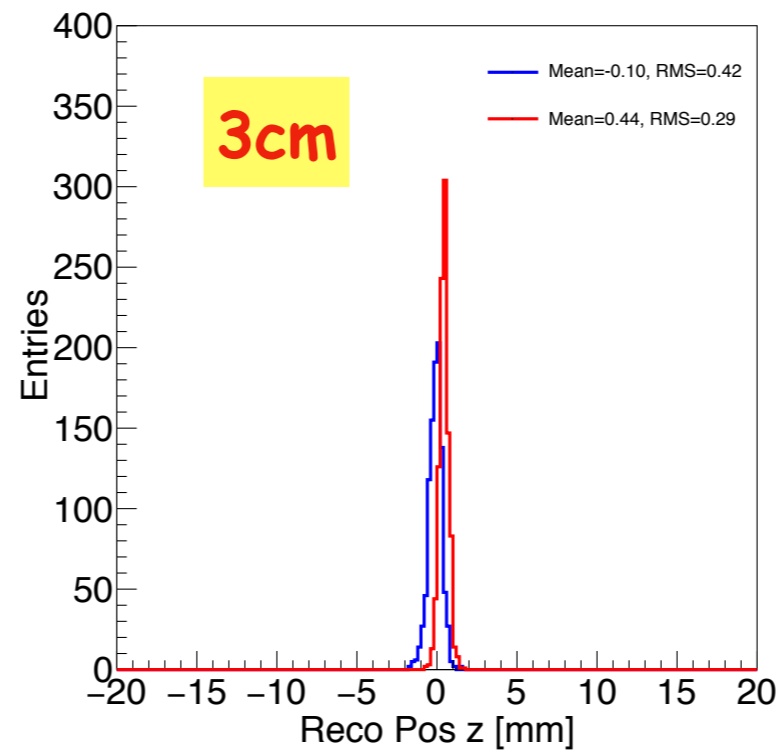
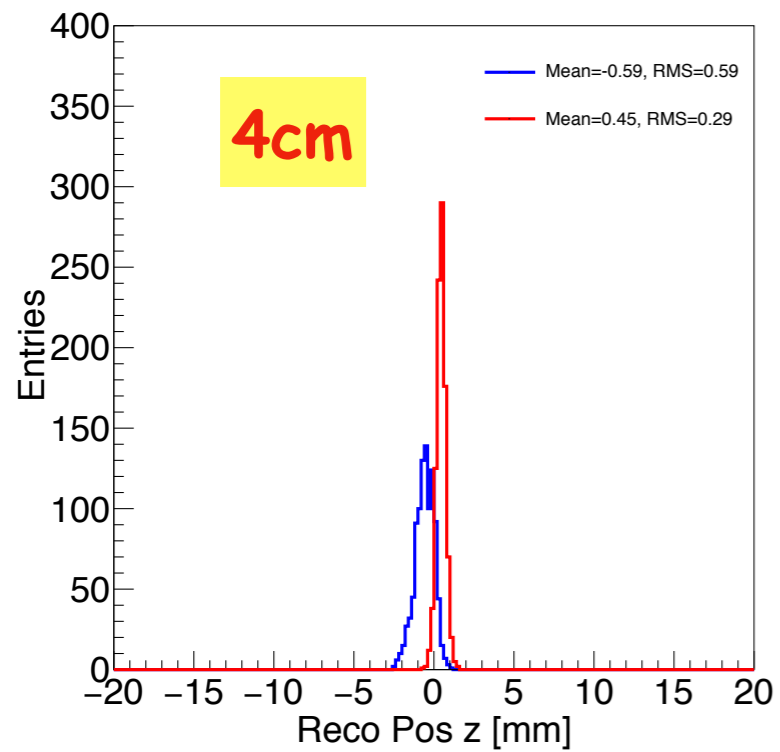
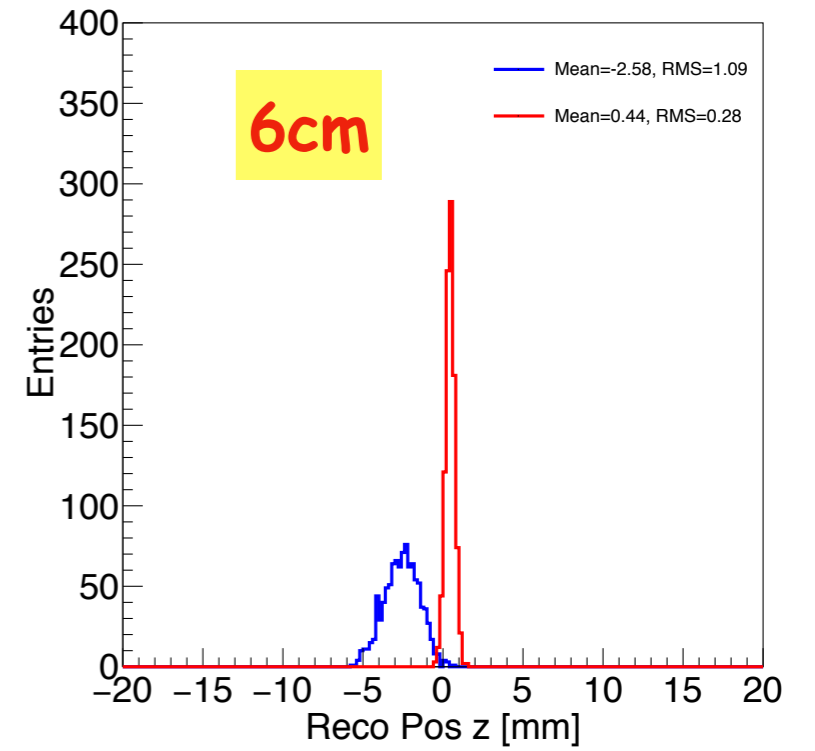
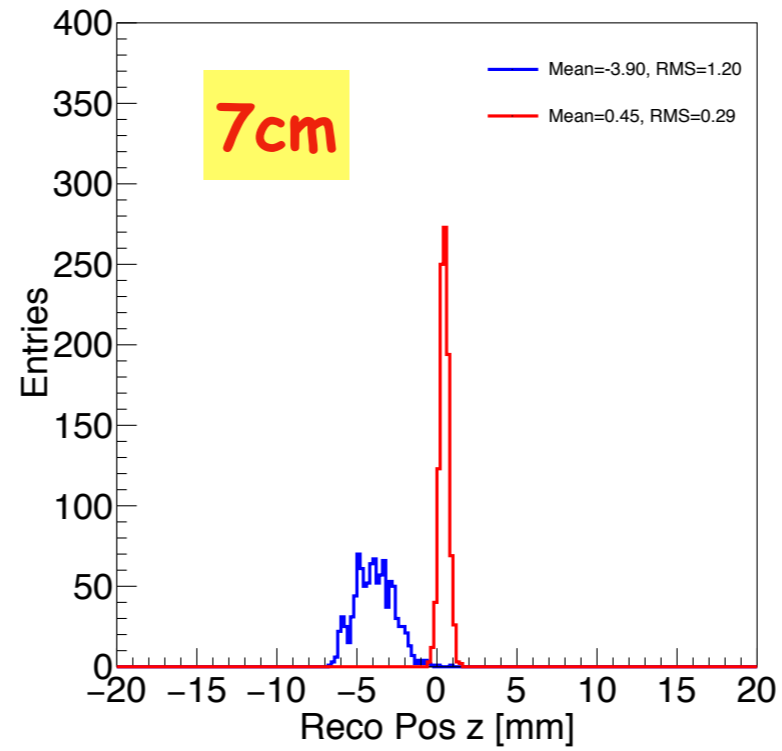
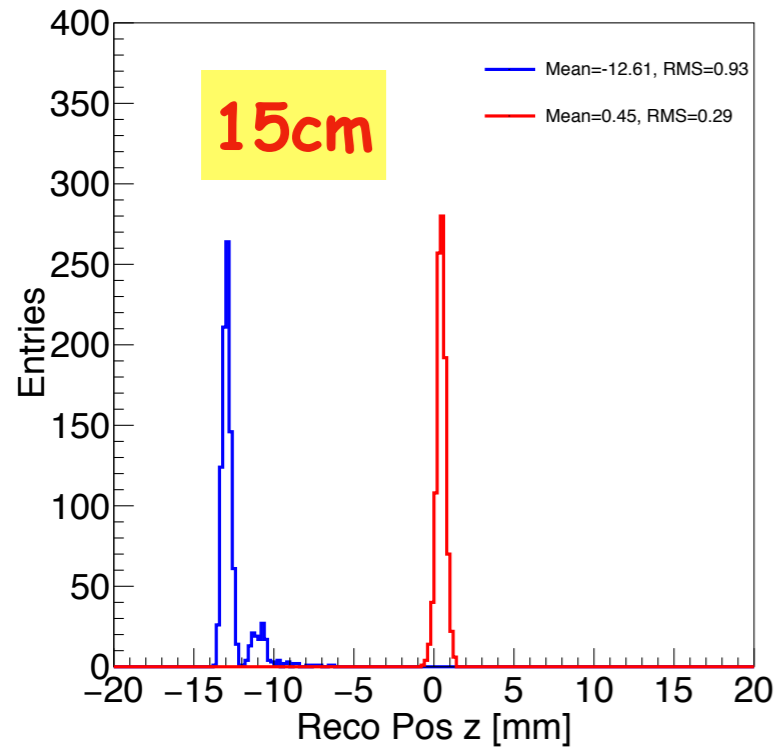
Fitting parameters

Photon Energy	a1	b1	a2	b2	$\chi^2/ndf$
1	0.9664	6.341	0.03005	1.404	6.283e-5
5	0.9579	5.939	0.0387	1.389	2.497e-4
10	0.9617	5.814	0.04305	1.394	3.824e-4
25	0.9479	5.595	0.04557	1.367	1.322e-3
50	0.9456	5.498	0.04834	1.358	3.189e-3
75	0.9762	5.545	0.05199	1.38	3.321e-3
100	0.9659	5.487	0.05216	1.371	5.145e-3
120	0.9704	5.456	0.05197	1.357	4.426e-3
125	0.9677	5.461	0.05276	1.366	7.21e-3
150	0.9628	5.438	0.05333	1.363	6.757e-3
175	0.9757	5.457	0.05448	1.367	5.341e-3
200	0.9736	5.437	0.05471	1.367	5.526e-3
	<b>0.96</b>	<b>5.8</b>	<b>0.04</b>	<b>1.38</b>	

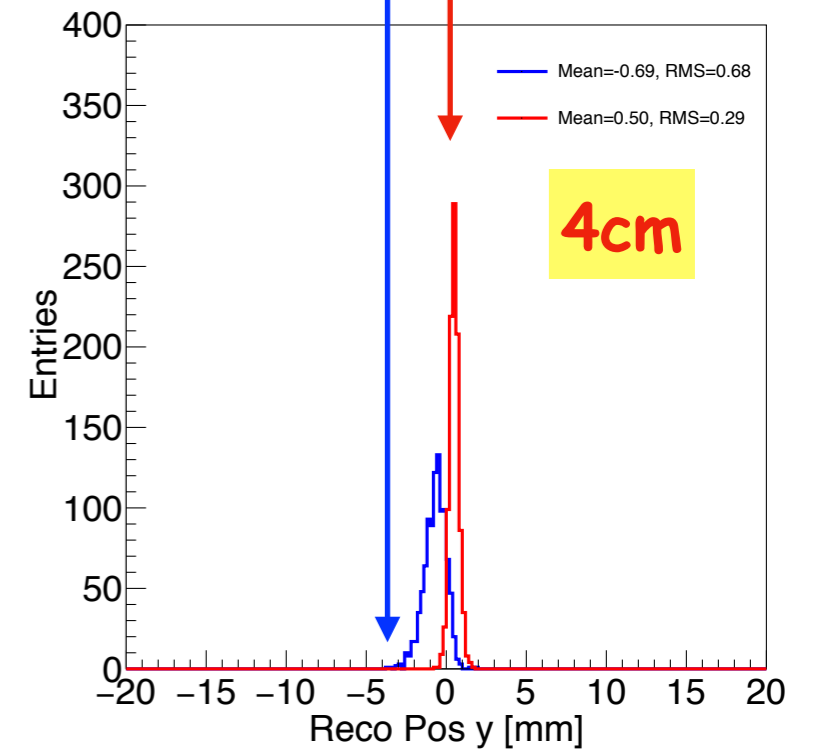
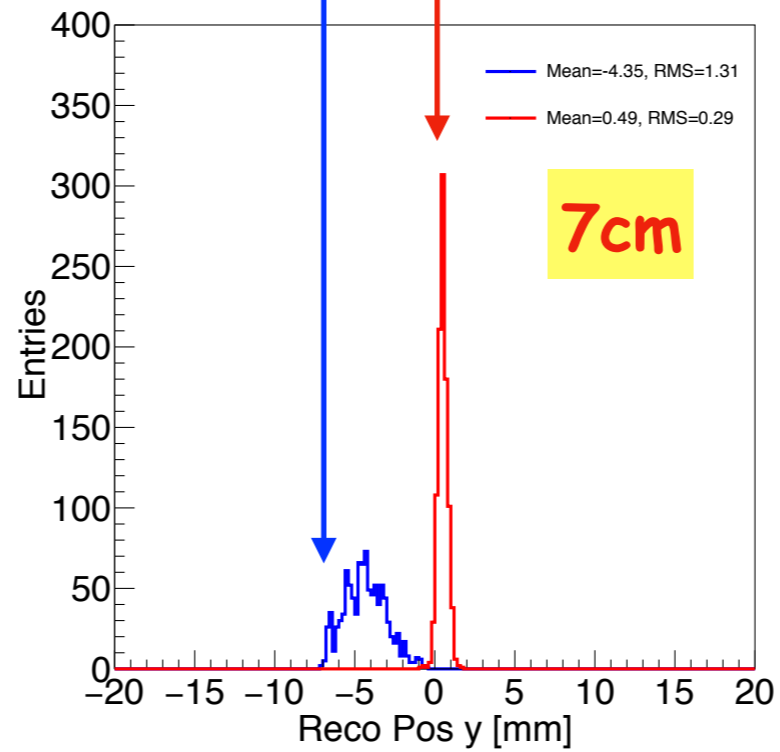
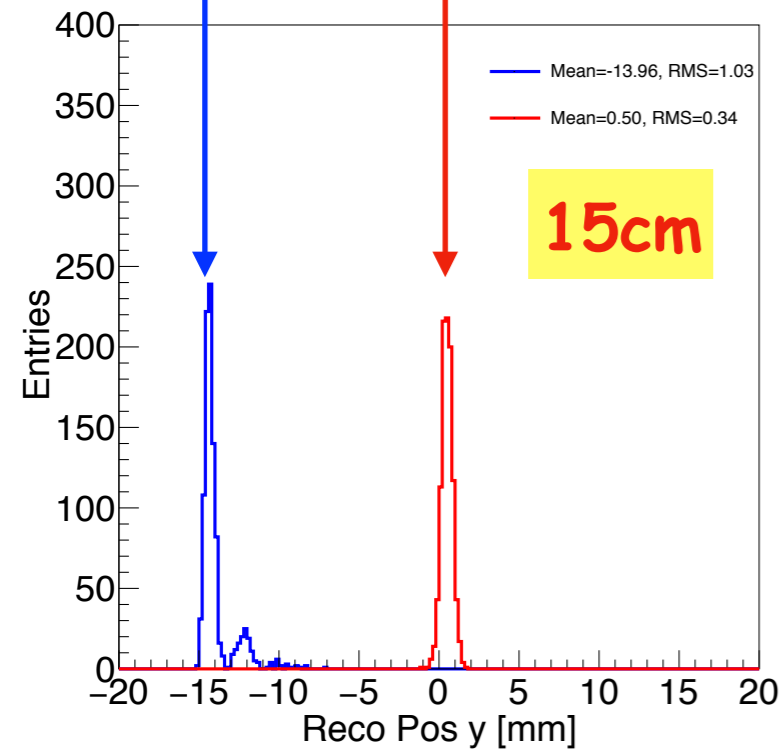
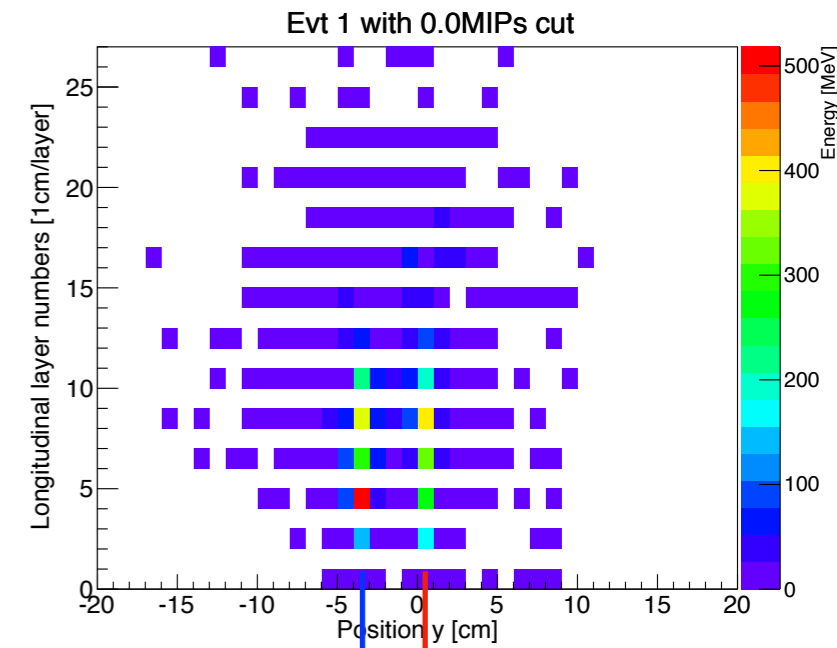
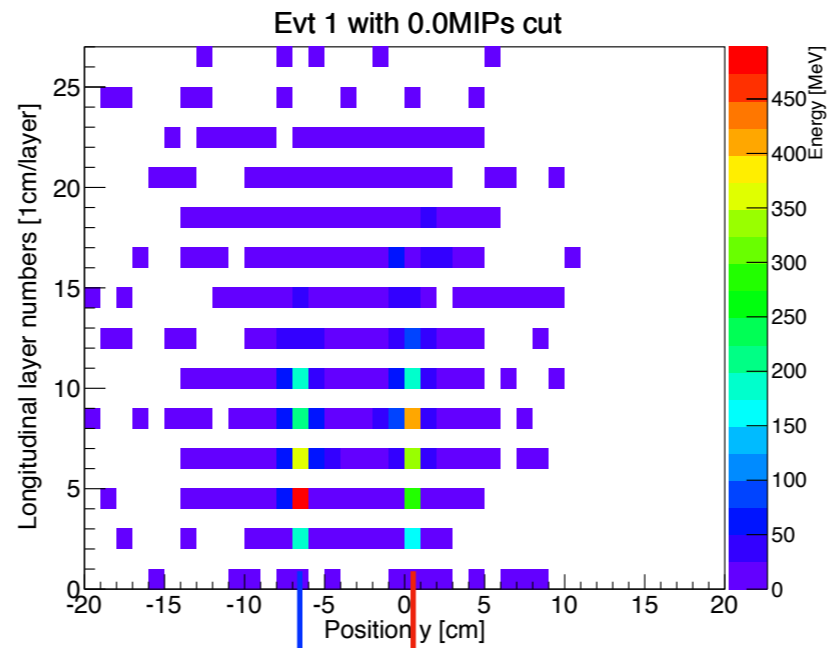
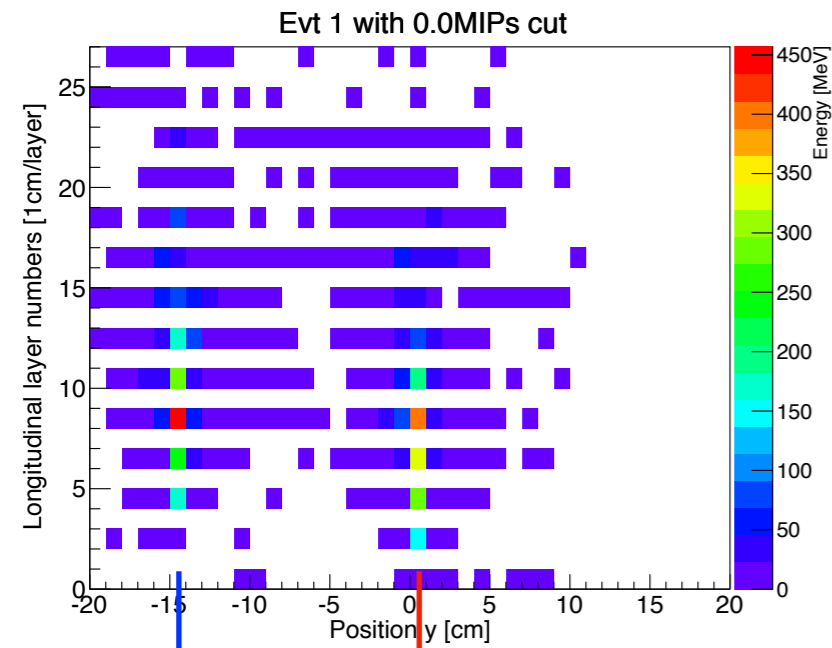
# 5GeV diphoton



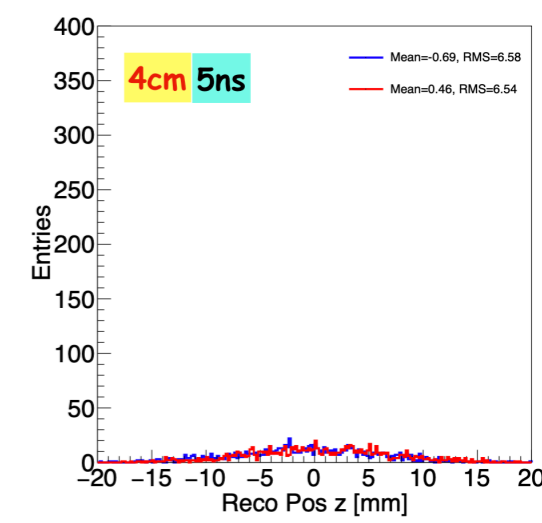
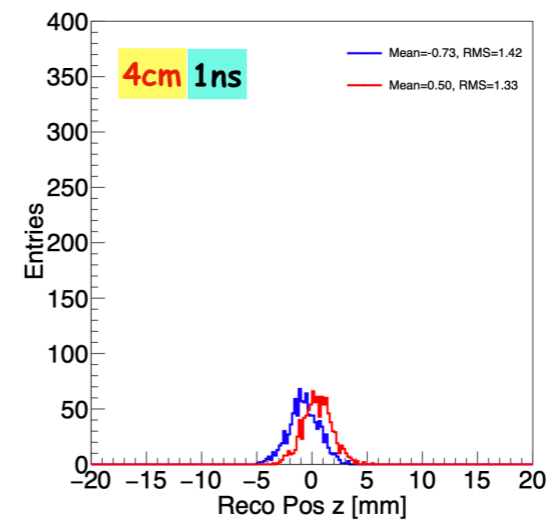
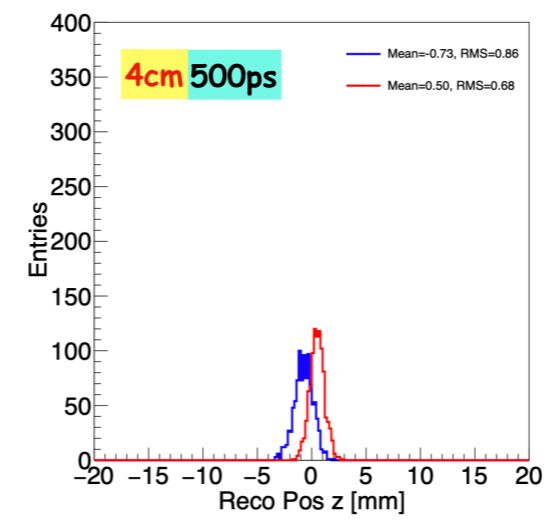
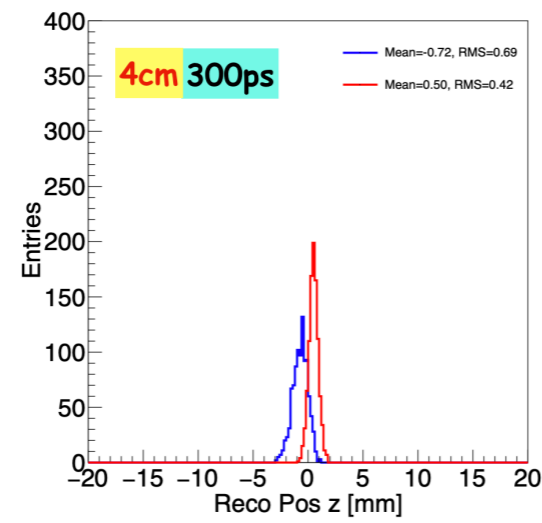
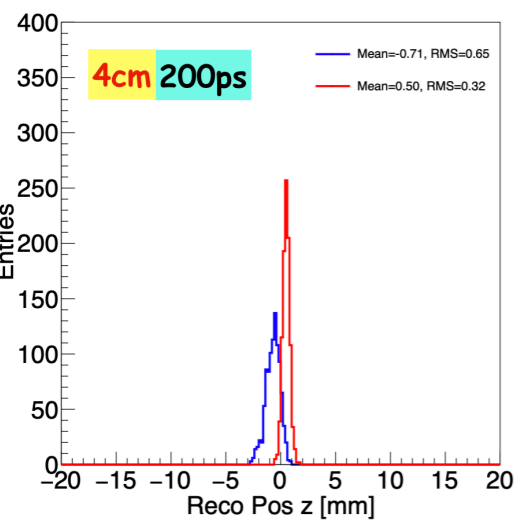
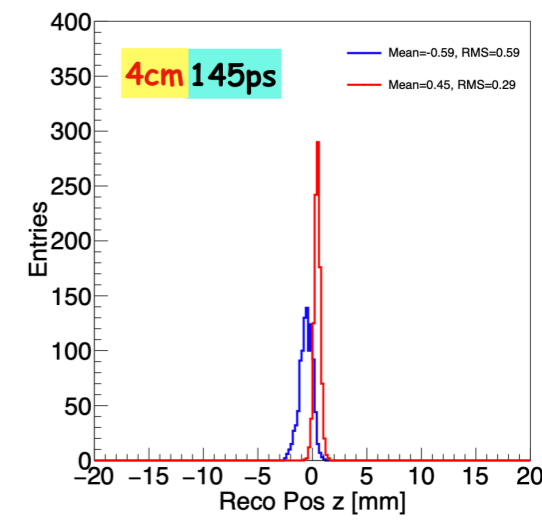
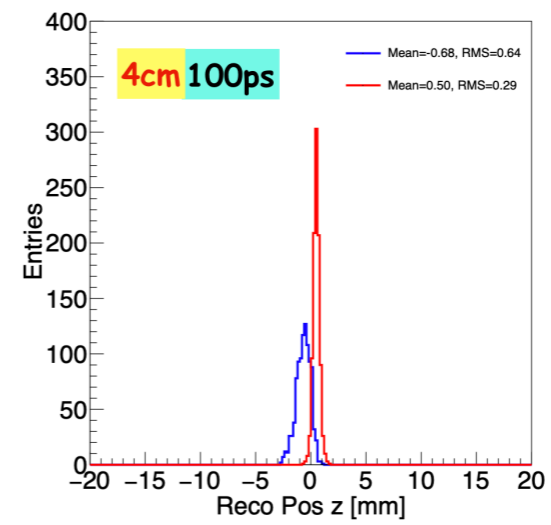
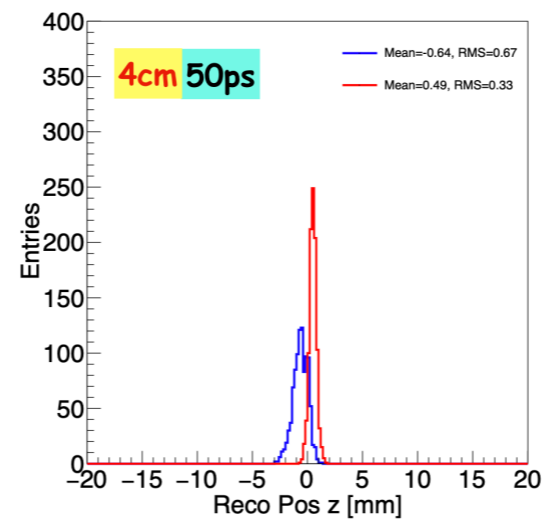
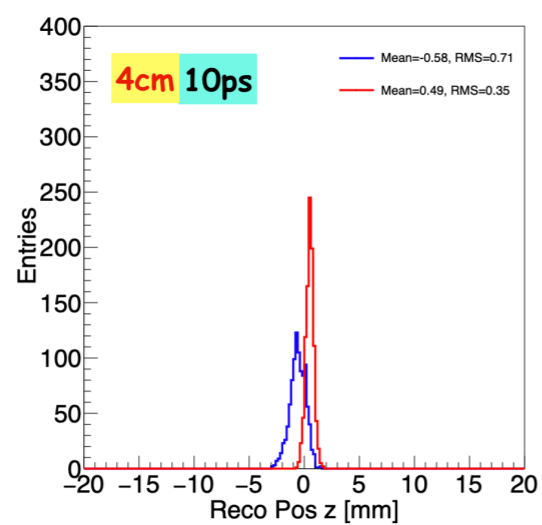
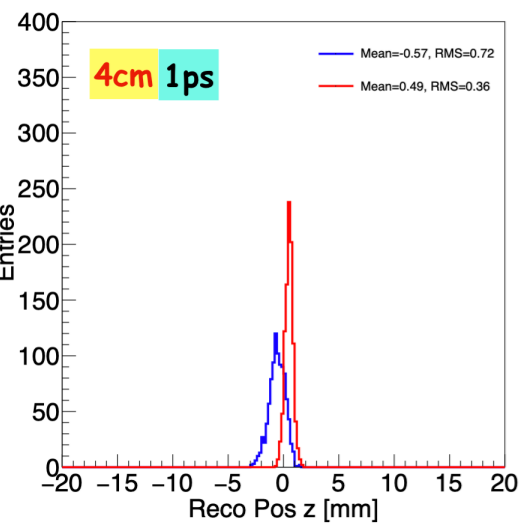
# 5GeV diphoton



# 5GeV diphoton



# 5GeV diphoton



# Energy Digitization

M. Schneegans / L3/BGO calorimeter

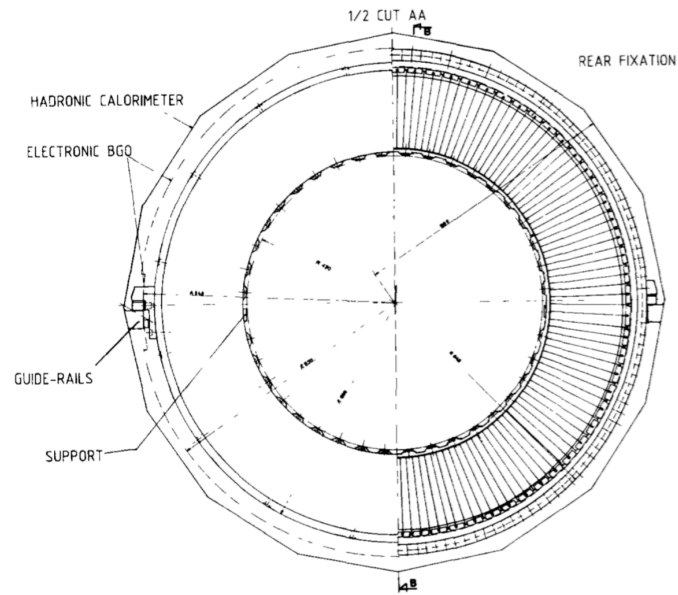


Fig. 3  $r/\phi$  section of the barrel.

## LEP - L3

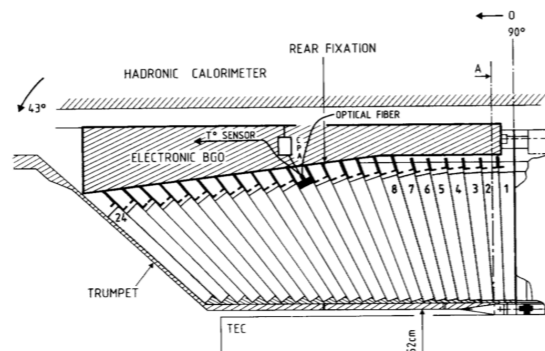


Fig. 2. Section of a half-barrel of the BGO calorimeter.

area:  $2 \times 2 \text{ cm}^2$  24 cm long

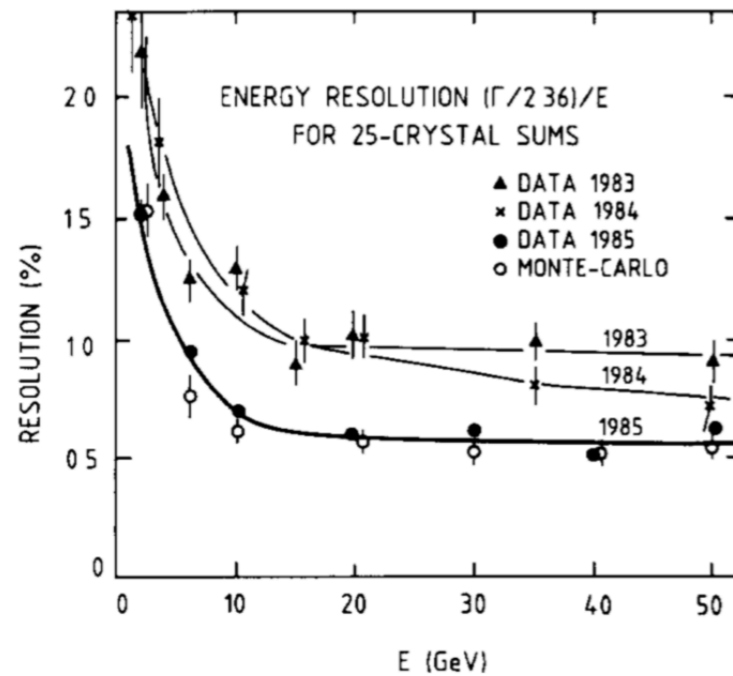
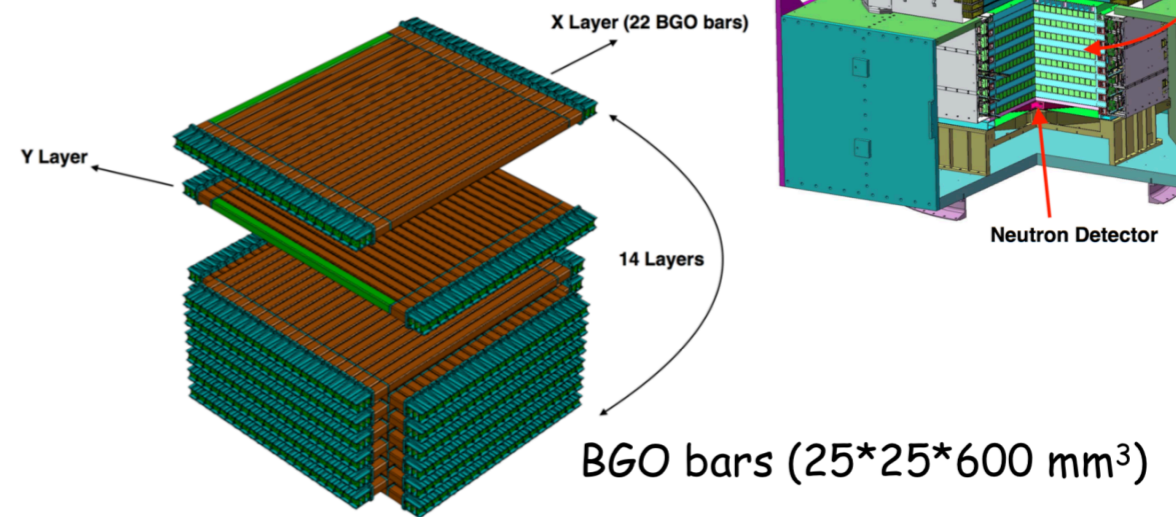


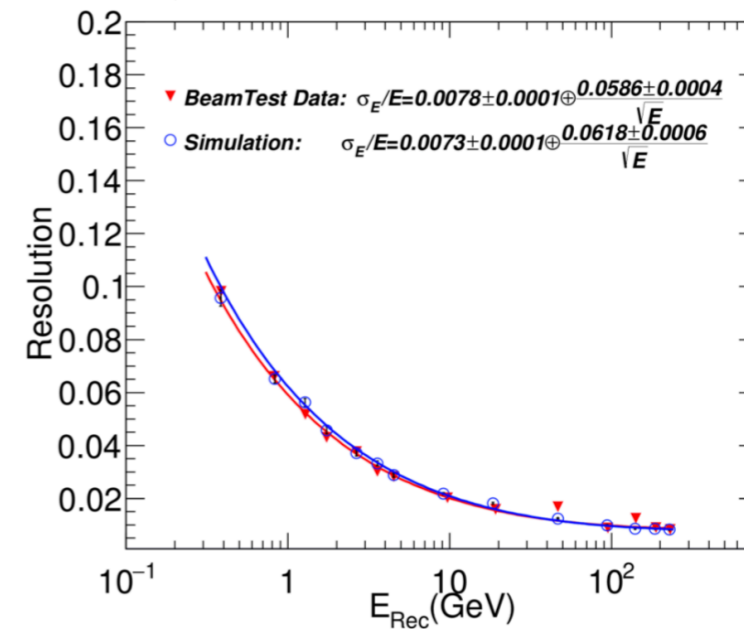
Fig. 21. Energy resolution as a function of momentum compared to previous results and to Monte Carlo results.

The performance now measured in electron beams with final prototypes shows that we are below 2% energy resolution at 1 GeV and near to 5% at 100 MeV.

## DAMPE



## Electron Response in the BGO Calorimeter (Beam Test)



Energy range: 5 GeV-10 TeV (e/ $\gamma$ )

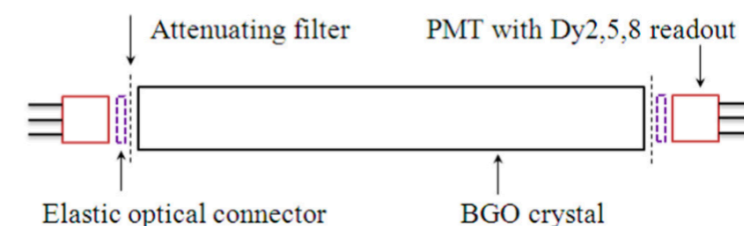
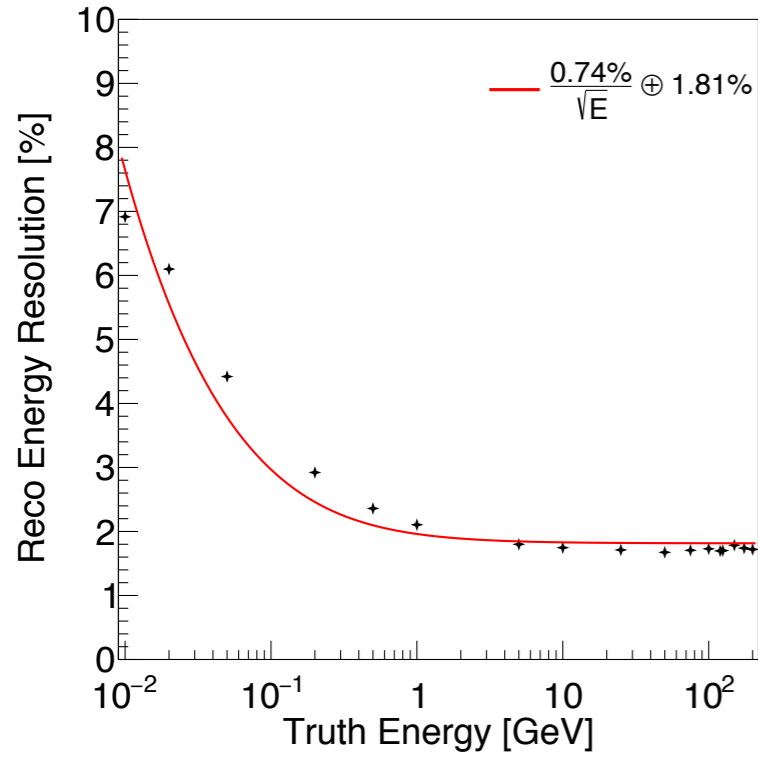


Fig. 2. The minimum detection unit of the BGO ECAL, an attenuation filter, an elastic optical connector, and a PMT with three dynodes readouts are coupled on each end of the BGO.

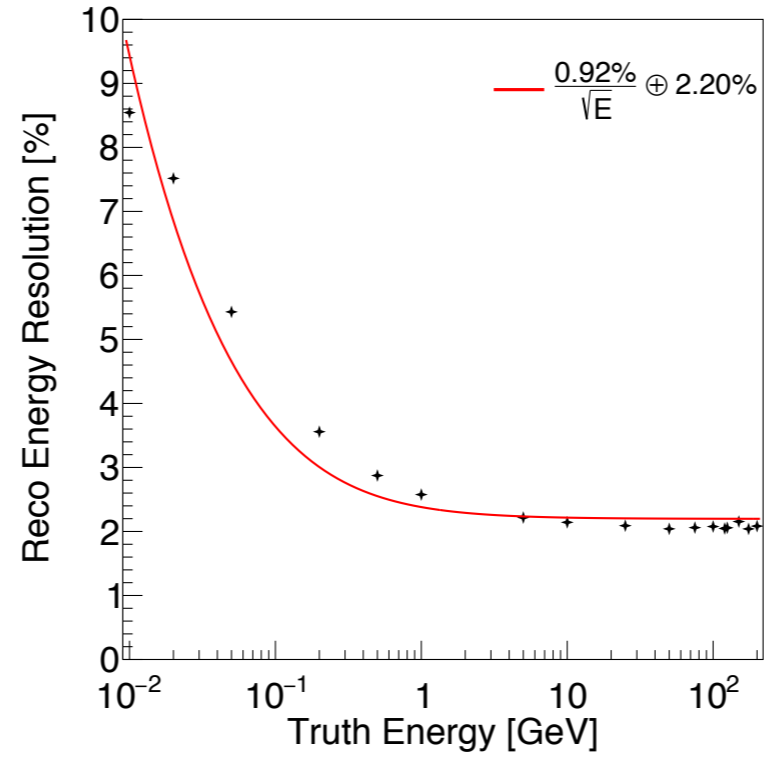


# Energy Digitization

**0.08 $\sigma$**



**0.1 $\sigma$**



**0.3 $\sigma$**

