

カロリメータの解析

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Correlation

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Mapping

① Strip



Strip の中央から
+4cm から -4cm まで
160 bin で「きざんだ」

つまり) $\frac{8 \text{ cm}}{160 \text{ bin}} = 0.05 \text{ cm/bin}$

② Pulse Height (mips) を求めた

$$\text{Pulse Height (mips)} = \frac{\text{adc} - \text{pede}}{\text{Const}}$$

③ ひとつの bin に入った Statistical Quantities を求めた

* event Selection

① Beam Trigger が入るとき $\text{ireg}(2) = 1$

② CAMAC が Clear しているとき $\text{ievflg} = 0$

③ adctr1 , adctr2 , adctr3 , adcmu の分布が 3σ に入っていること

④ Drift Chamber の fit $\chi^2 < 5$

↳ $n_{\text{hit}} \geq 3$ 3点以上を要求して直線 fit する

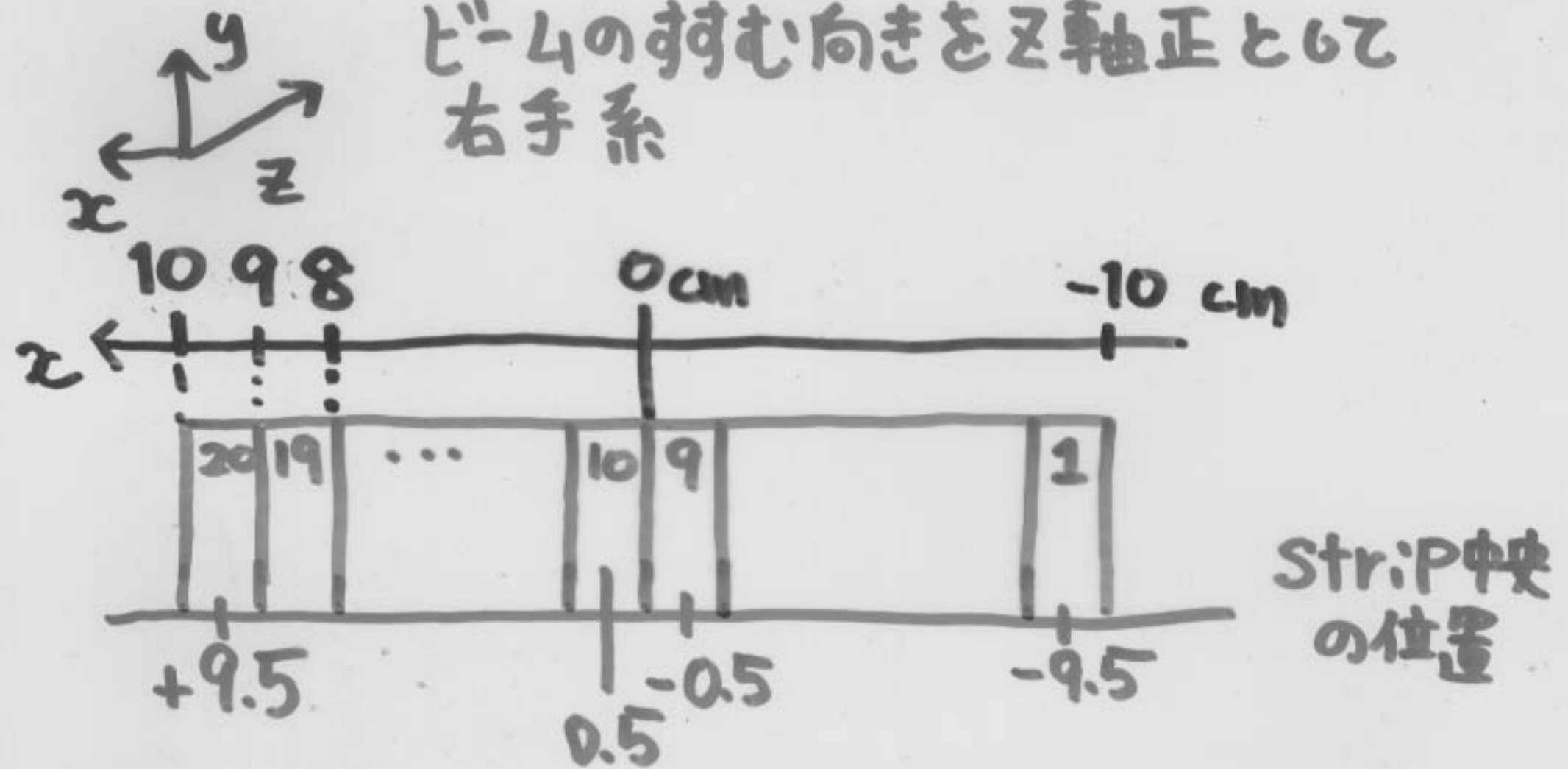
$i_{\text{first}} = 0$ max 16点を用いて、一番 χ^2 が小さくなる hit を用いる

Shower 重心とドリフトチェンバー

・ 重心の計算

Beam Test の座標系

ビームの進む向きを Z 軸正として
右手系



① 各 Strip の中央の位置を求めろ

② 各 Strip に対して mips を求めろ

$$\text{PulseHeight mips} = \frac{\text{ADC} - \text{Pedestal}}{\text{Cal: Const}}$$

③ 重心を求めろ

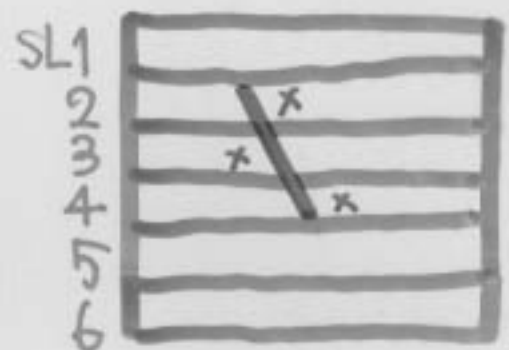
$$\text{重心 (cm)} = \frac{\sum (\text{Strip 中央の位置} \times \text{Strip 中央の mips}^{\text{P.H}})}{\sum (\text{Strip 中央の mips}^{\text{P.H}})}$$

③ 重心を求めろ

- ① Pulse Height (mips) が Max の Strip [i] をさがす
- ② strip [i-3] から strip [i+3] の 7つの strip だけを用いて重心を求めろ


$$\text{重心 (cm)} = \frac{\sum_{n=i-3}^{i+3} (\text{Pulse Height})_{\text{strip } n} \times (\text{strip } [n] \text{ の中央の位置})}{\text{strip } [n] \text{ の Pulse Height (mips)}}$$

④ 傾きを求めろ



Super Layer 2, 3, 4 の点のみを使って直線 fit する

↳ なぜなら

SL1 は分布が  量子化している。
SL5, SL6 は分布を見ると位置が正しく求められていない。

* event Selection

- ① Beam Trigger を選ぶ ireg(2) = 1
- ② CAMAC が clear されている Data ievflg = 0
- ③ Drift Chamber の fit して $\chi^2 < 20$ のもの

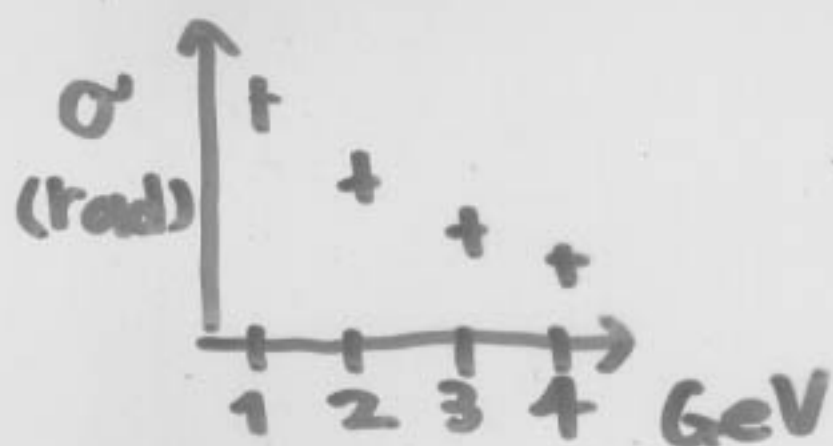
↑ nhit ≥ 3 (3点以上の点を用いて直線 fit)

ifirst = 0 (16hit 用いて χ^2 が min の hit を用いる)

- ④ 重心を直線 fit (SL2 ~ SL4) して $\chi^2 < 20$ のもの

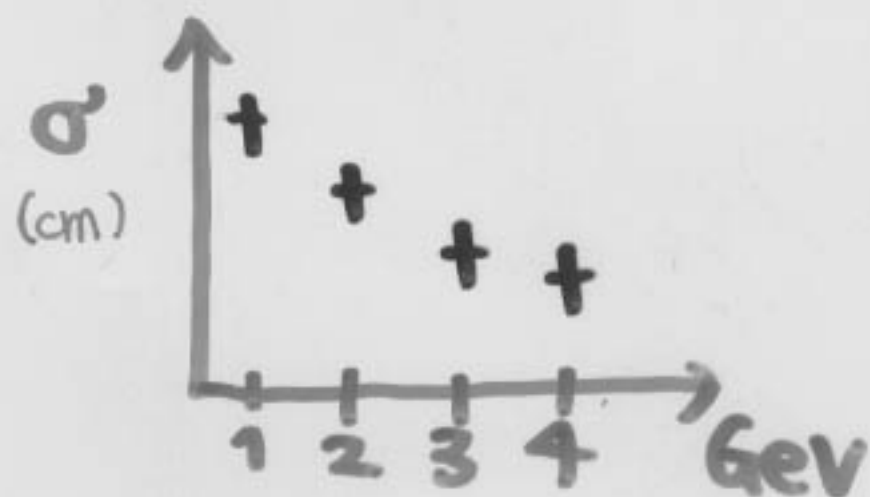
⑤ DCの位置 (cm) と 重心 (cm) の相関
 DCの角度 (rad) と 重心fitの角度 (rad)
 の相関を Plotした。

⑥ 重心fitの角度分布を Gaussianで
 fitして Sigmaを求めた



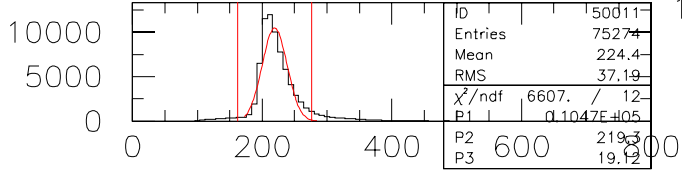
入射エネルギー (1~4 GeV)
 との相関を Plotした。

⑦ deviation = DC位置 (cm) - 重心 (cm)
 の分布を Gaussianで fitして
 Sigmaを求めた

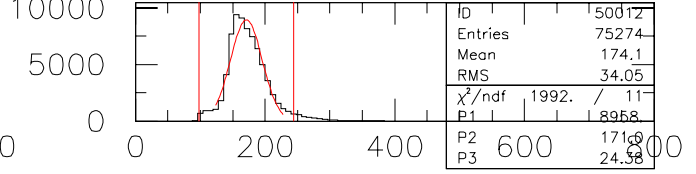


入射エネルギー (1~4 GeV)
 との相関を Plotした。

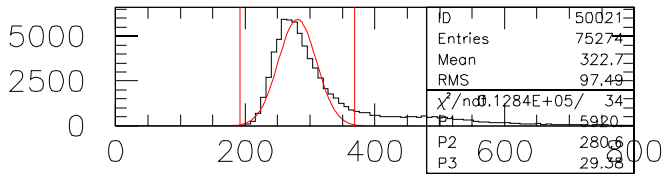
2gmu186-193



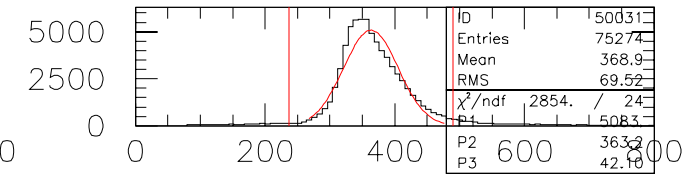
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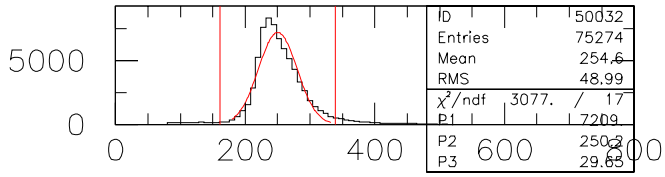
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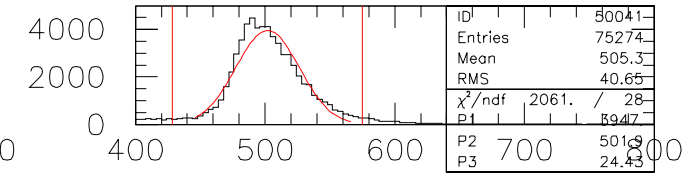
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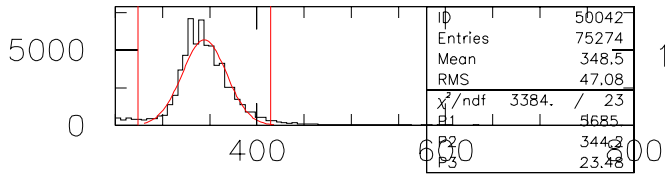
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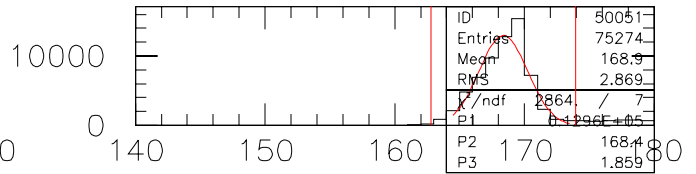
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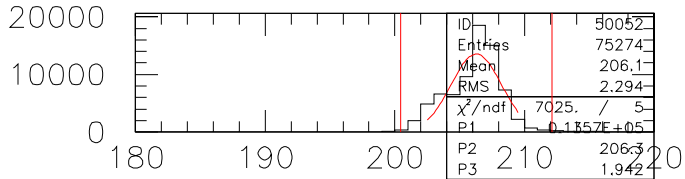
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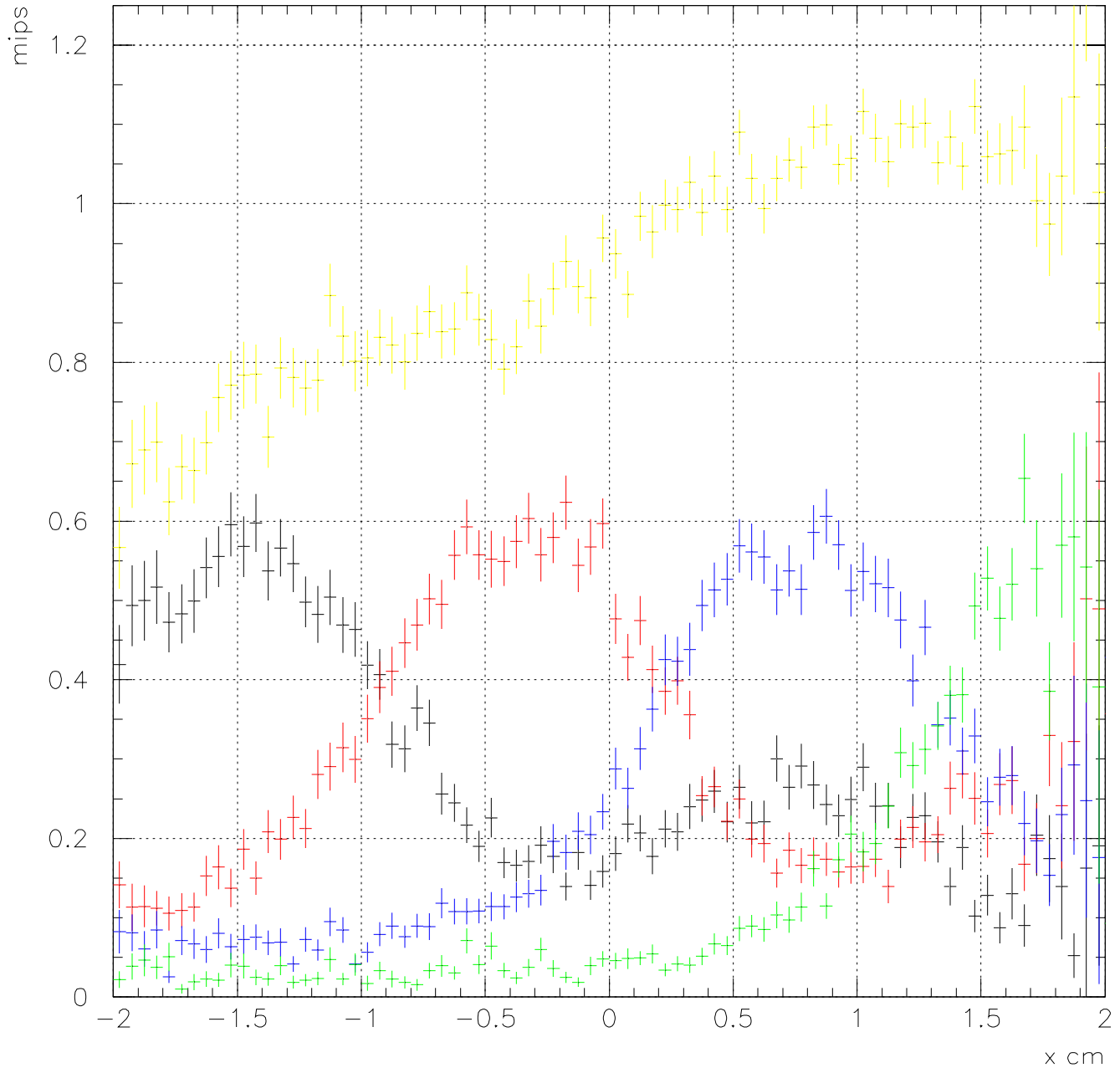


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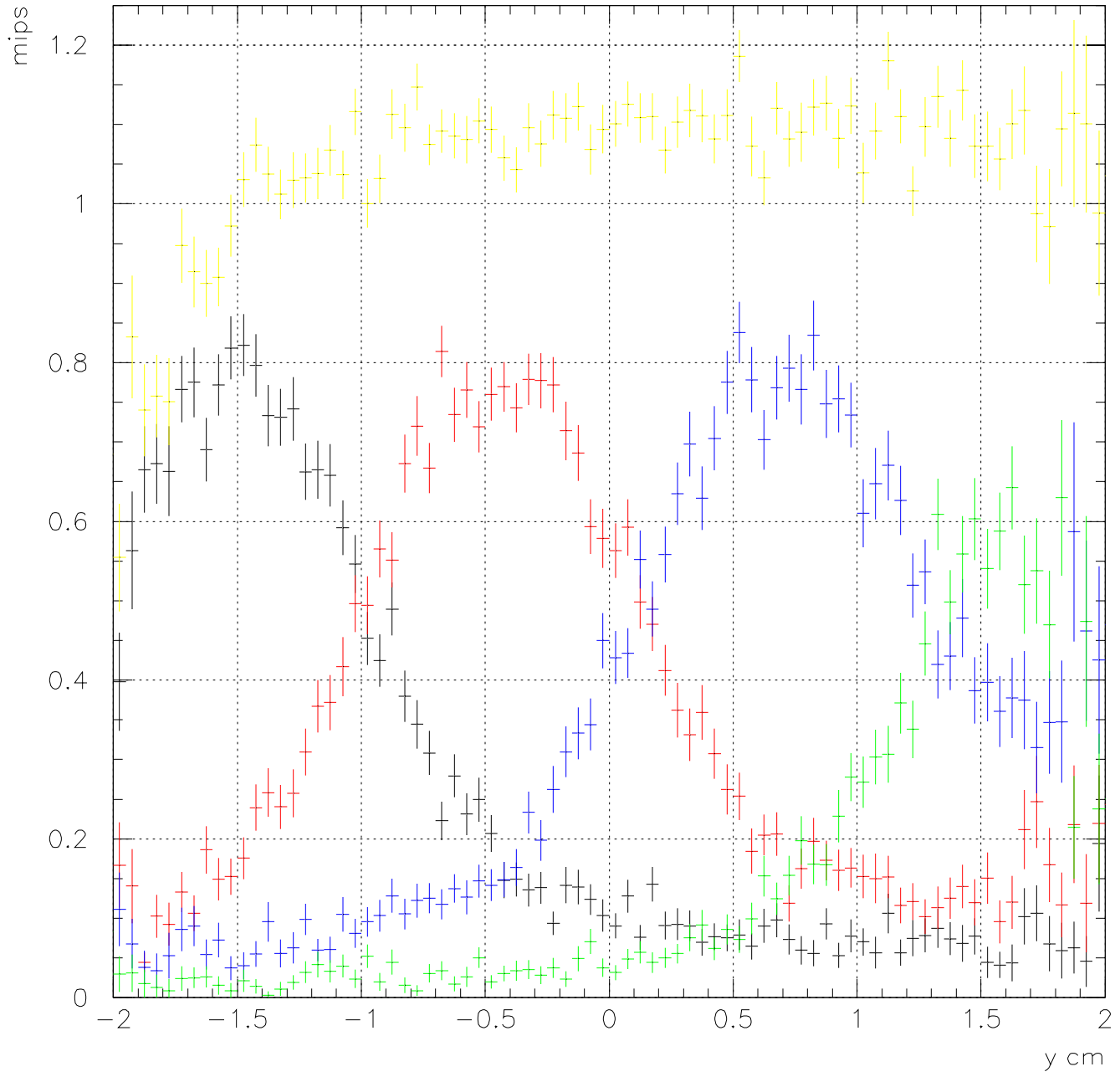


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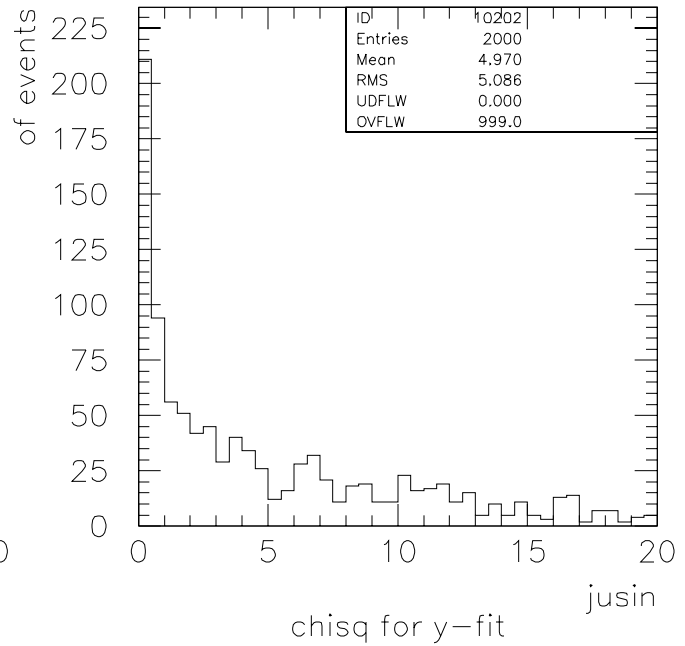
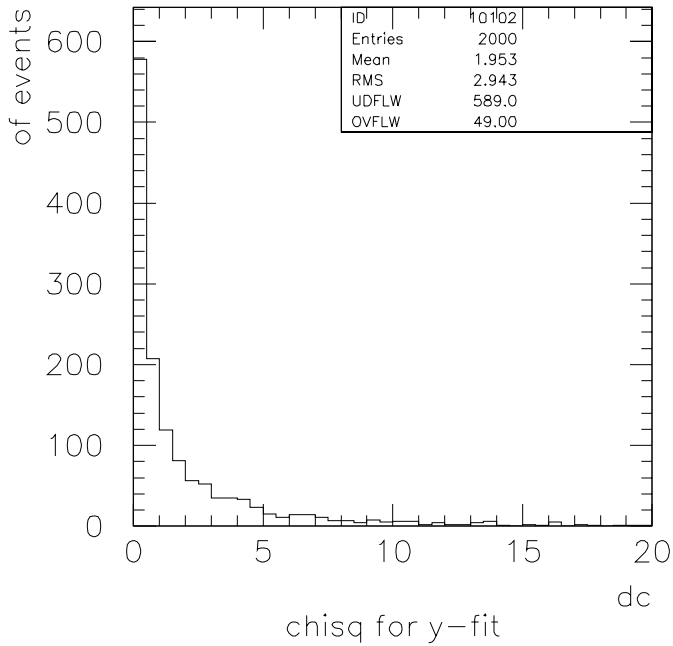
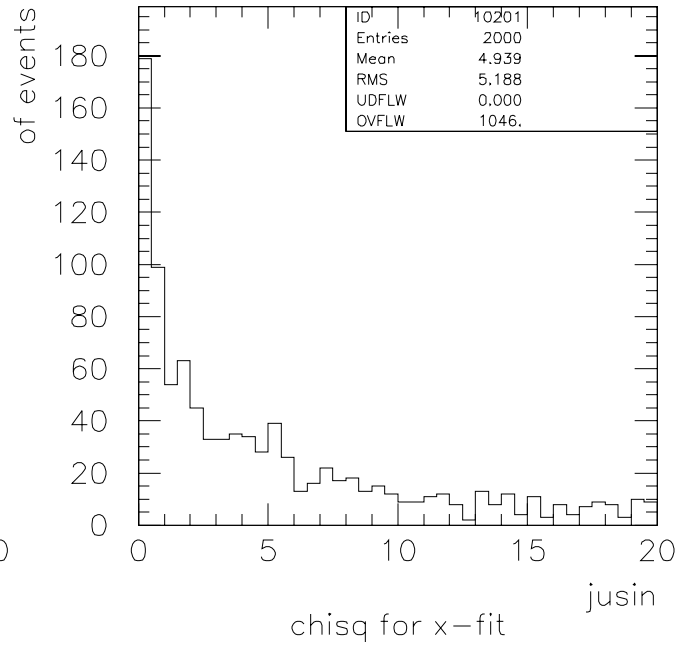
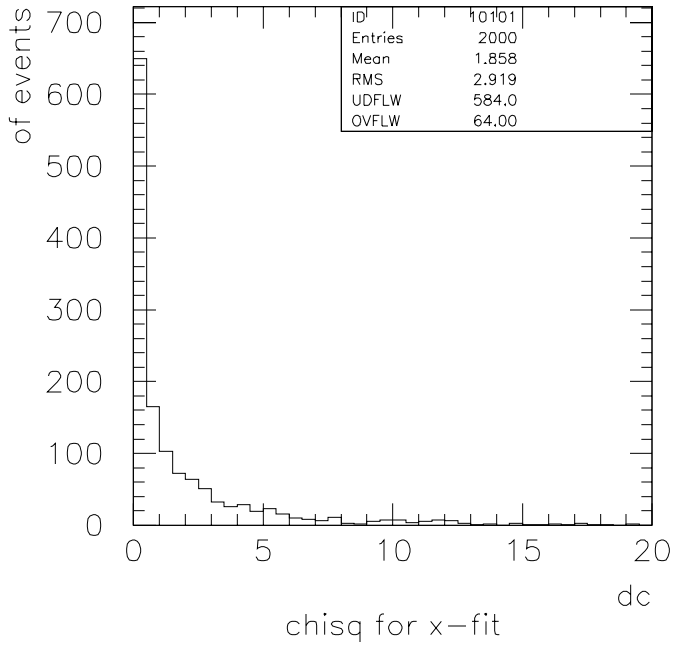
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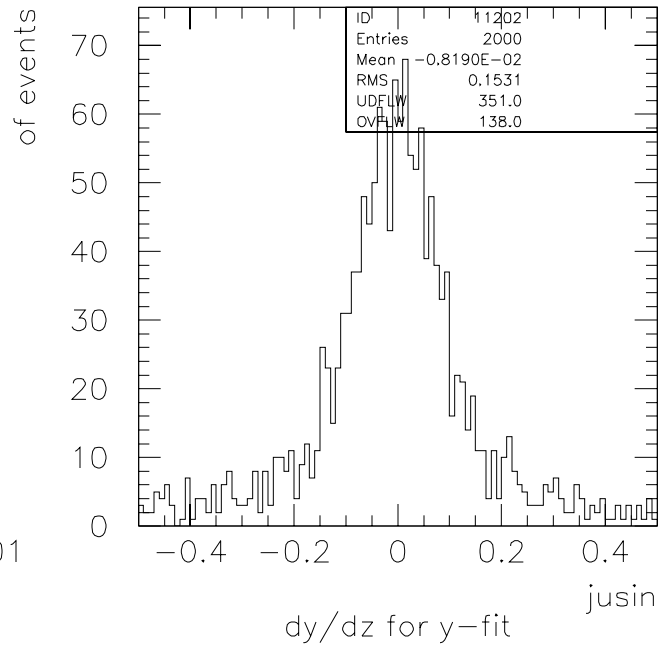
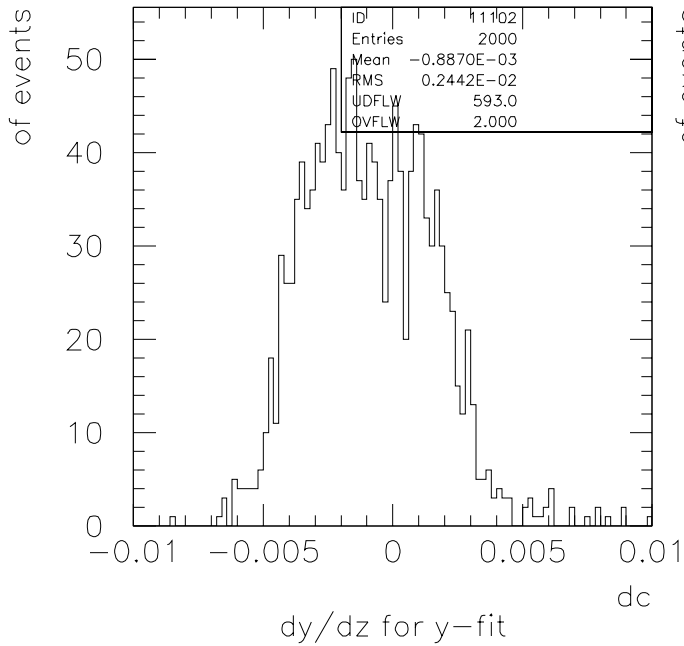
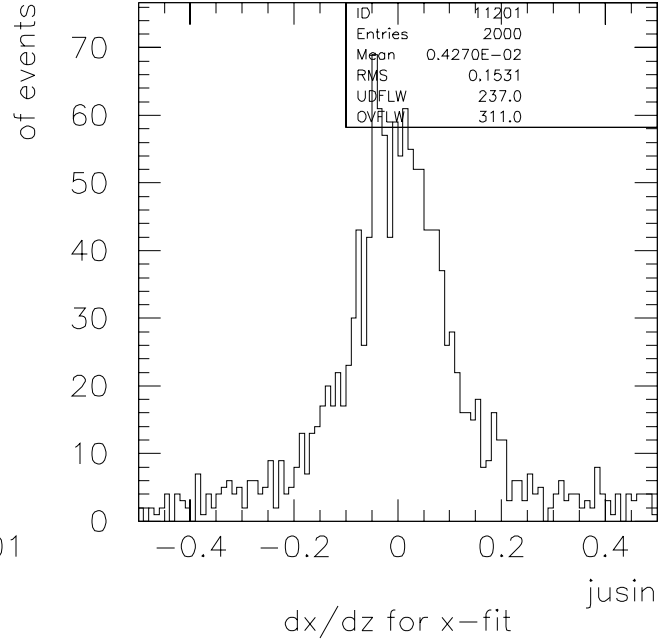
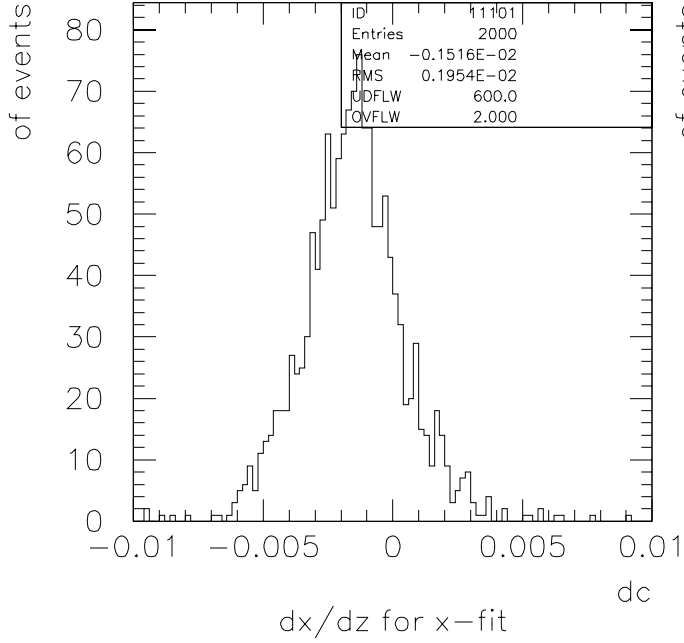
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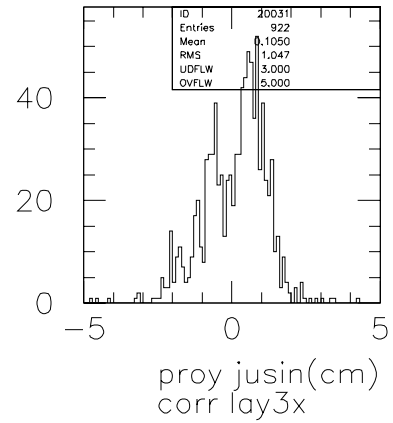
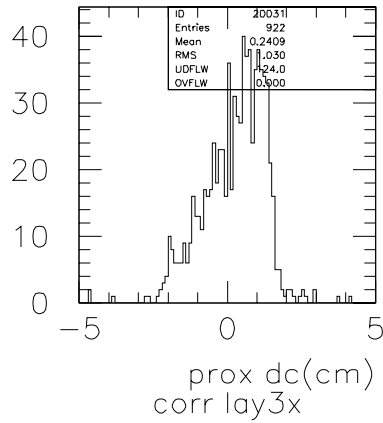
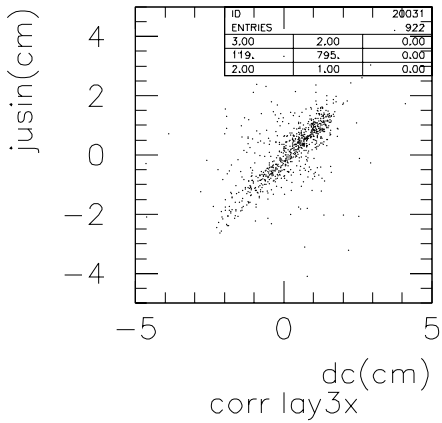
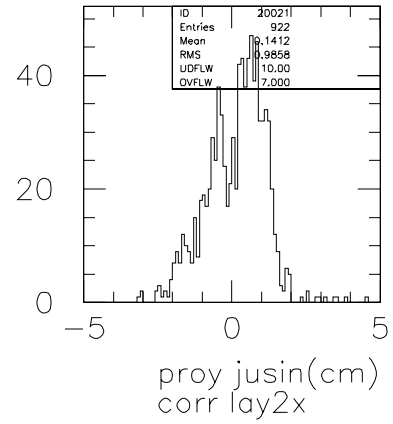
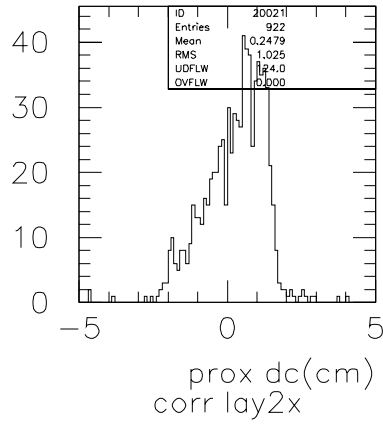
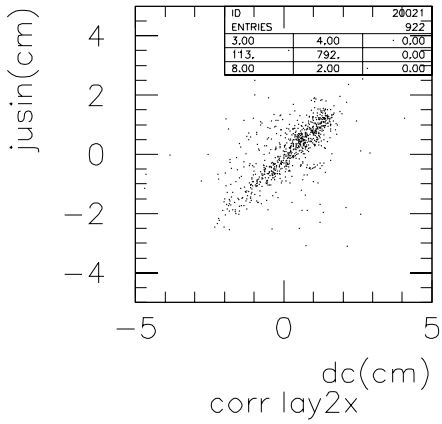
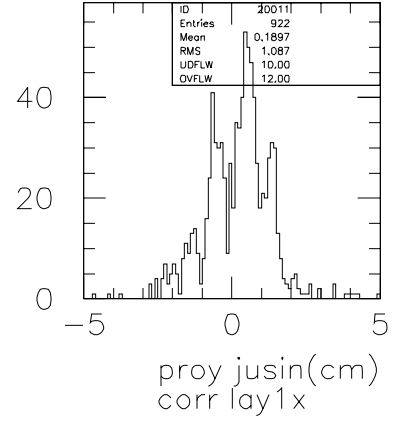
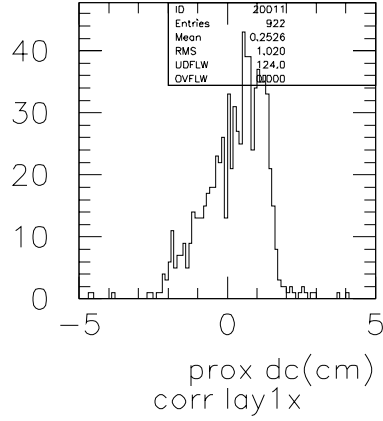
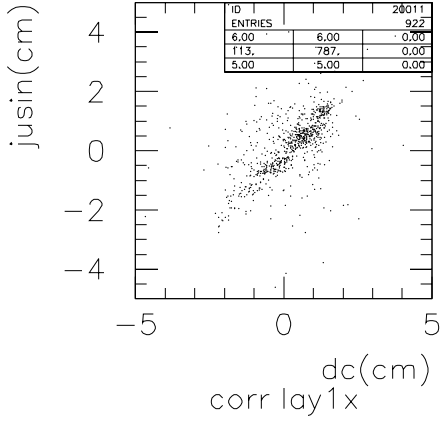
run00245 energy -3(Gev)



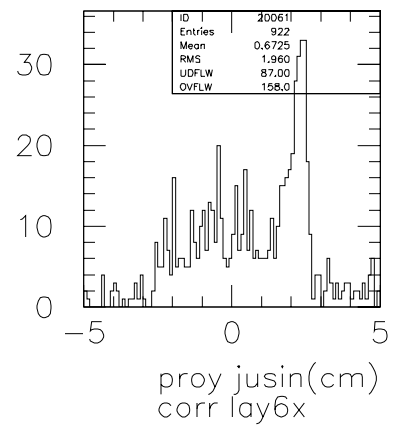
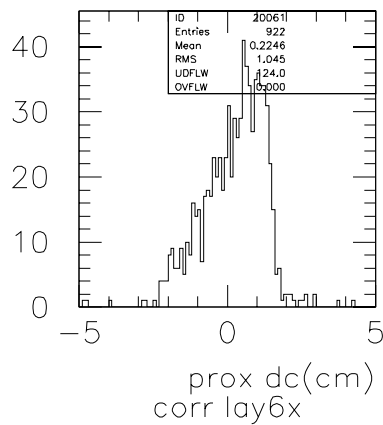
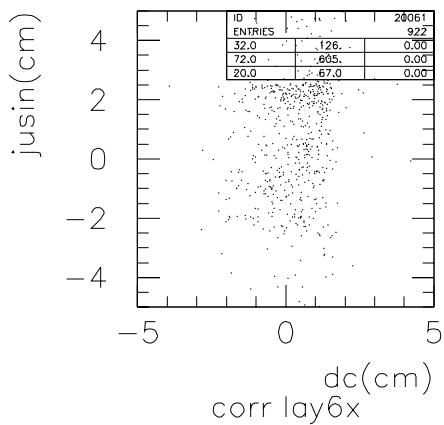
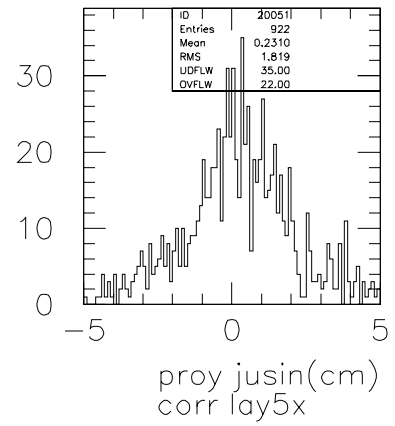
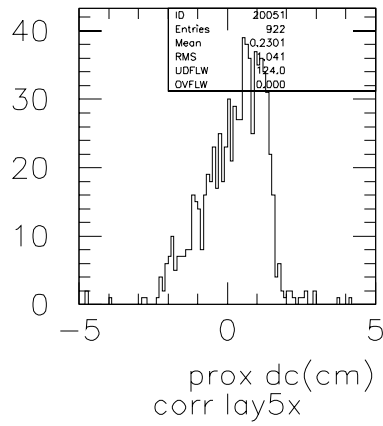
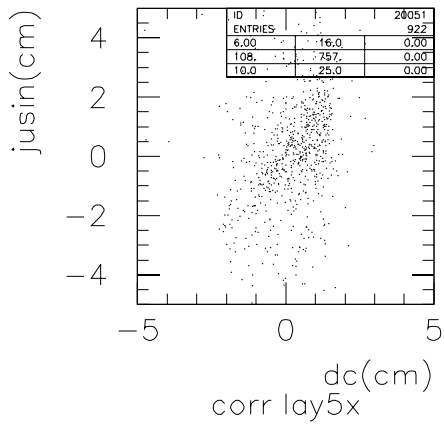
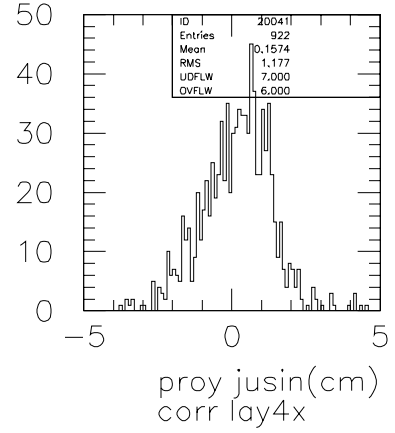
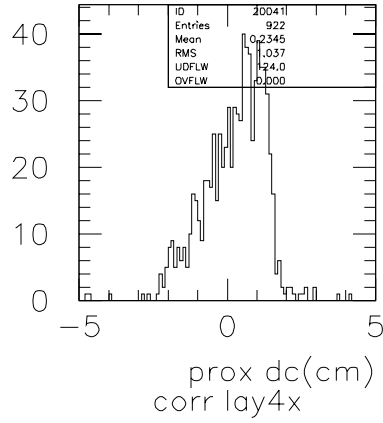
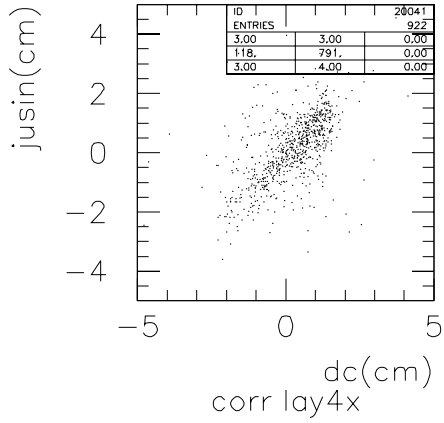
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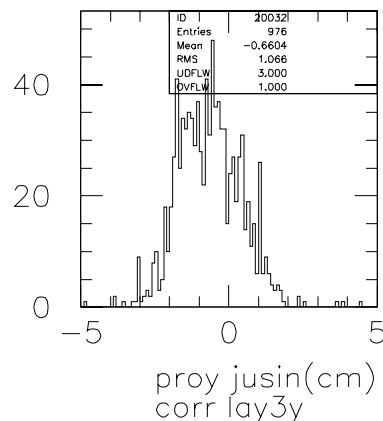
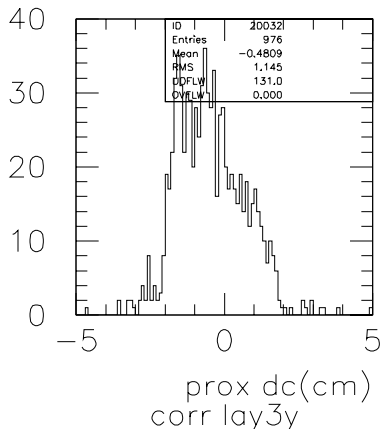
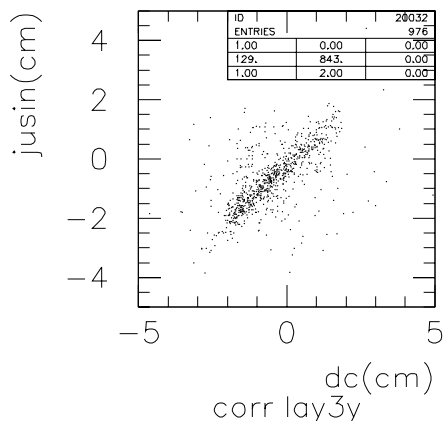
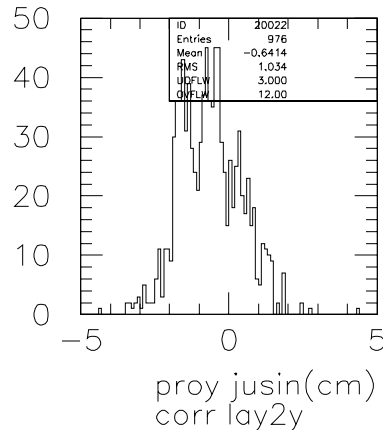
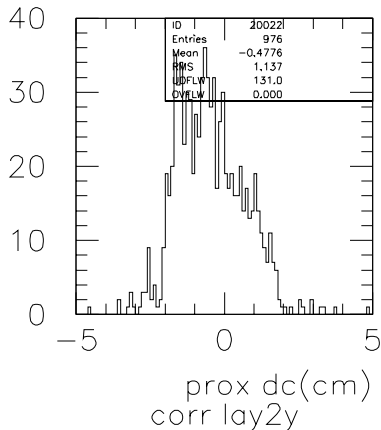
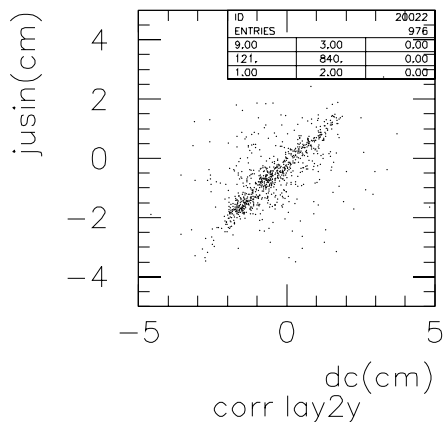
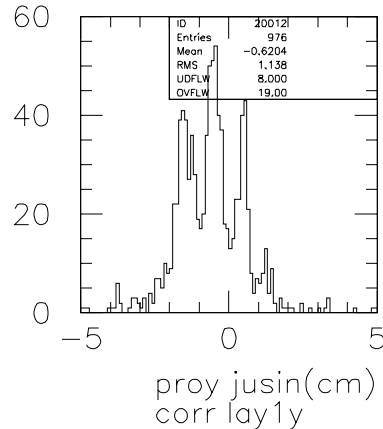
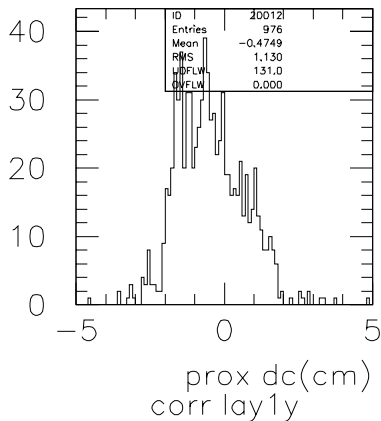
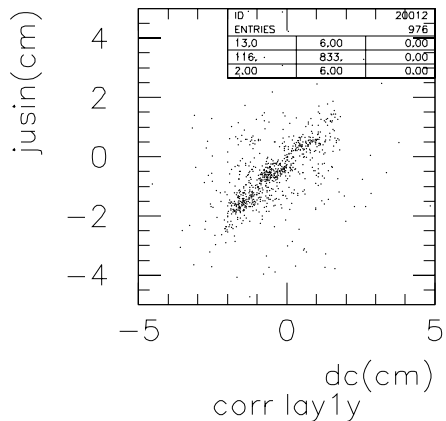
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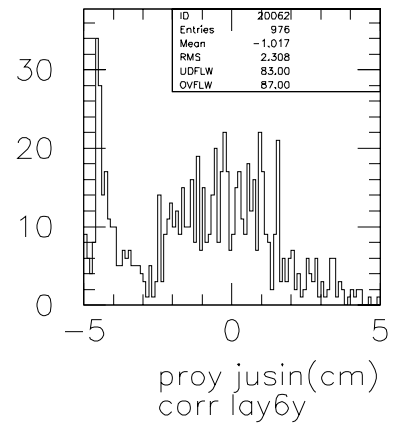
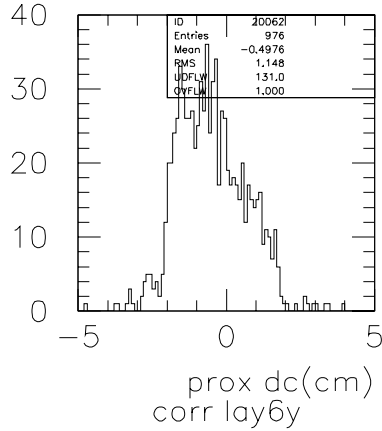
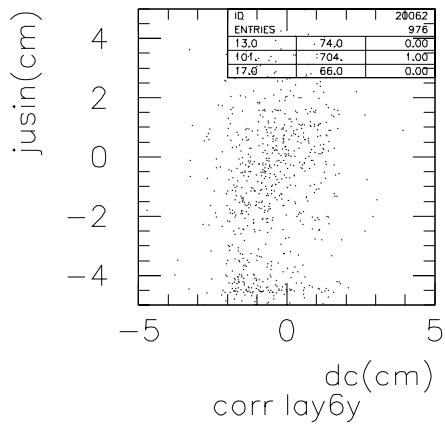
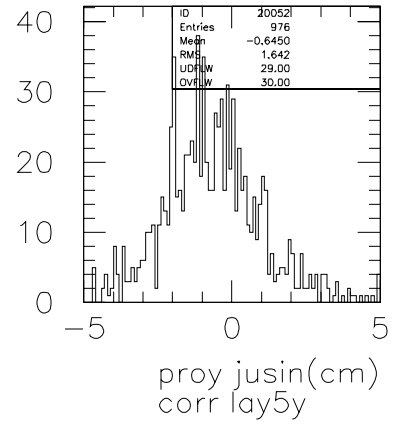
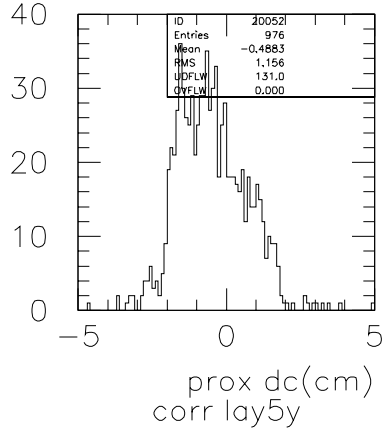
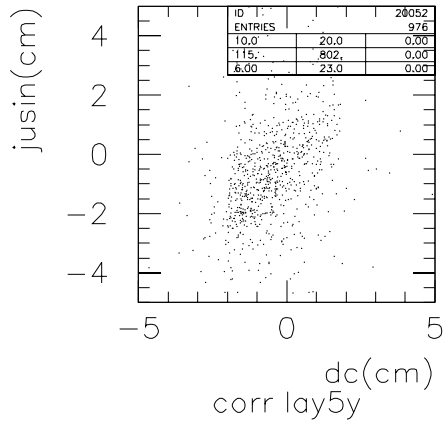
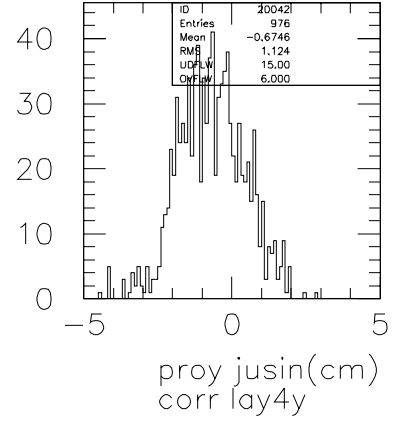
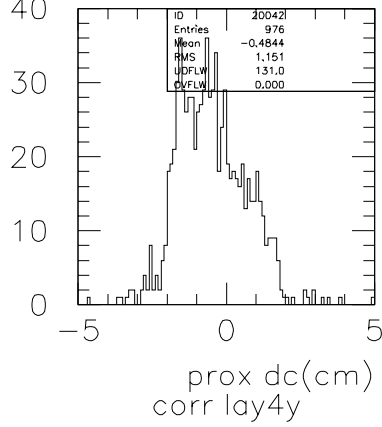
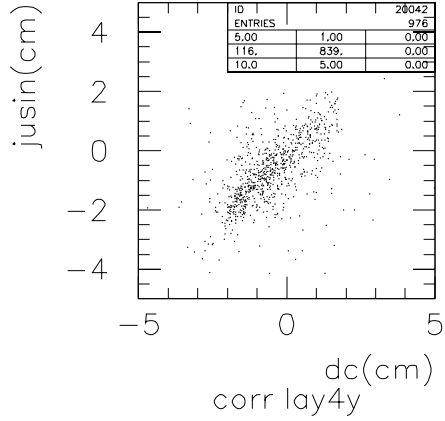
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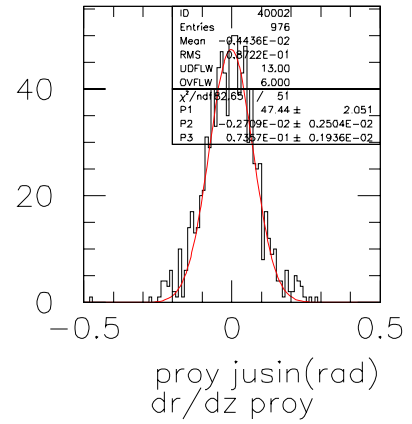
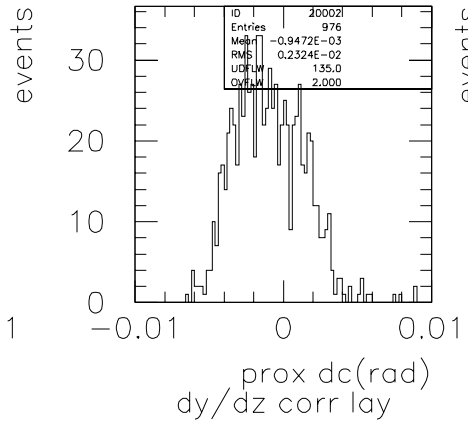
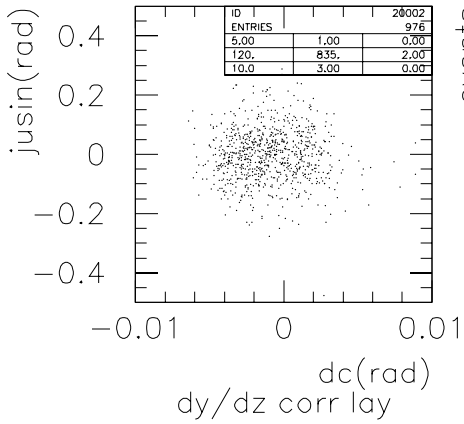
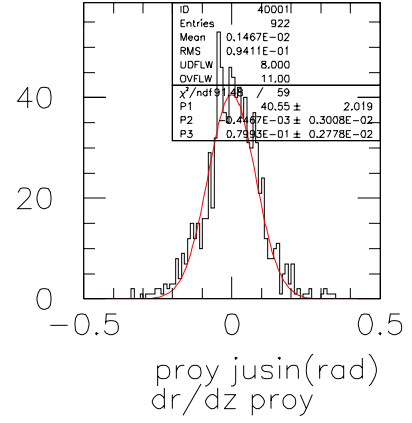
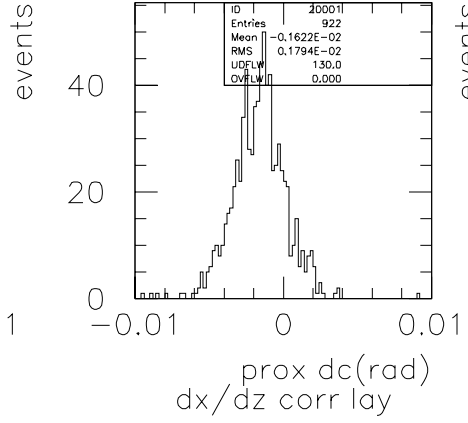
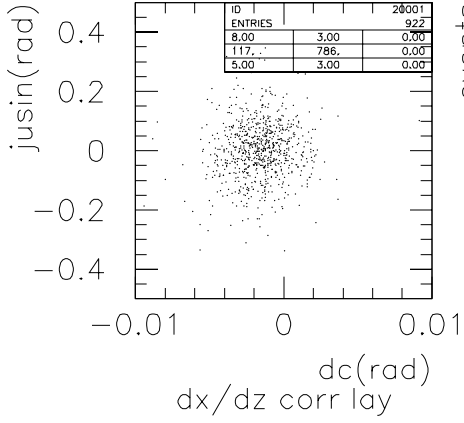
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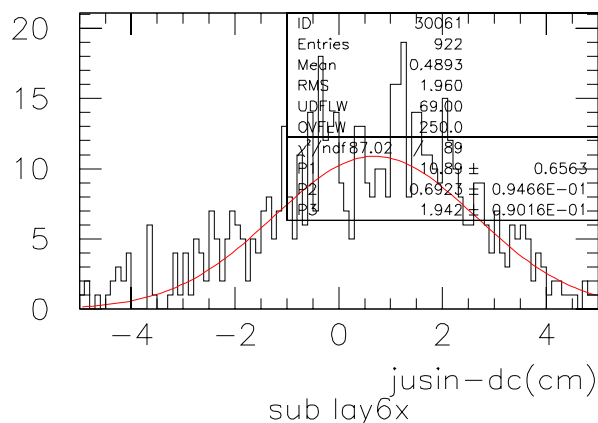
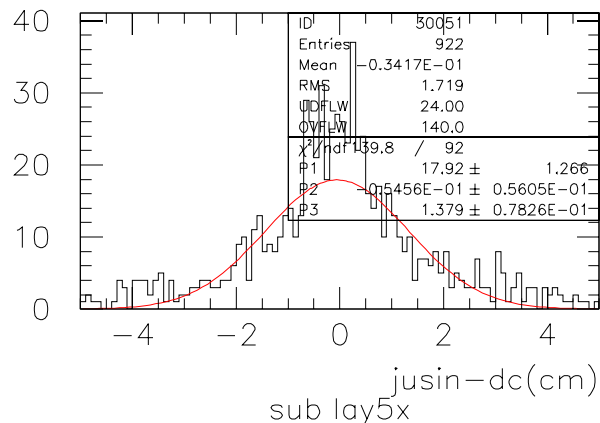
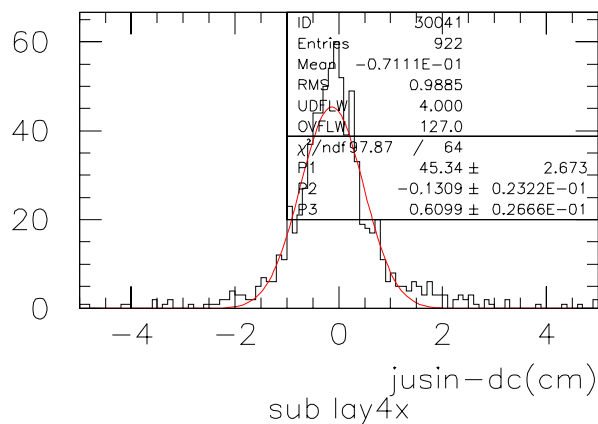
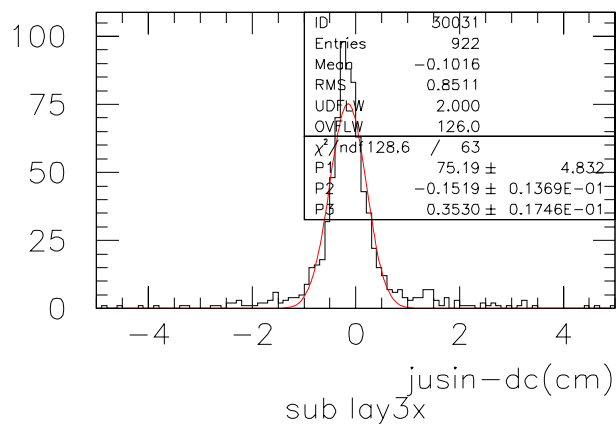
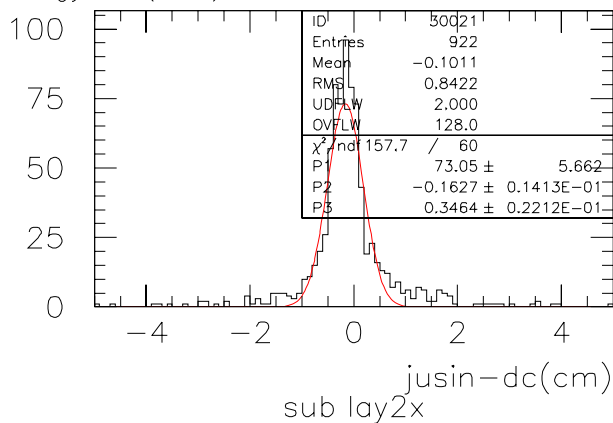
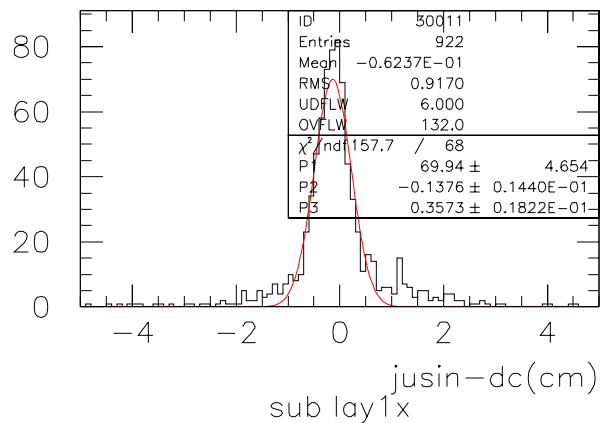
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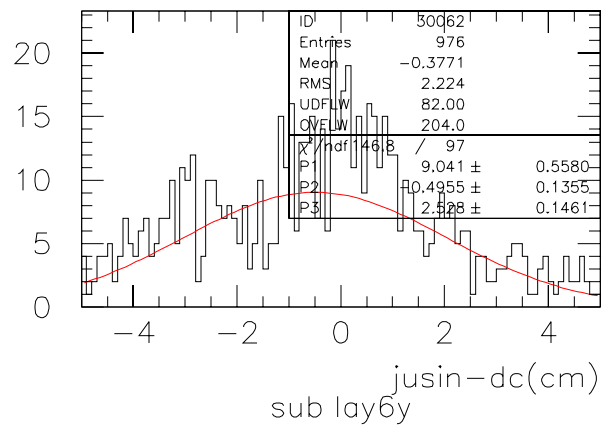
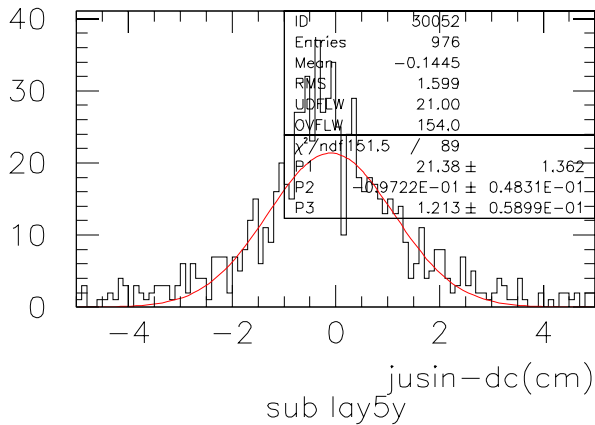
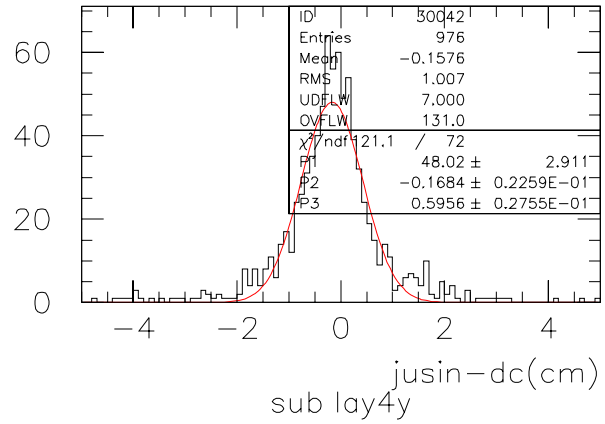
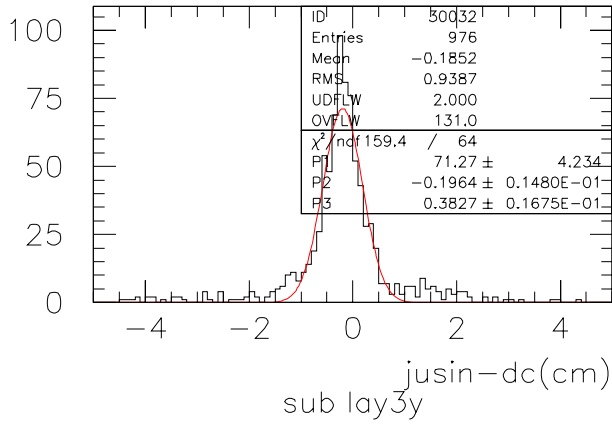
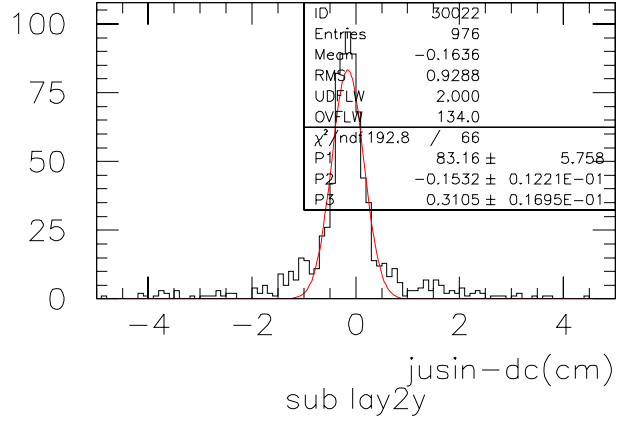
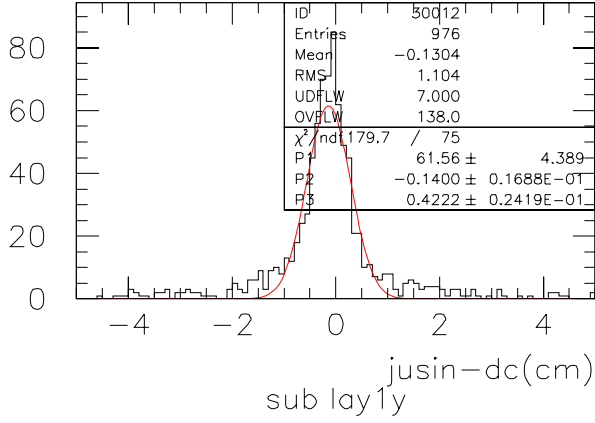
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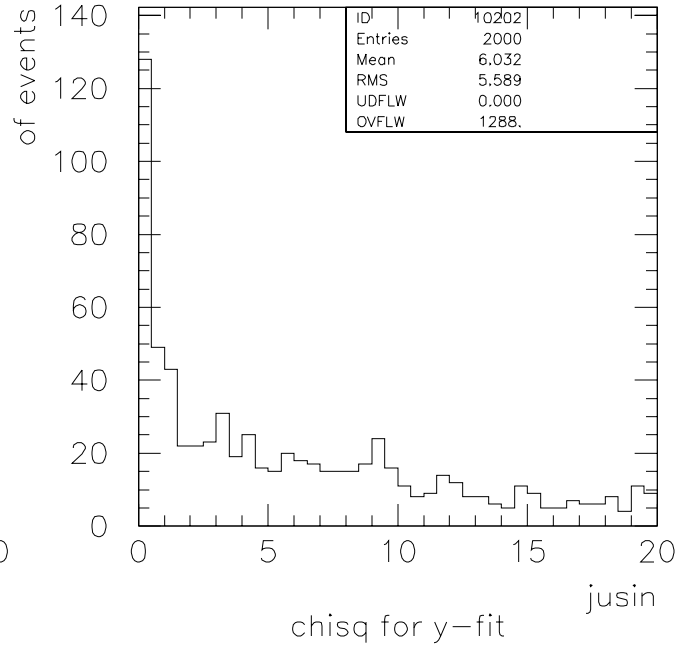
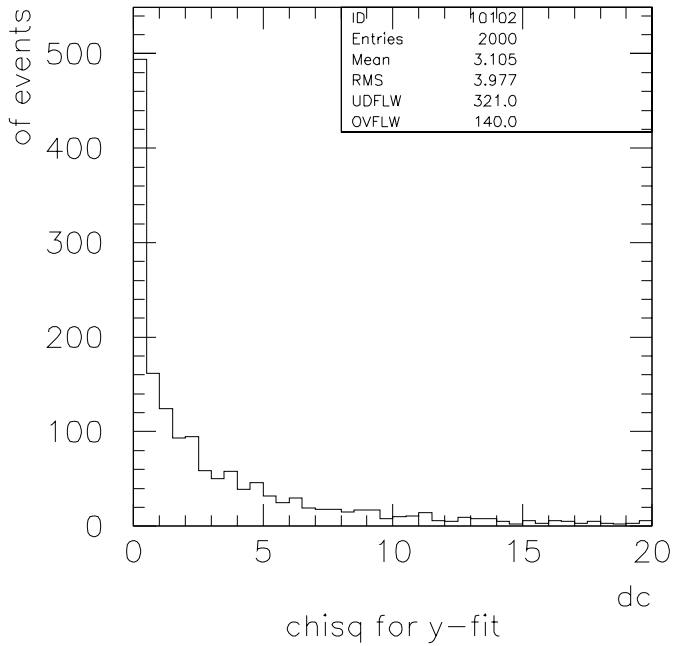
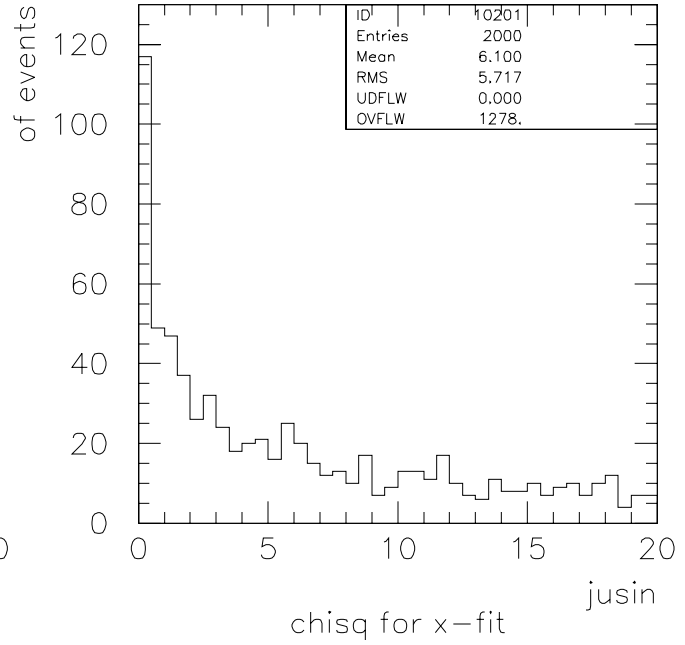
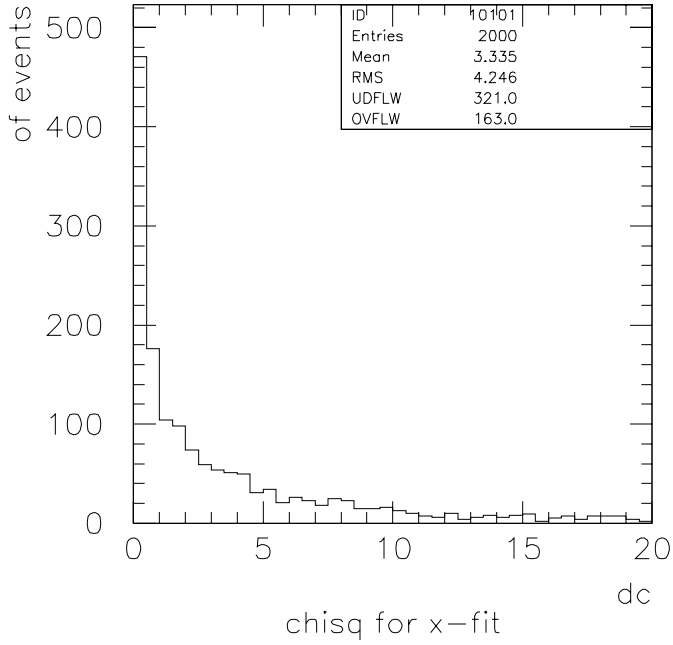
run00245 energy -3(Gev)



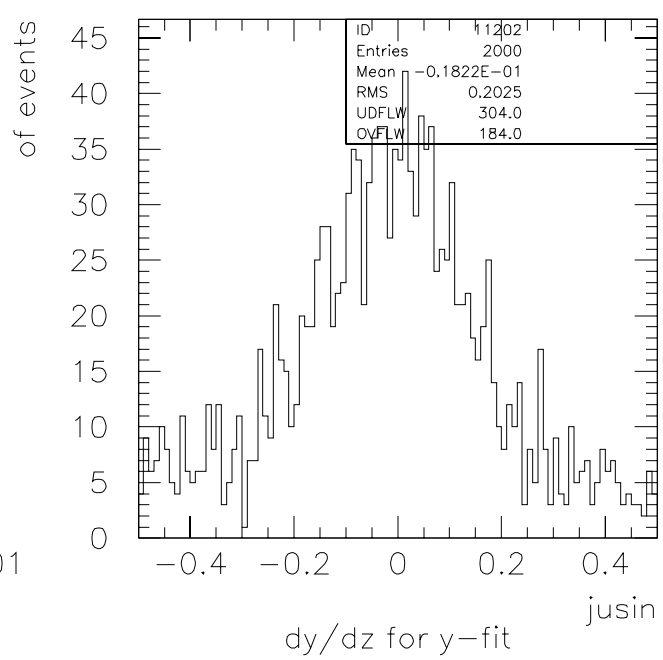
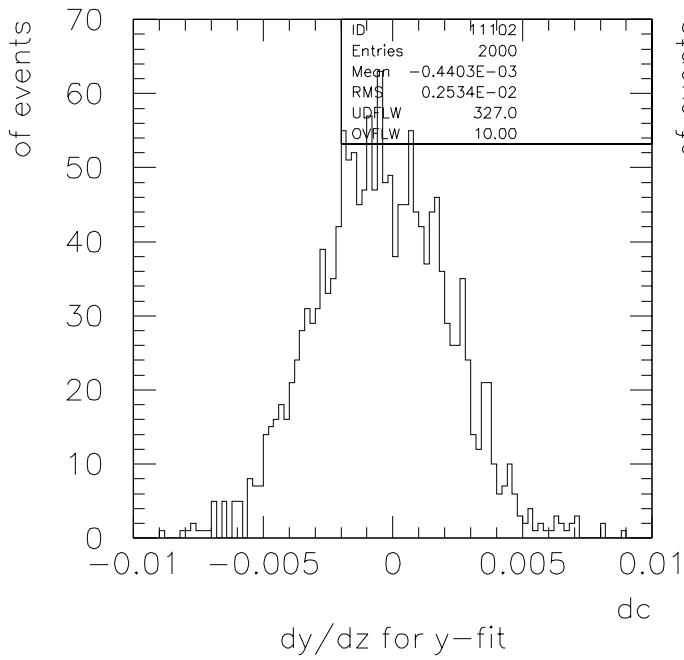
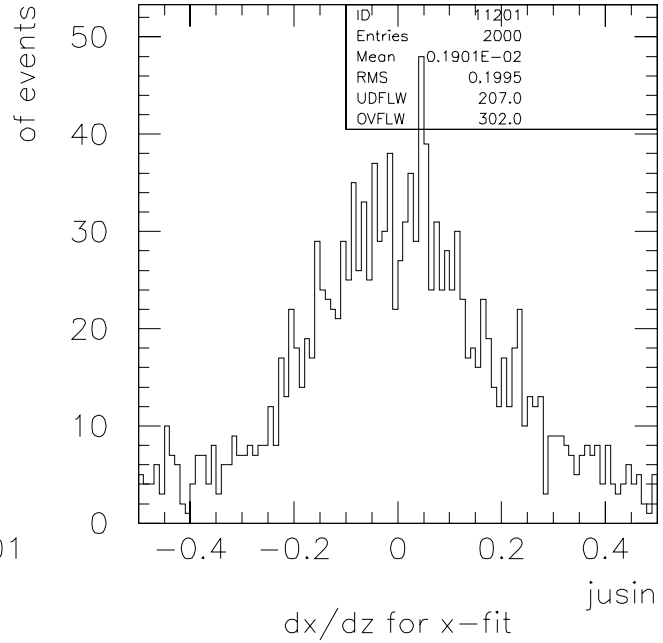
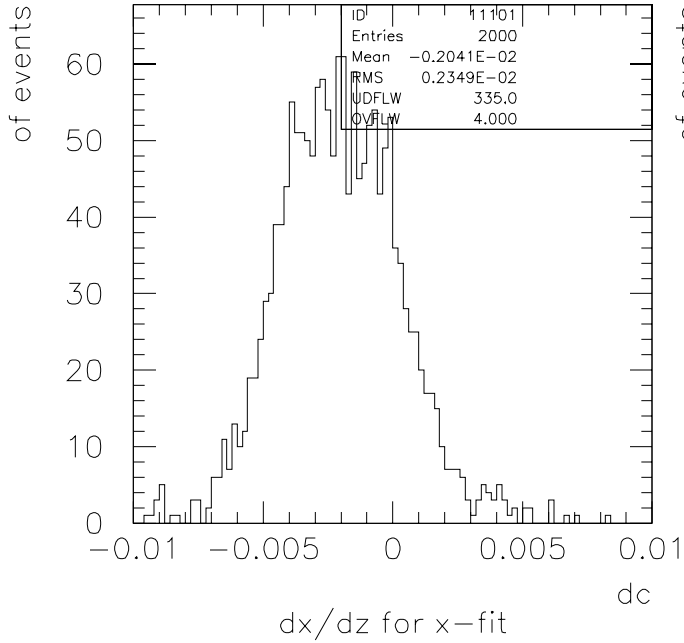
run00245 energy -3(Gev)



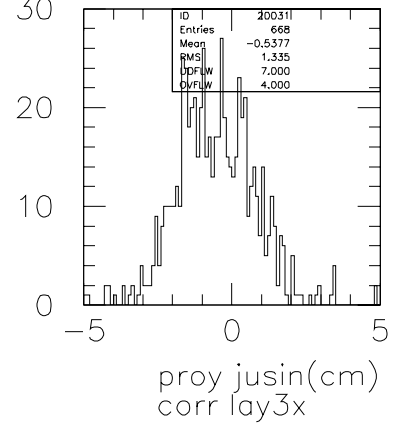
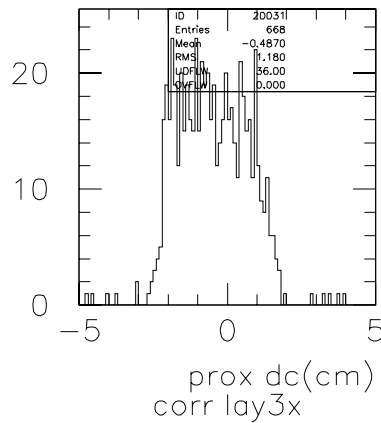
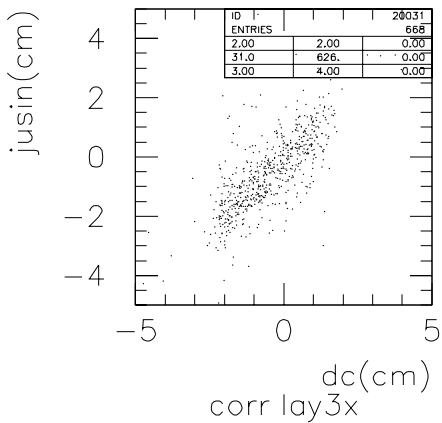
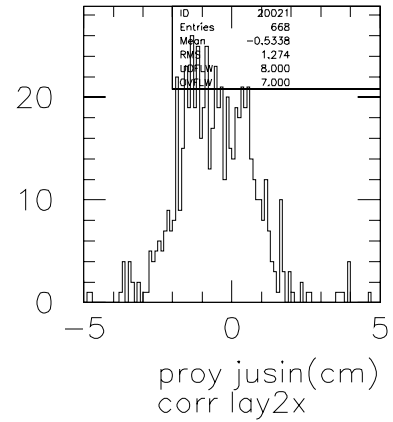
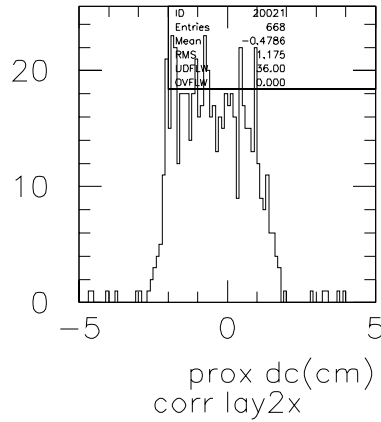
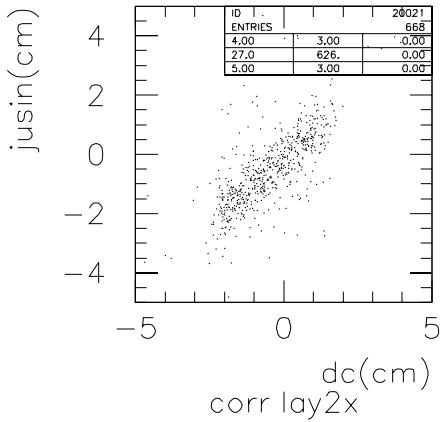
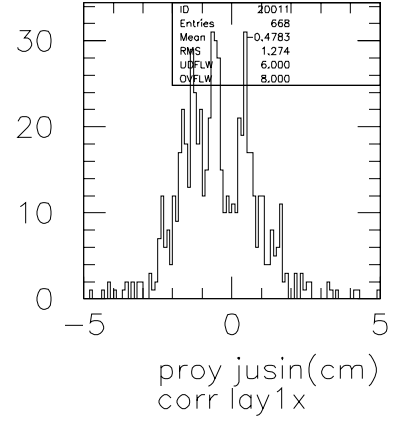
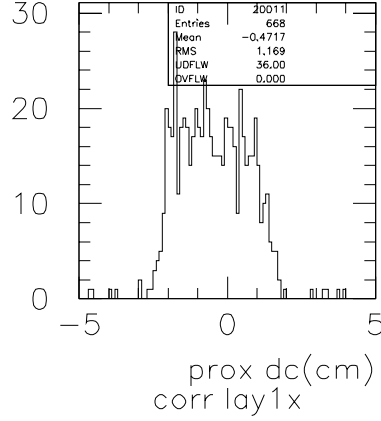
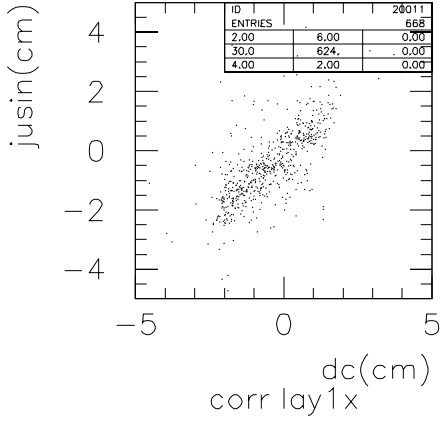
run00253 energy -1(Gev)



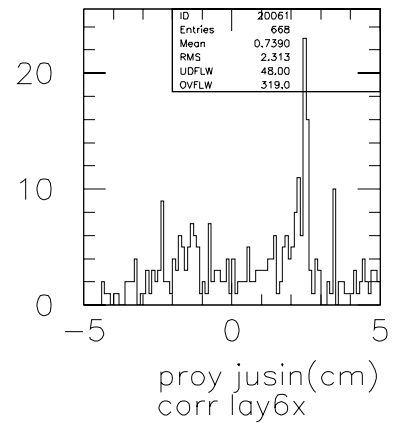
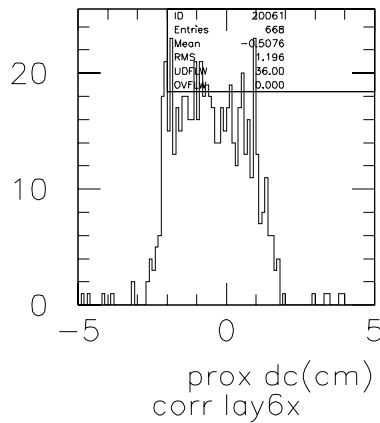
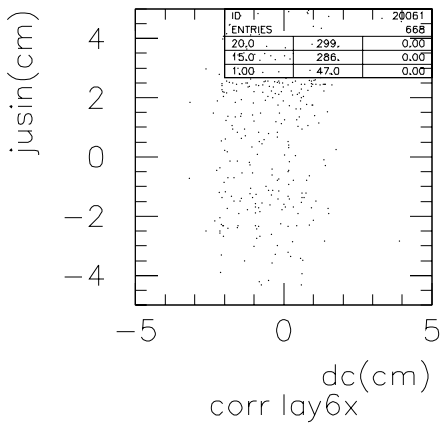
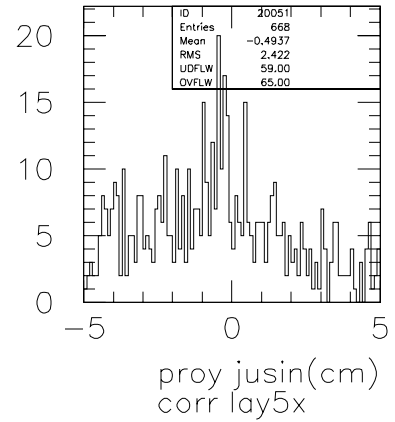
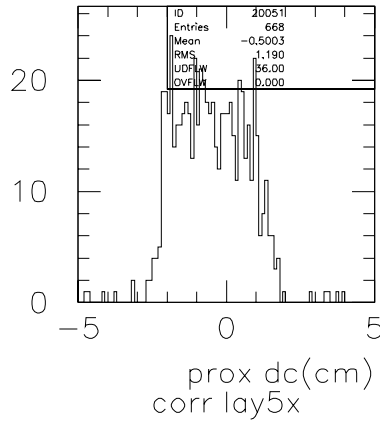
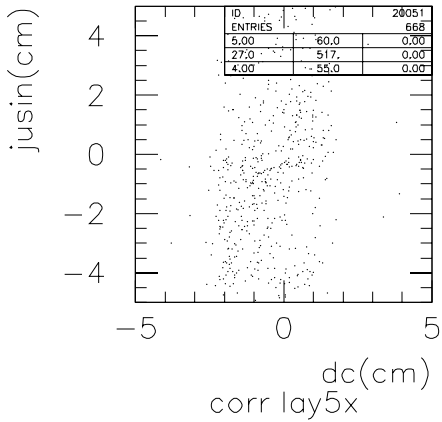
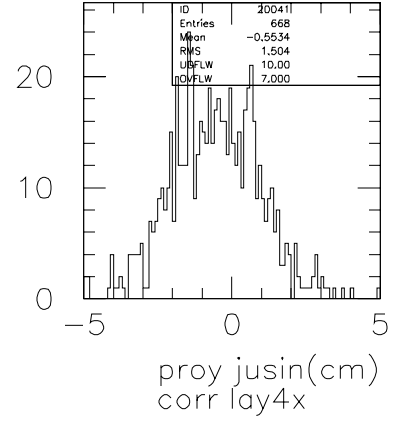
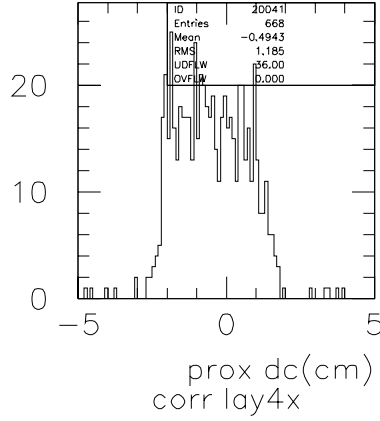
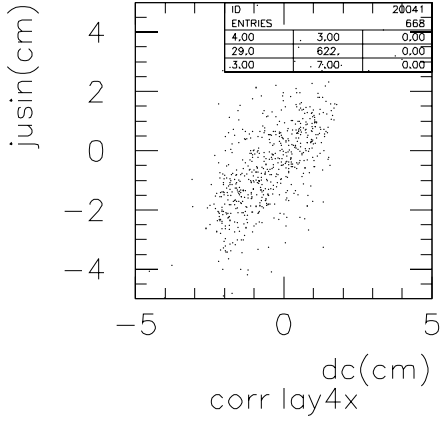
run00253 energy -1(Gev)



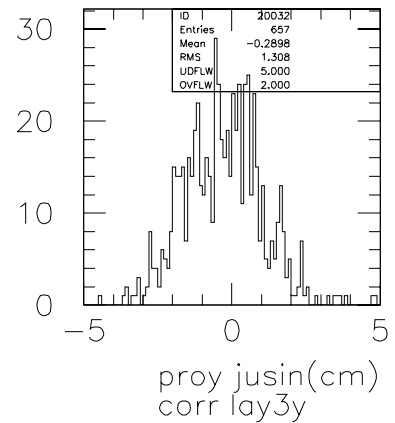
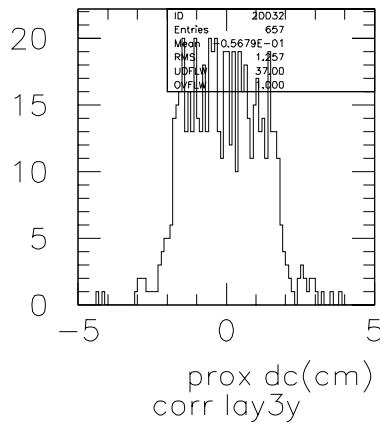
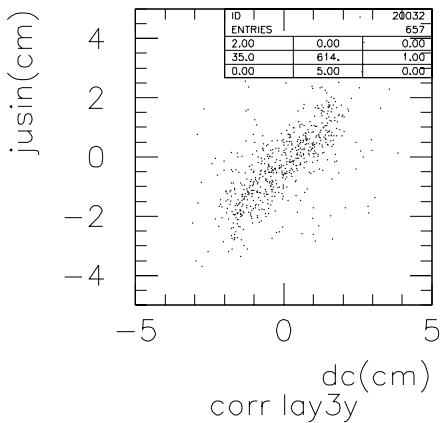
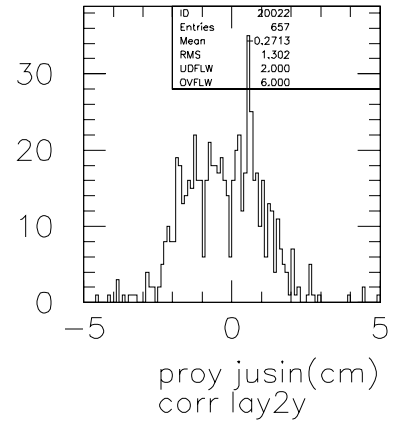
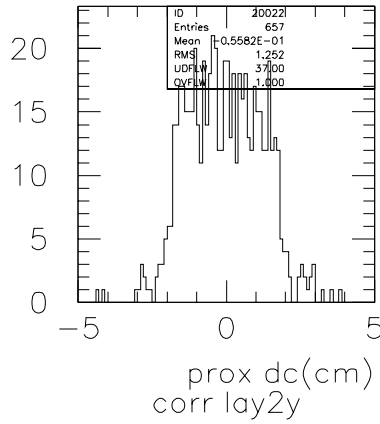
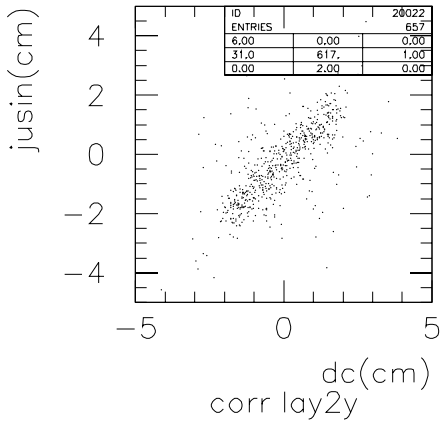
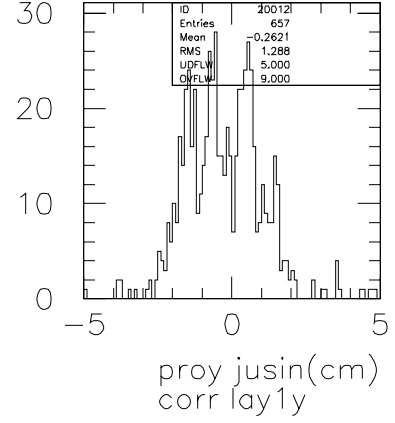
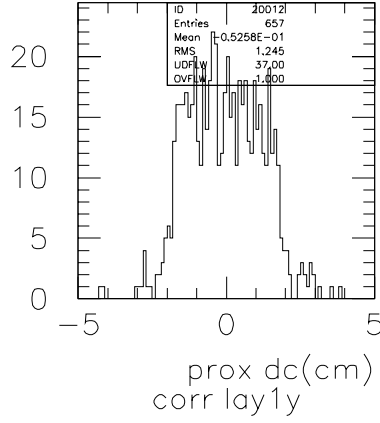
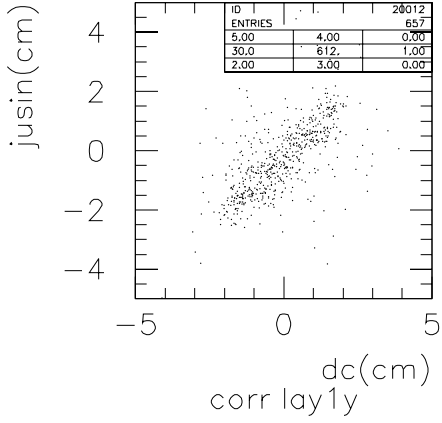
run00253 energy -1(Gev)



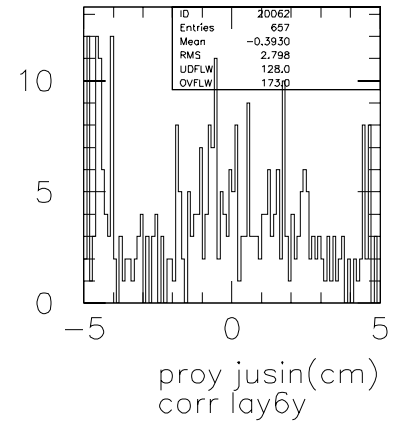
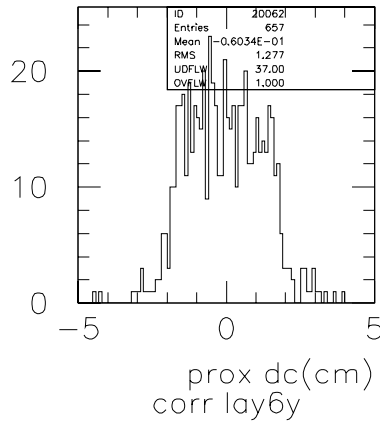
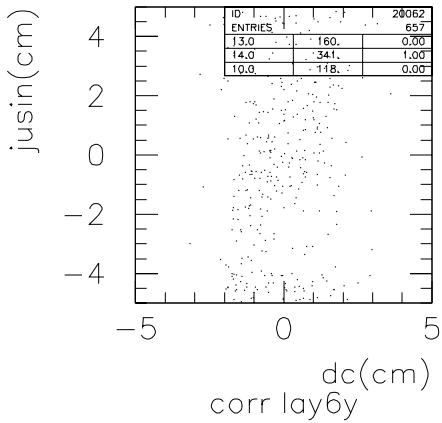
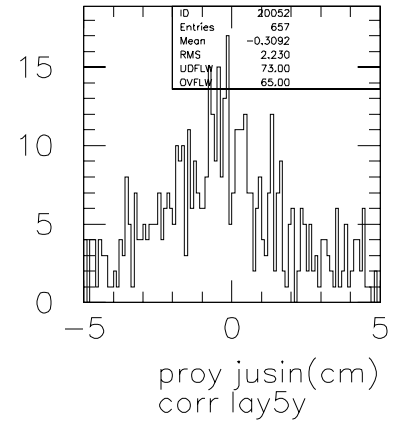
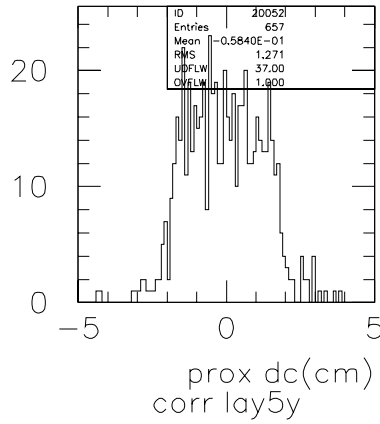
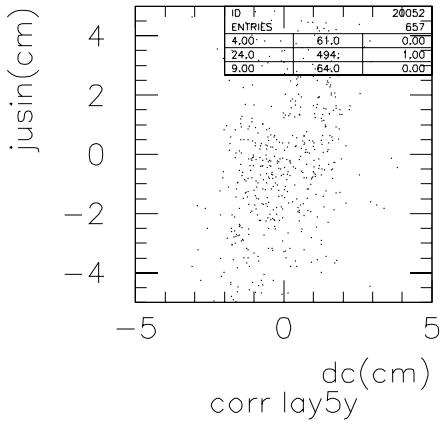
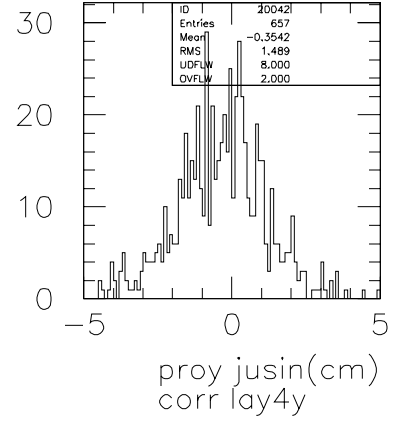
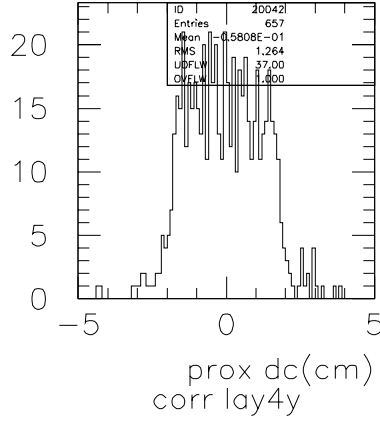
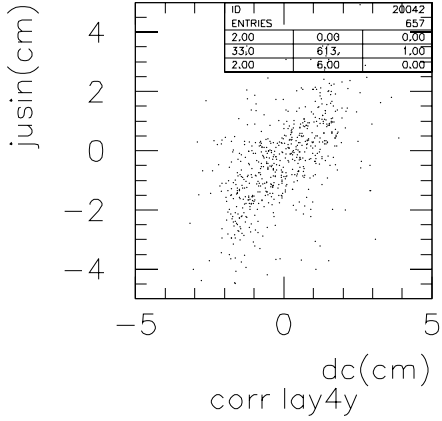
run00253 energy -1(Gev)



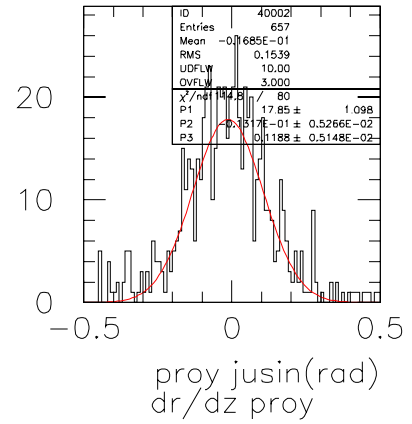
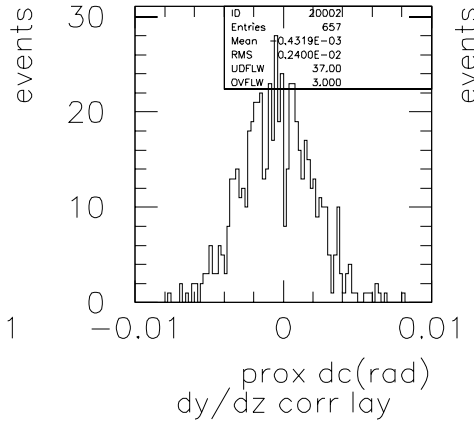
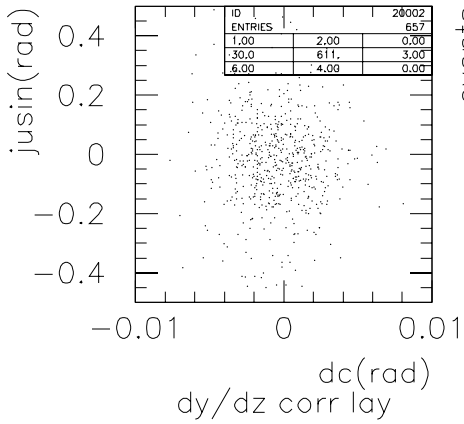
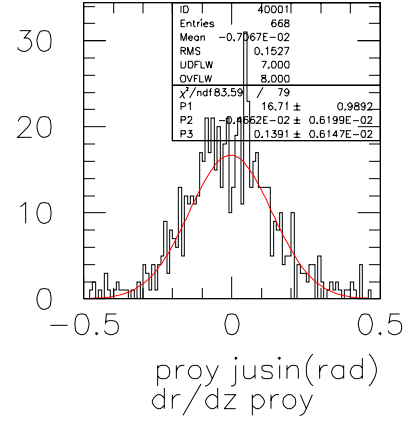
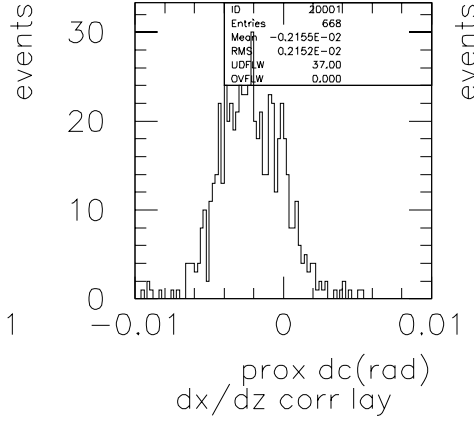
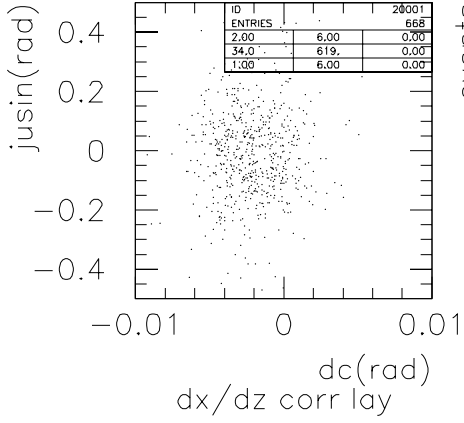
run00253 energy -1(Gev)



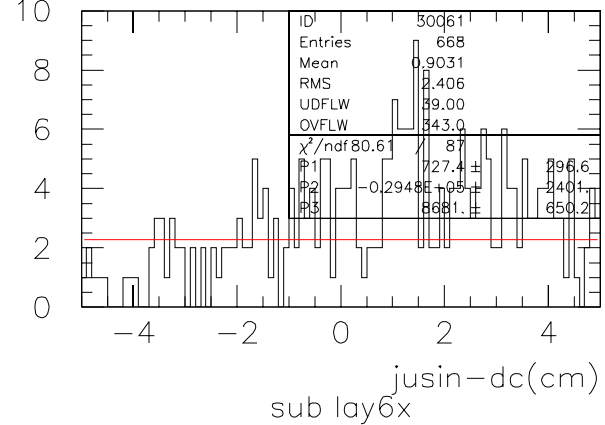
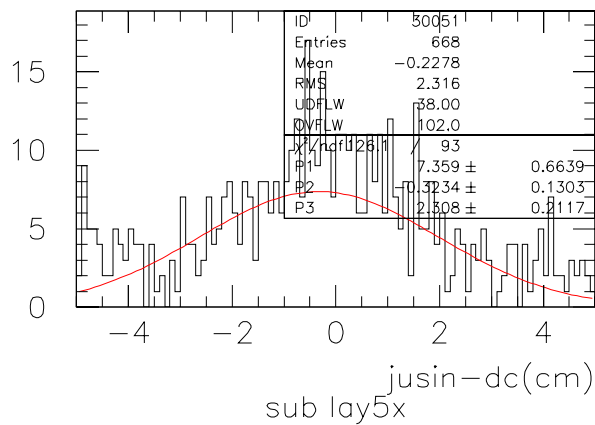
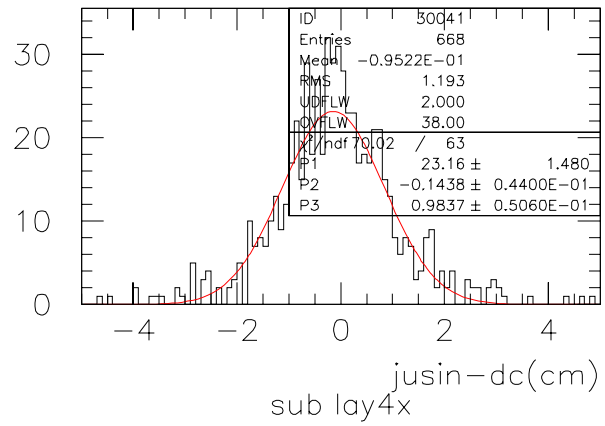
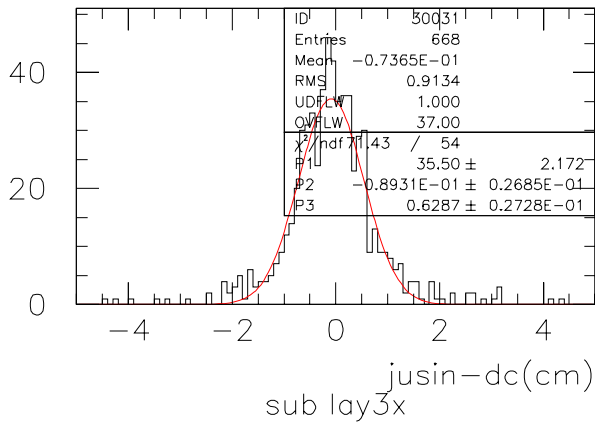
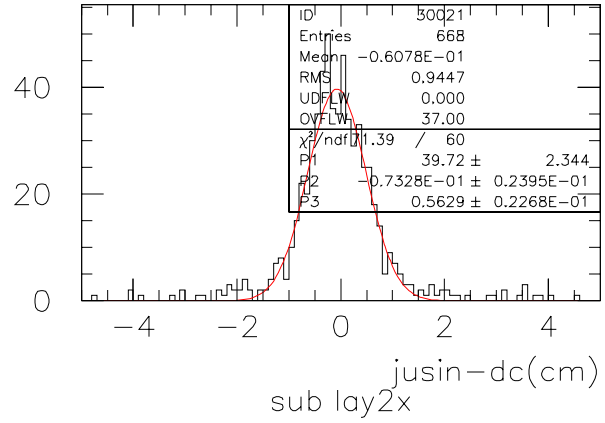
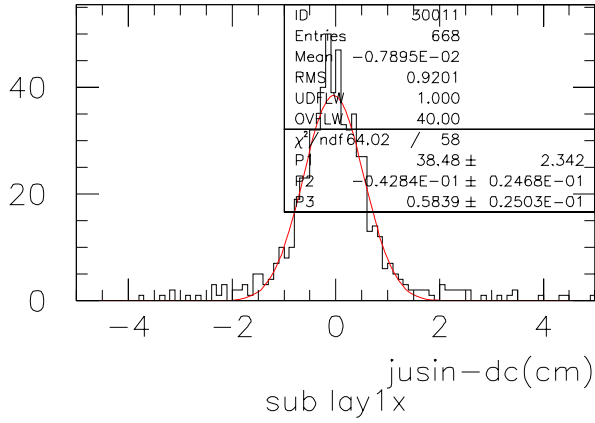
run00253 energy -1(Gev)



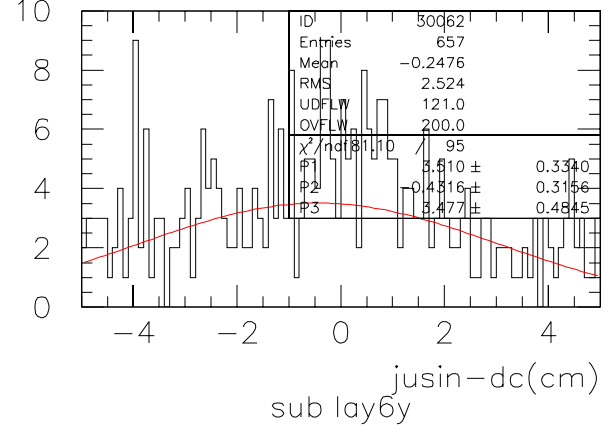
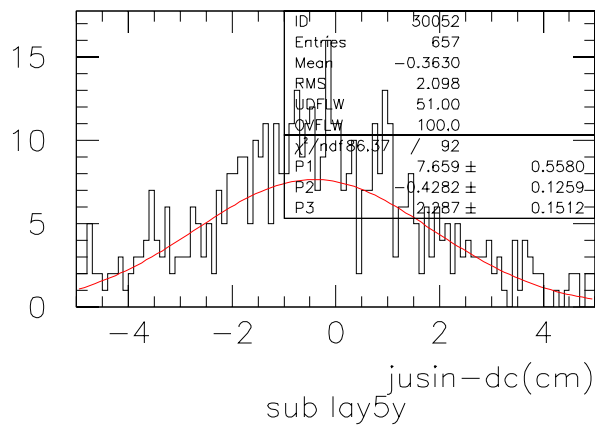
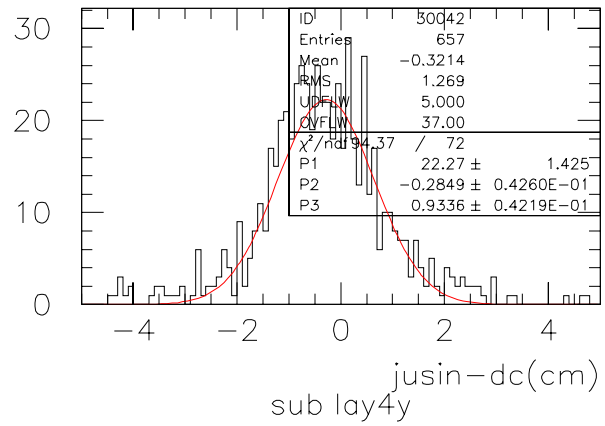
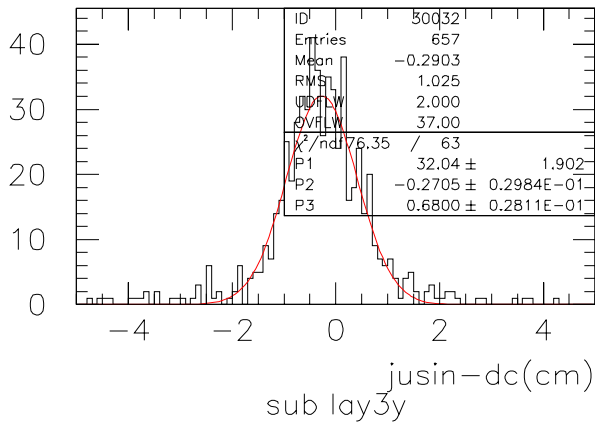
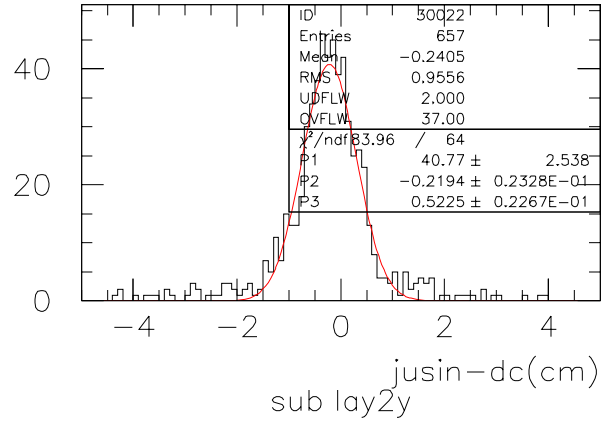
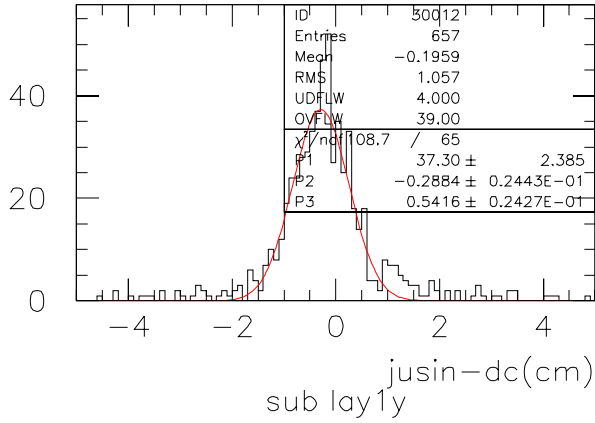
run00253 energy -1(Gev)



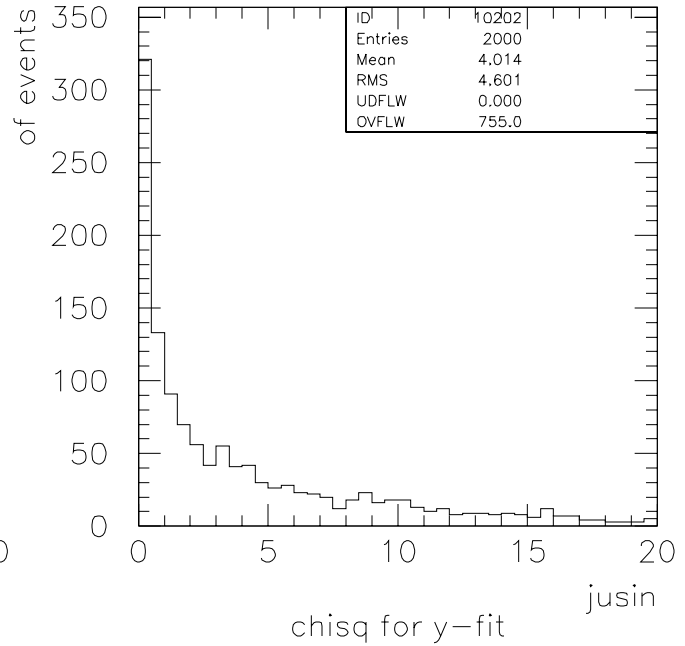
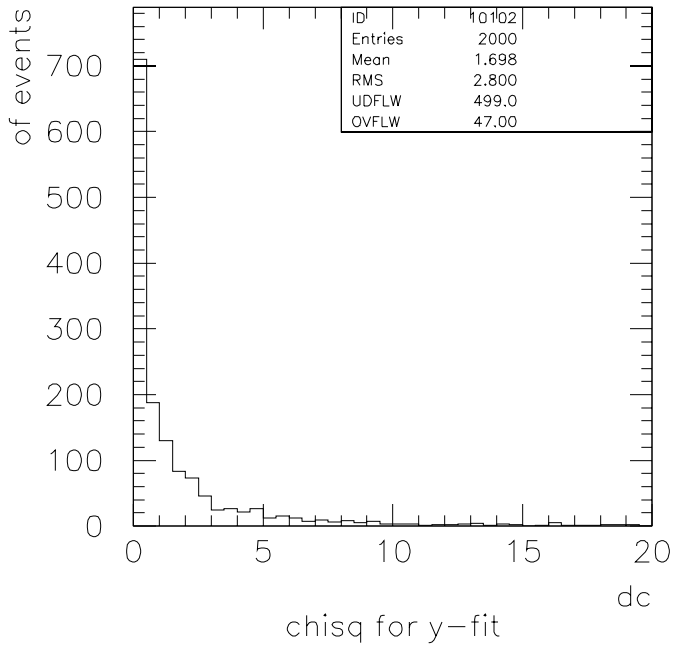
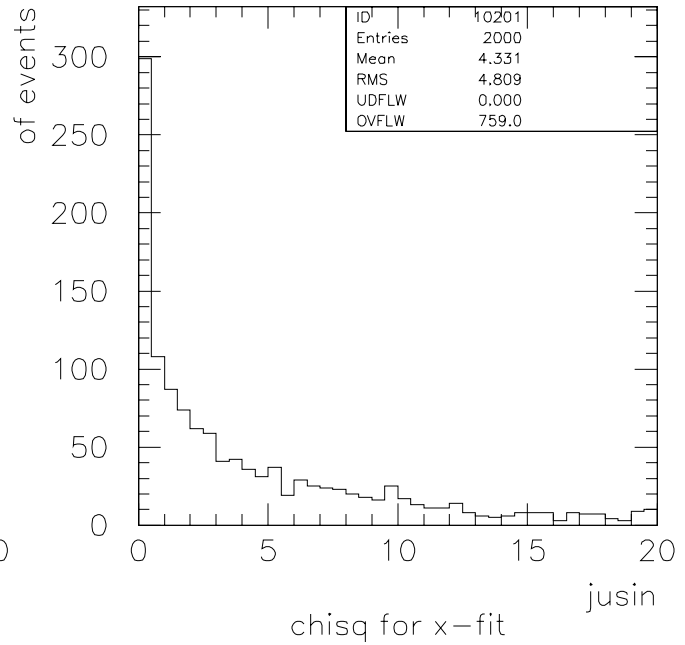
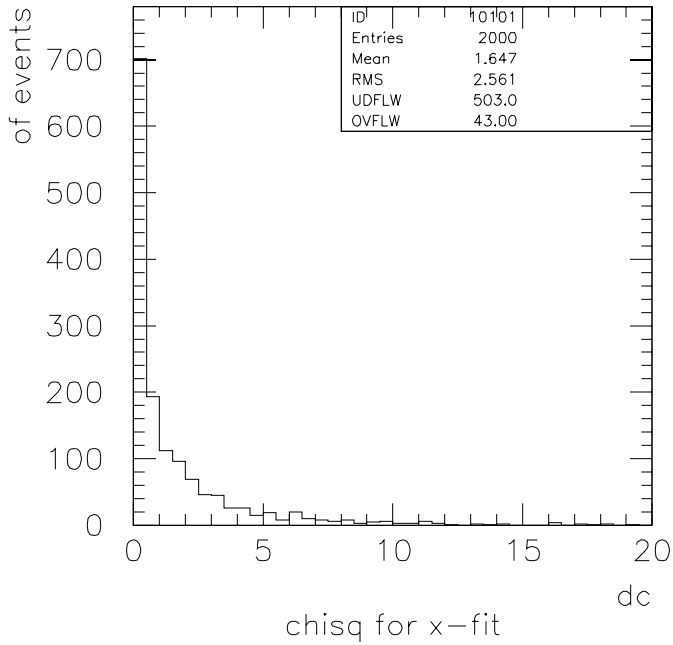
run00253 energy -1(Gev)



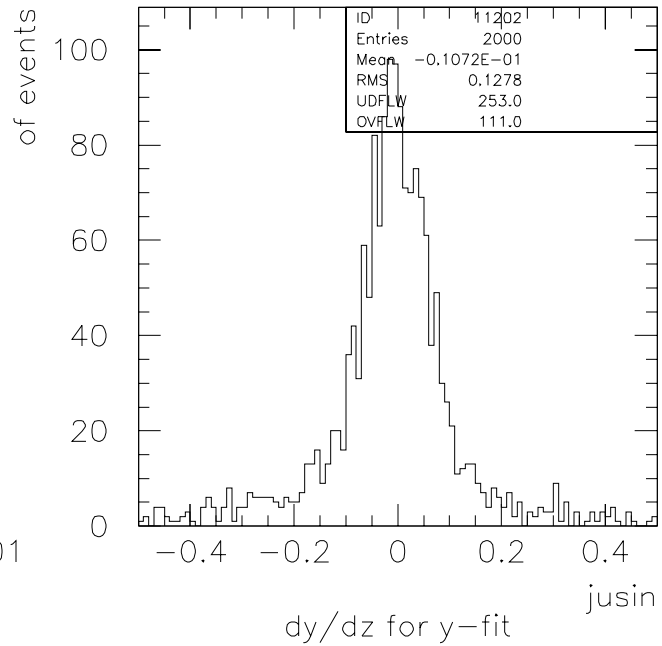
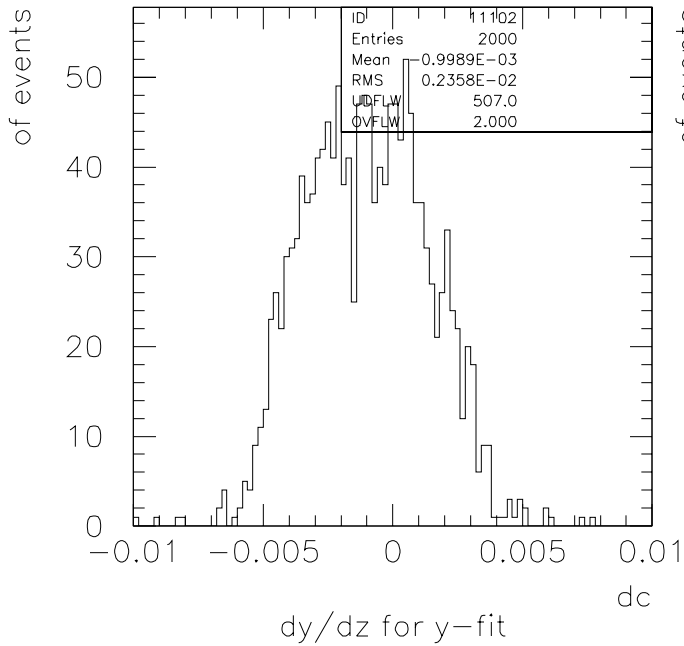
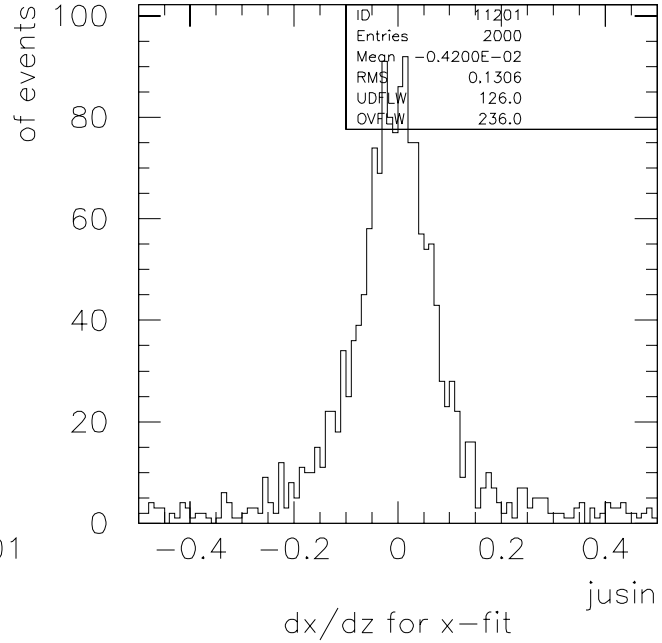
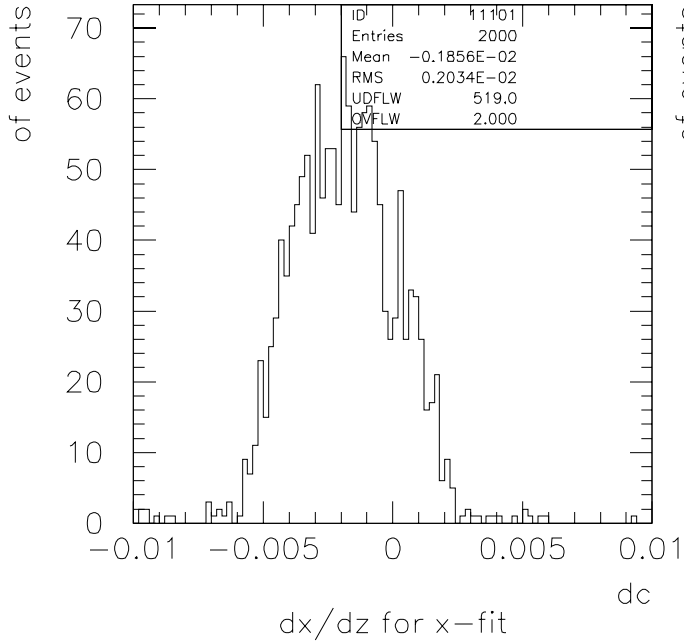
run00253 energy -1(Gev)



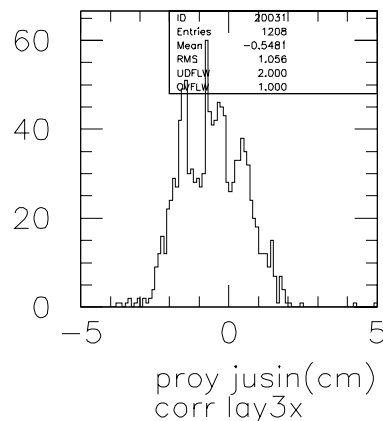
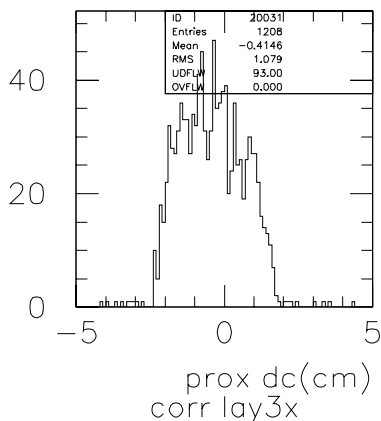
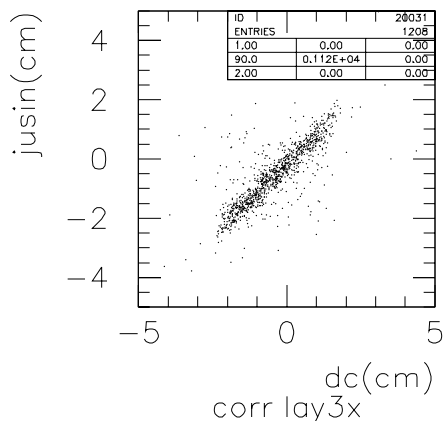
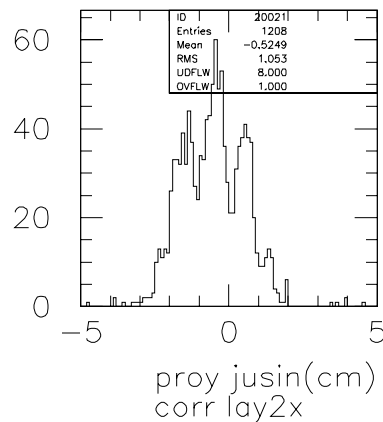
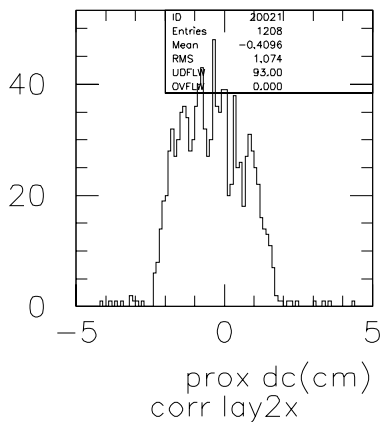
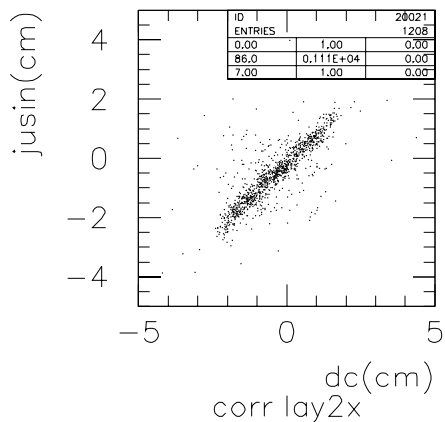
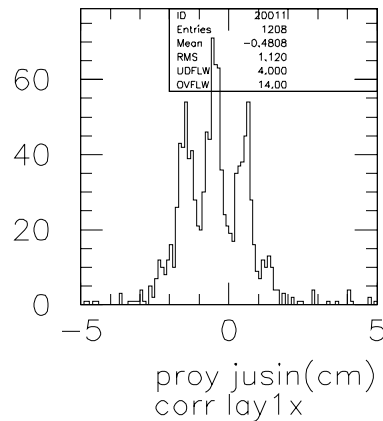
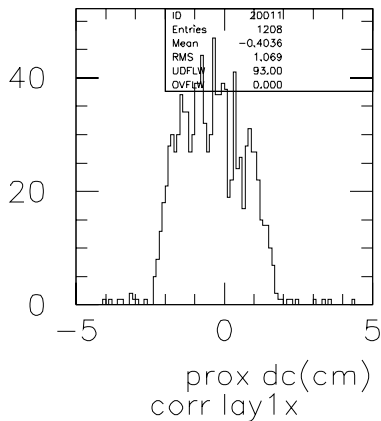
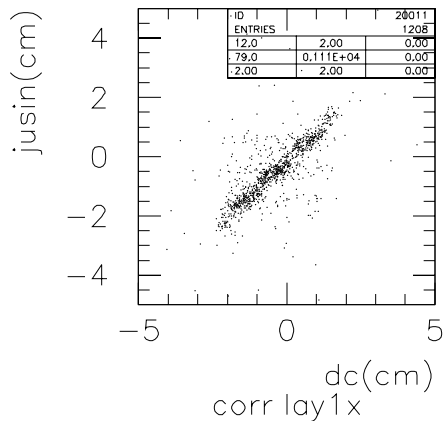
run00254 energy -4(Gev)



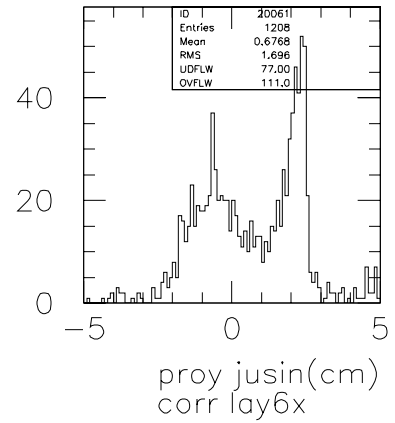
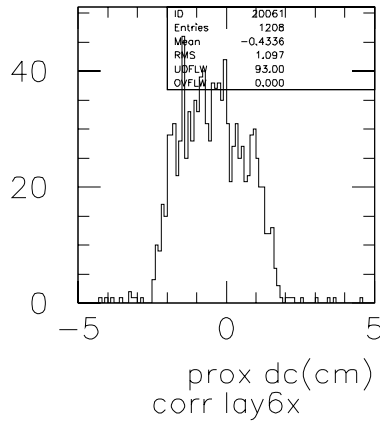
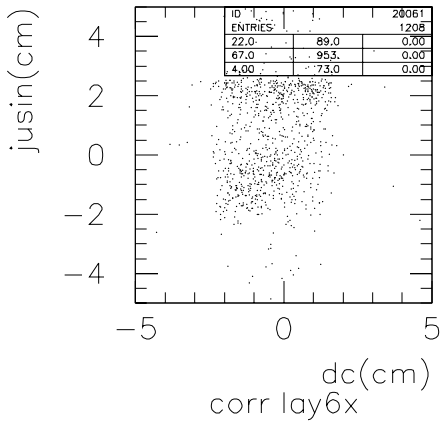
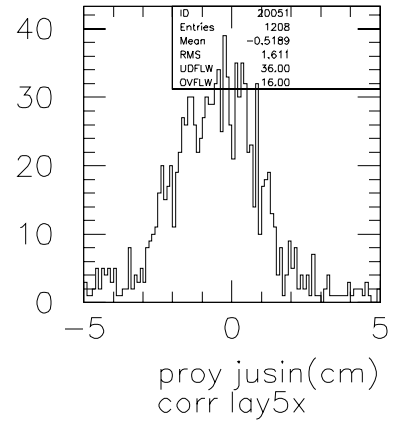
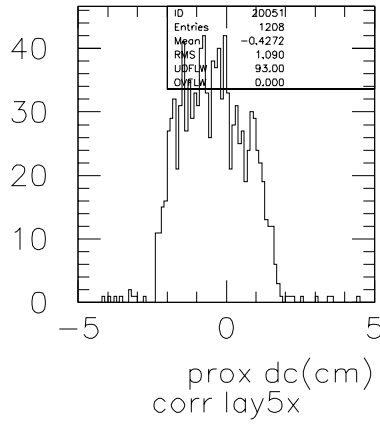
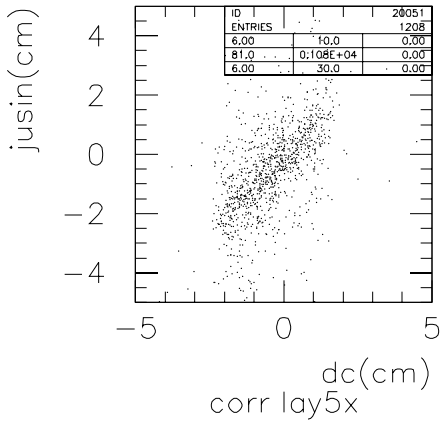
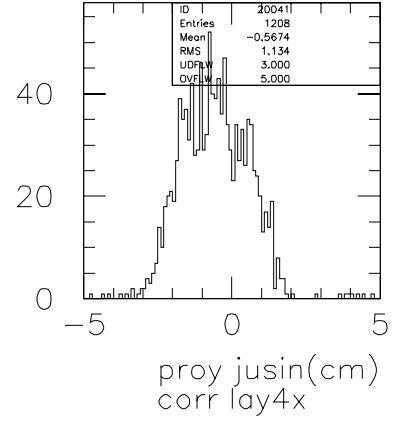
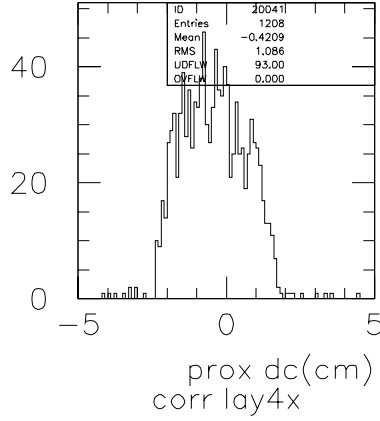
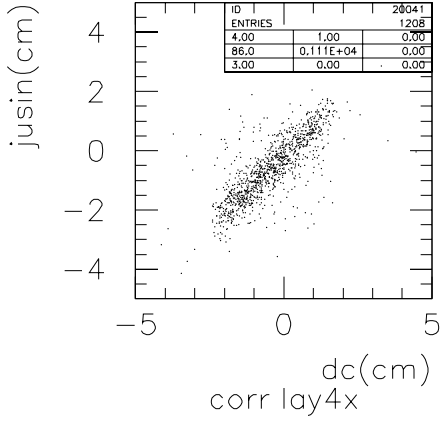
run00254 energy -4(Gev)



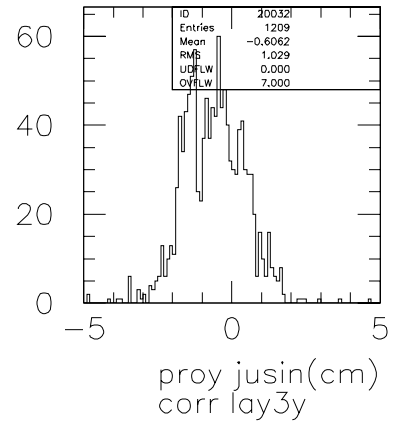
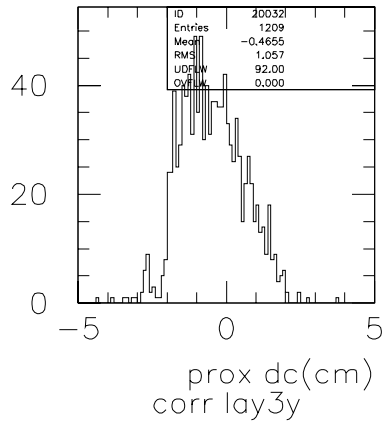
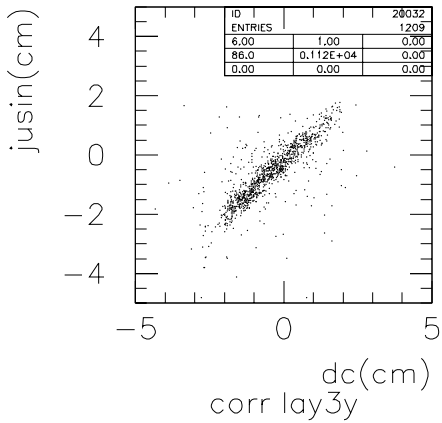
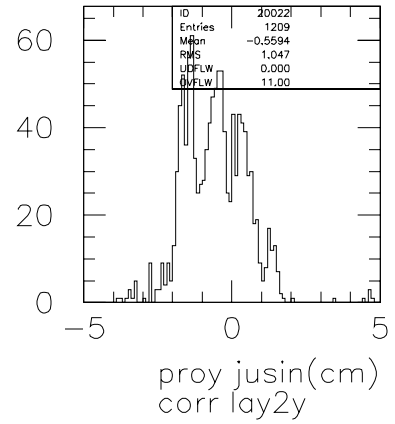
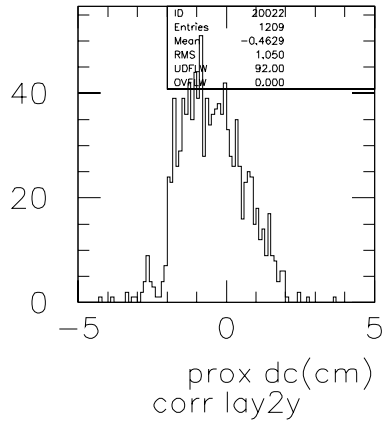
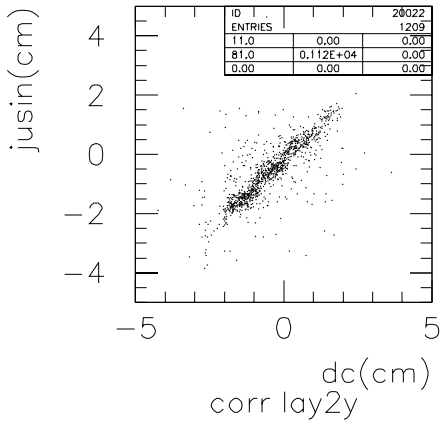
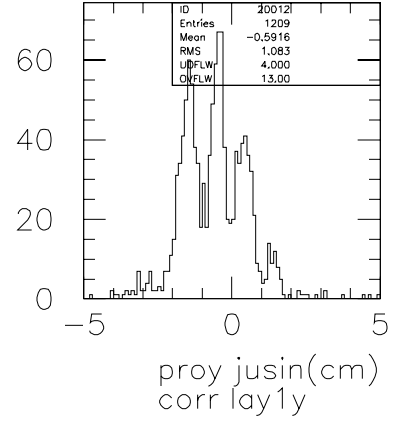
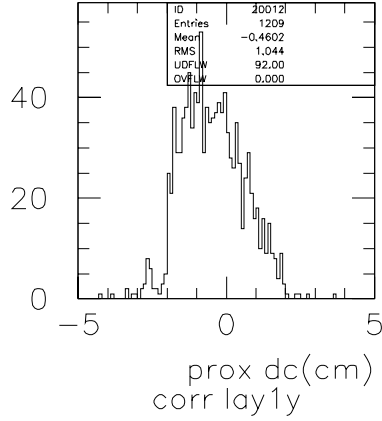
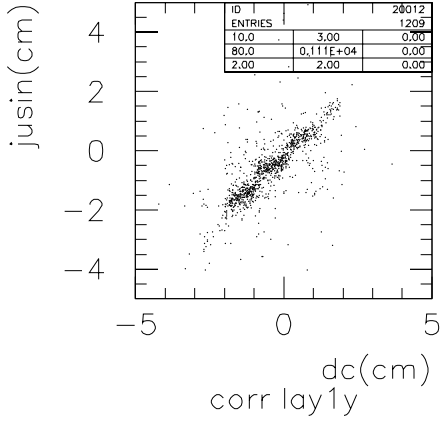
run00254 energy -4(Gev)



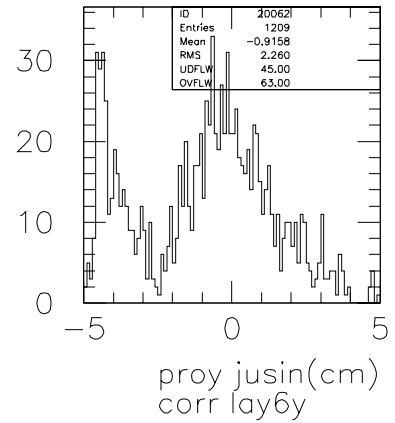
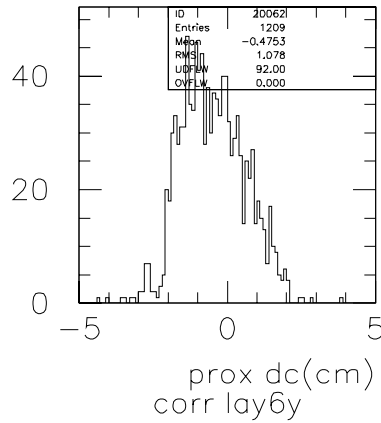
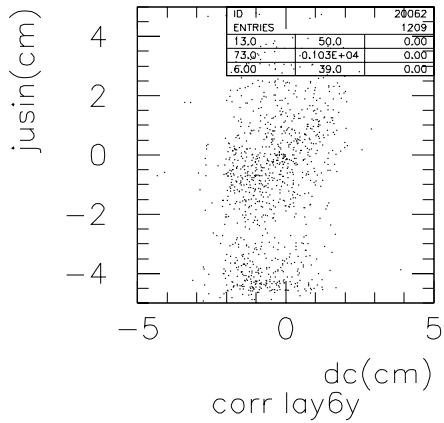
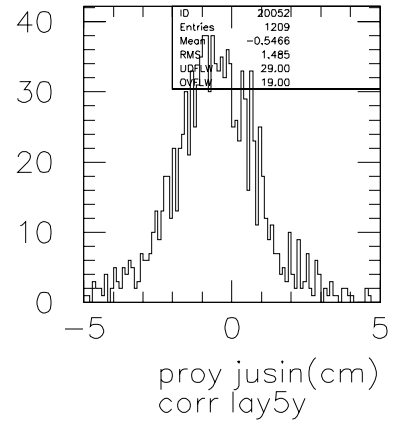
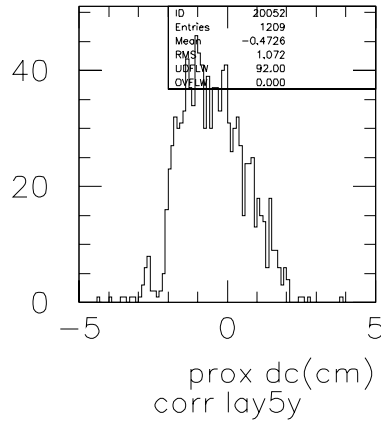
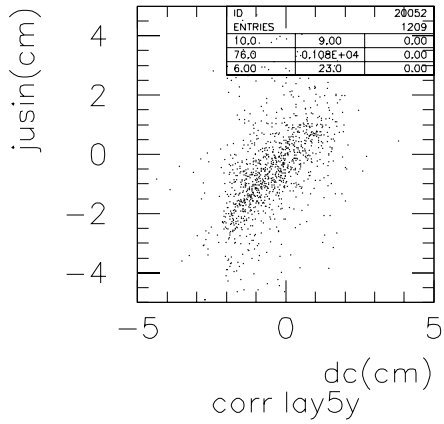
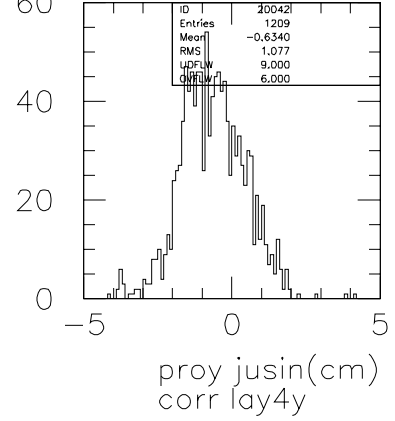
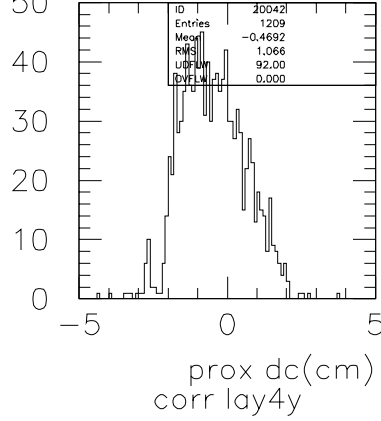
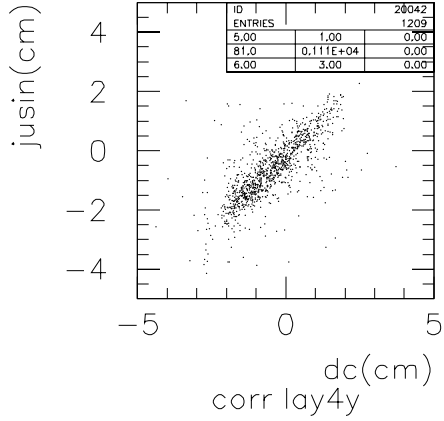
run00254 energy -4(Gev)



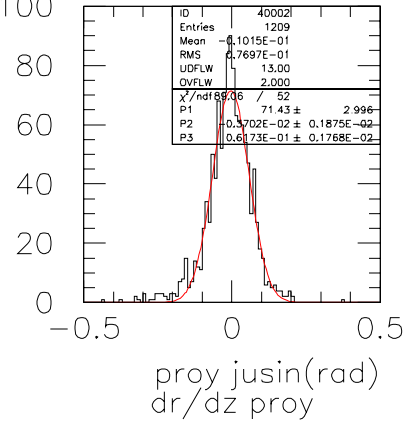
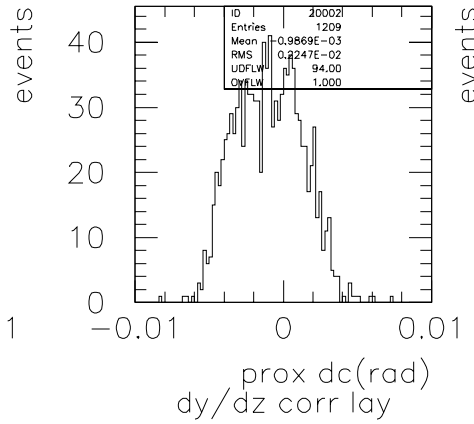
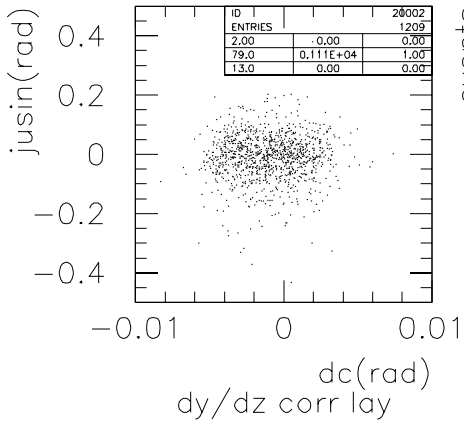
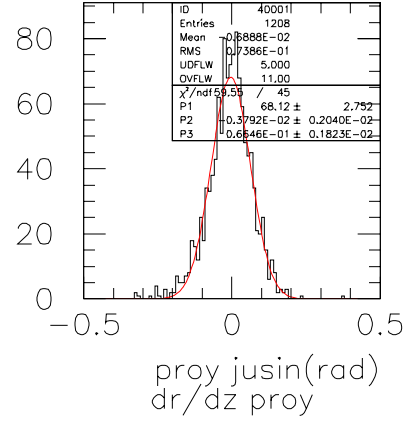
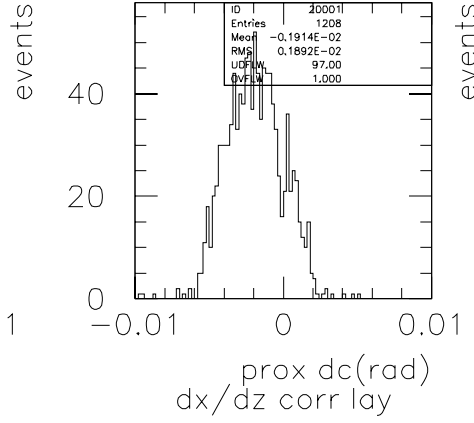
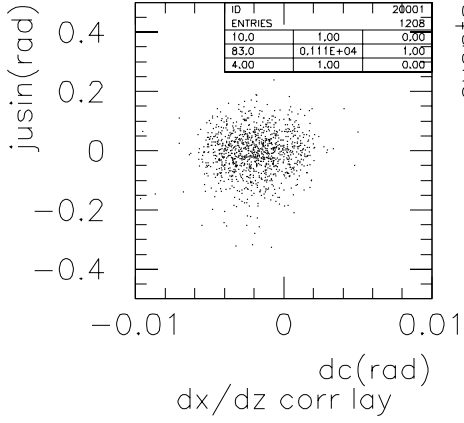
run00254 energy -4(Gev)



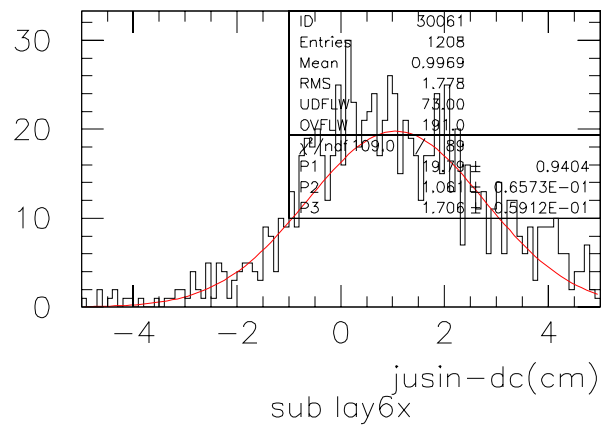
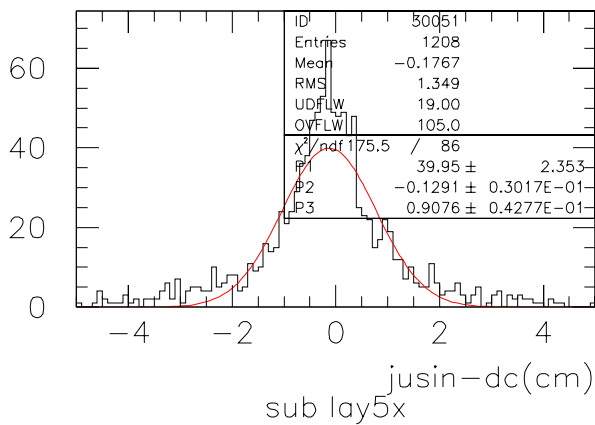
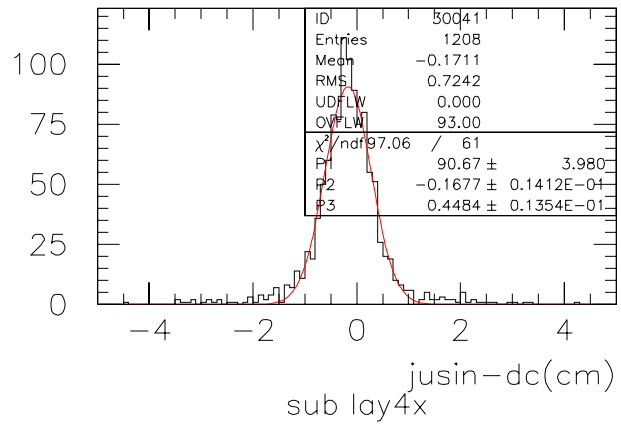
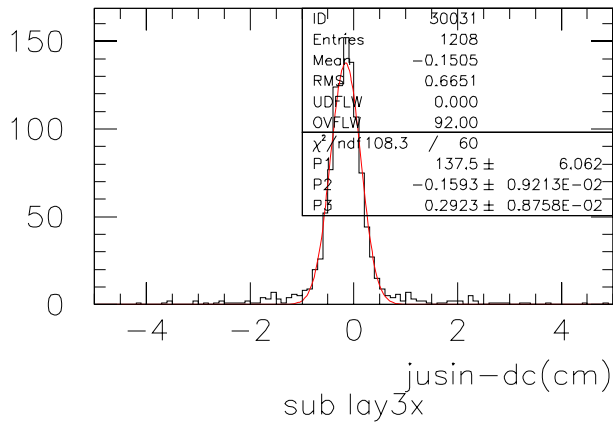
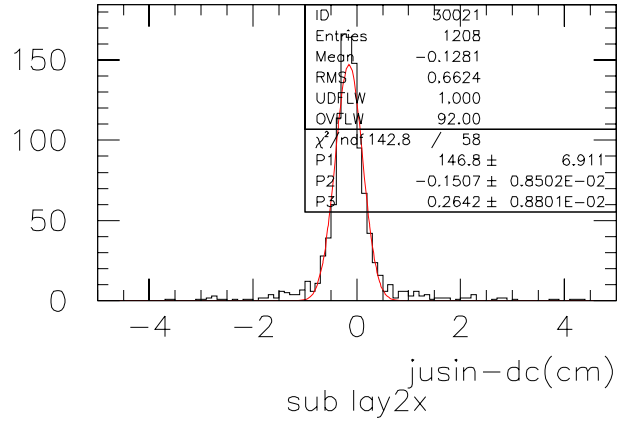
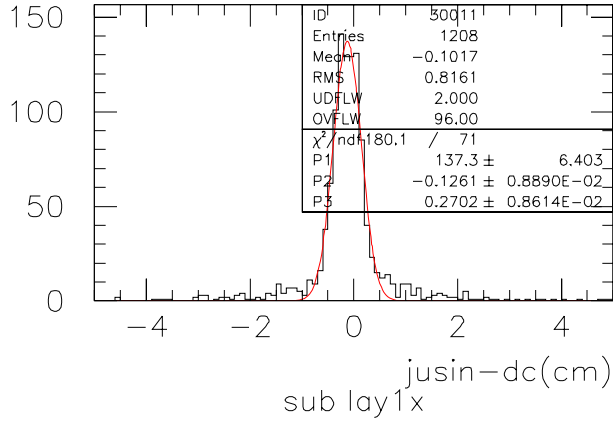
run00254 energy -4(Gev)



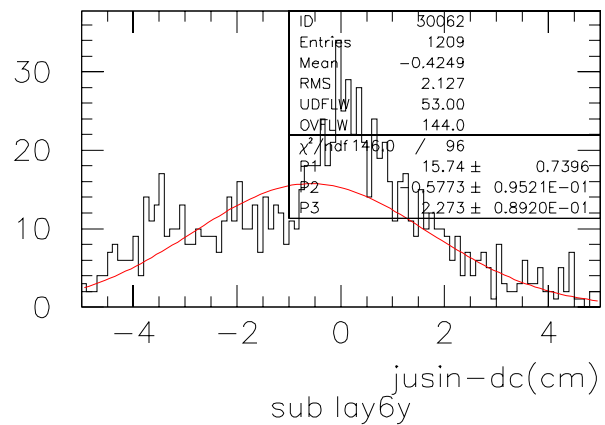
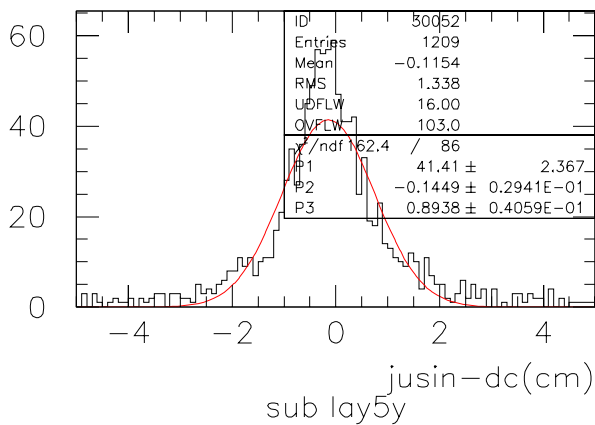
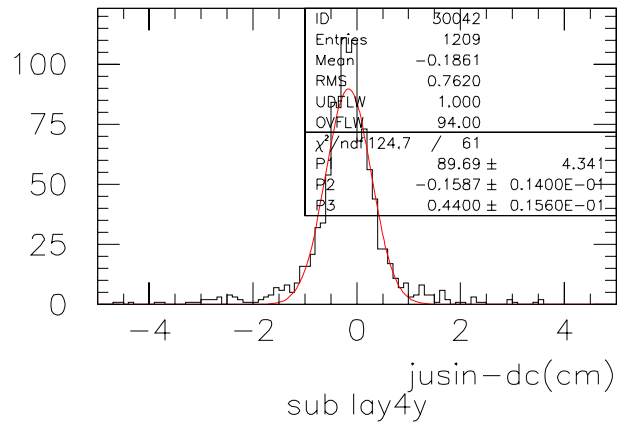
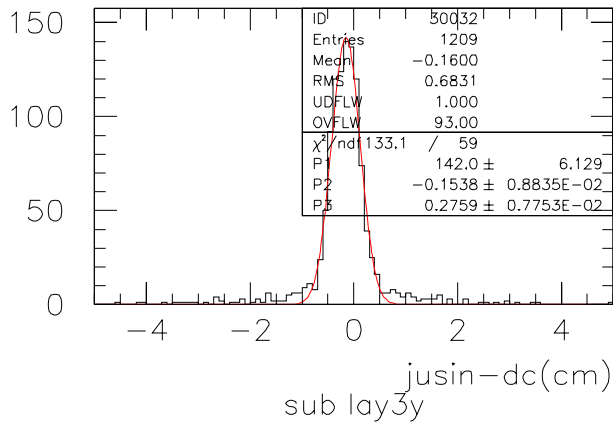
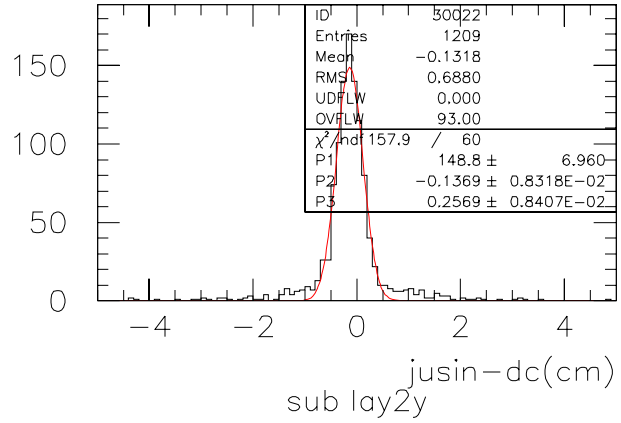
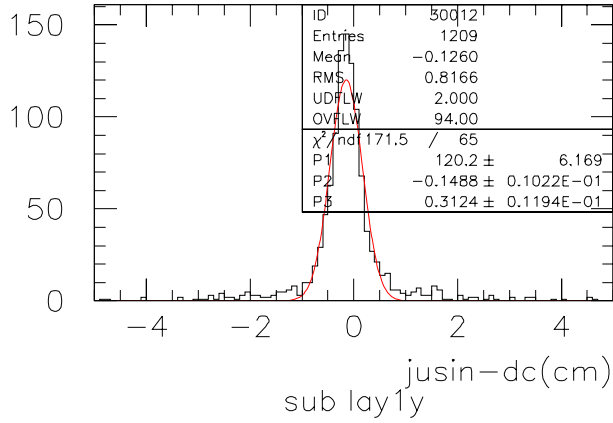
run00254 energy -4(Gev)



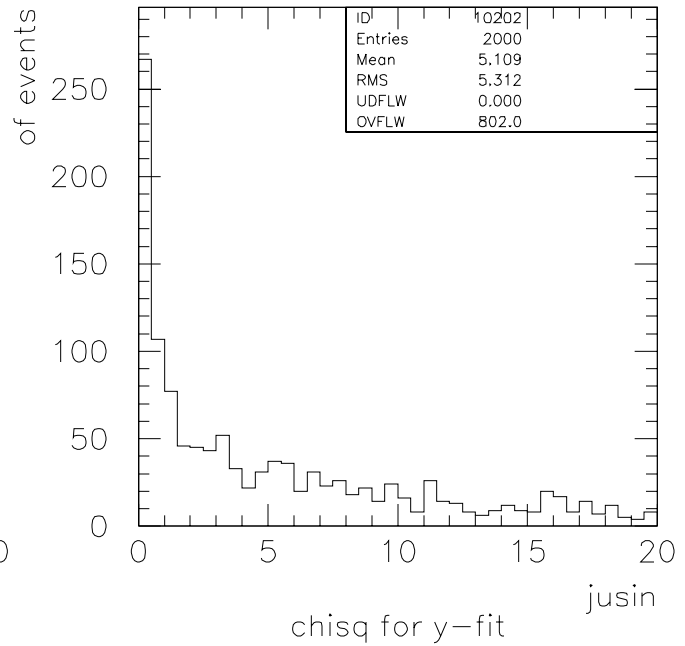
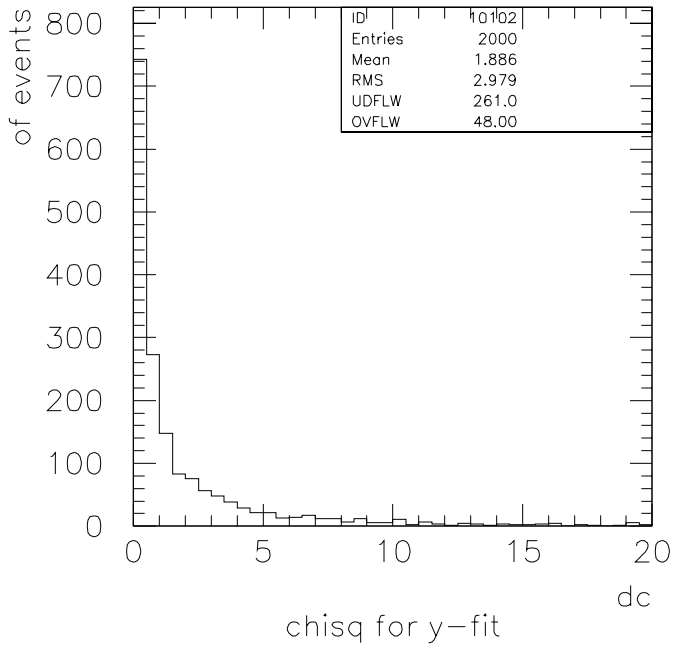
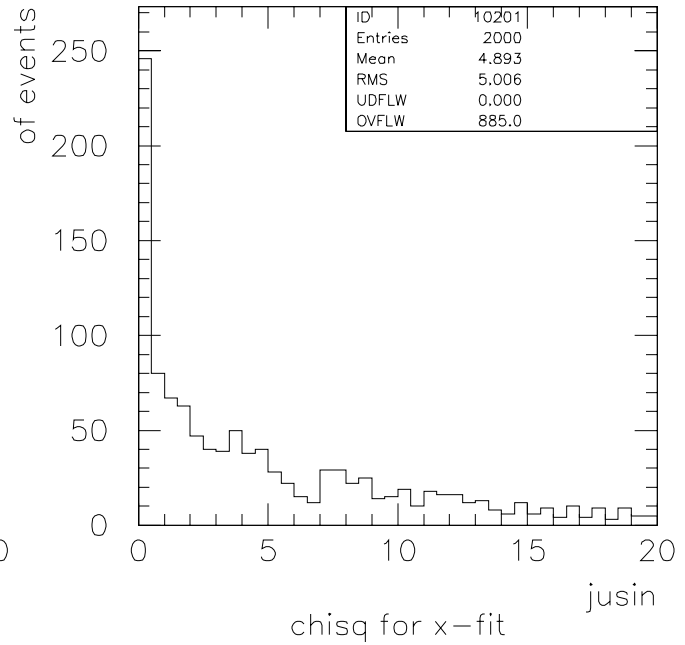
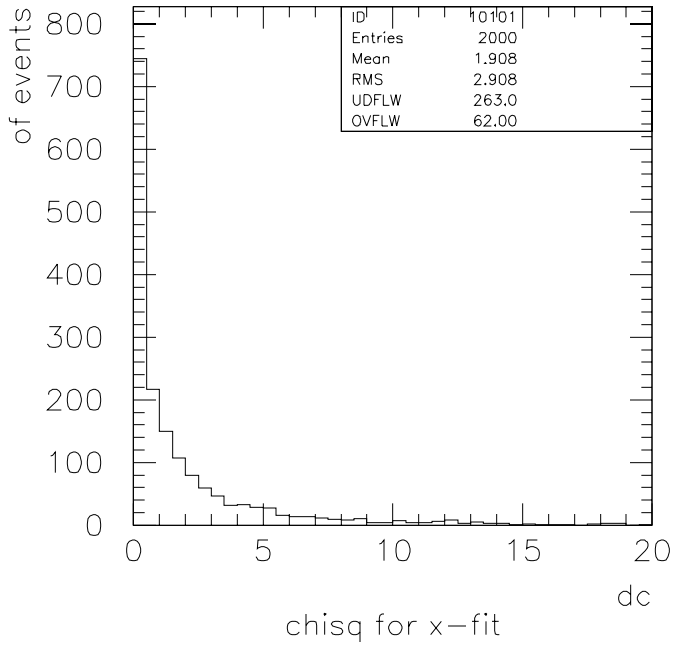
run00254 energy -4(Gev)



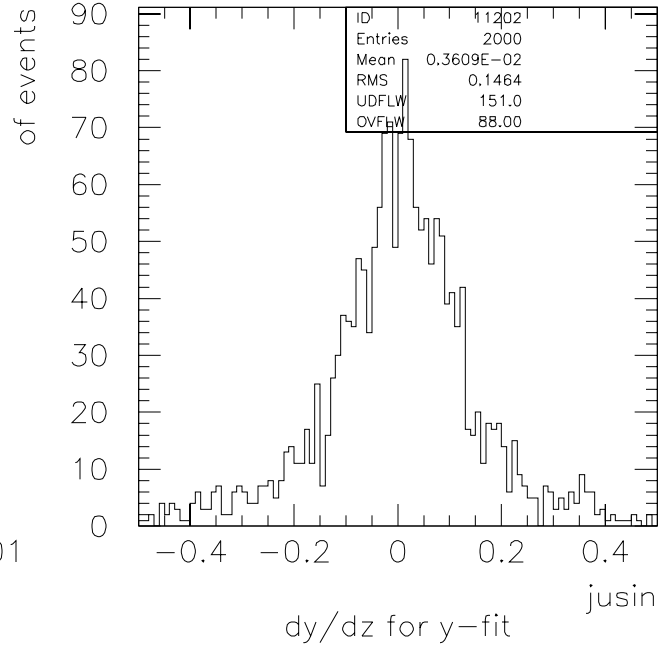
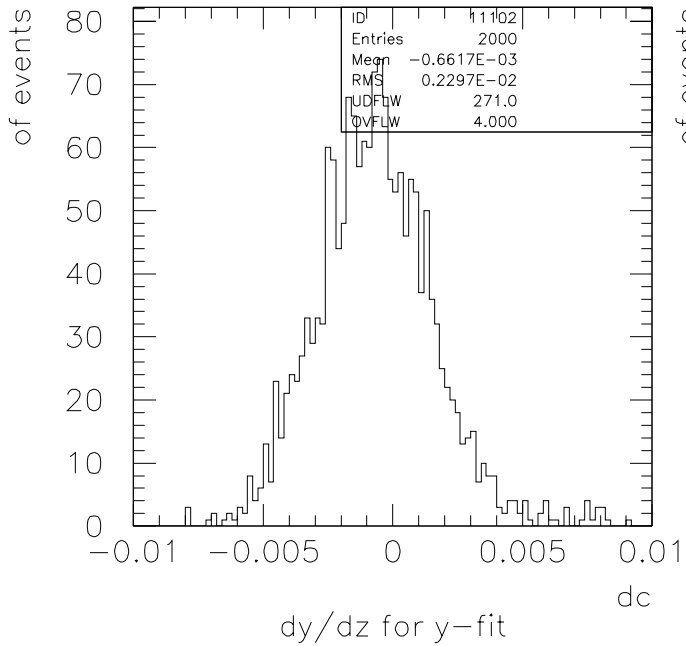
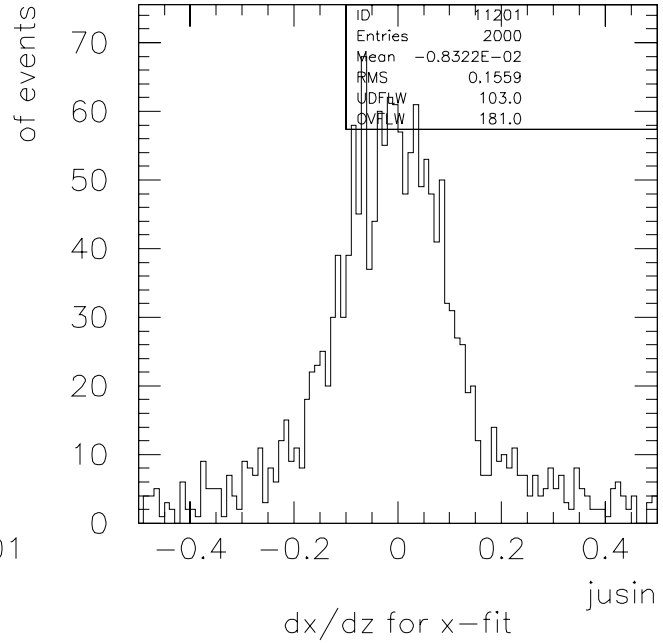
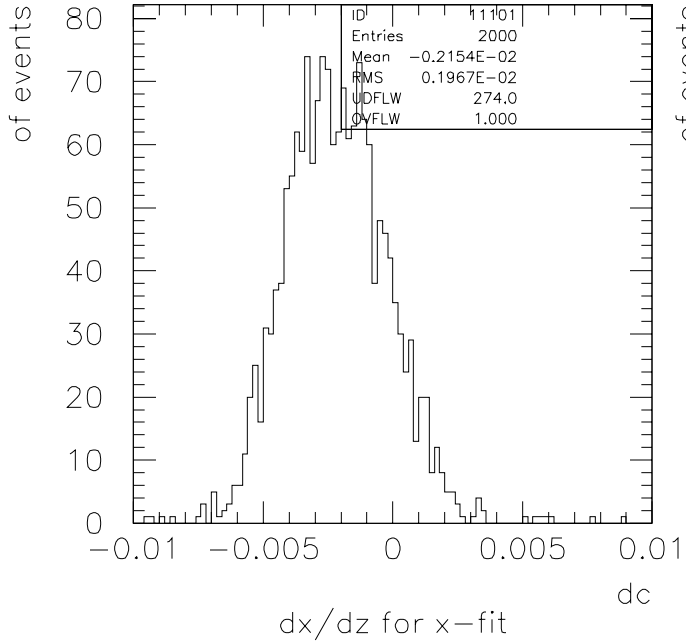
run00254 energy -4(Gev)



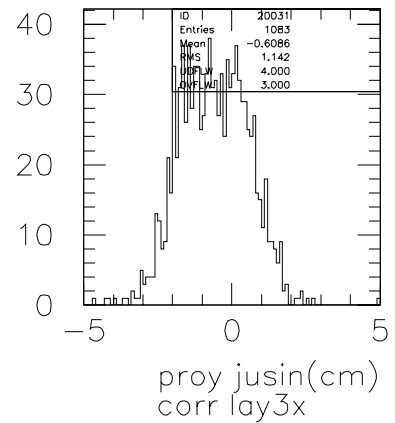
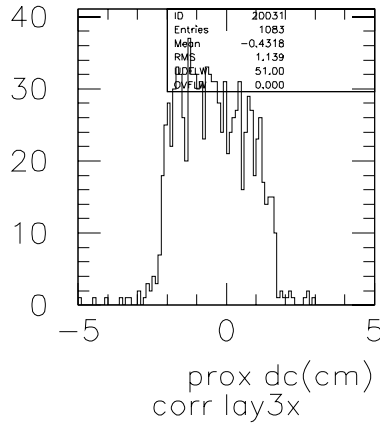
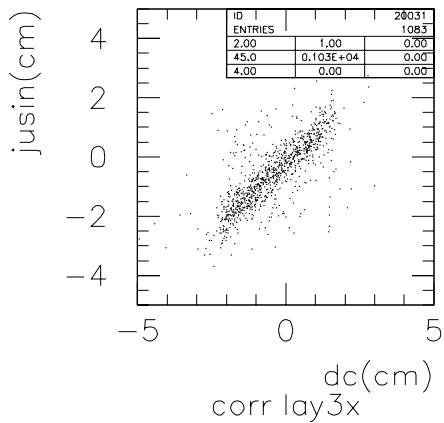
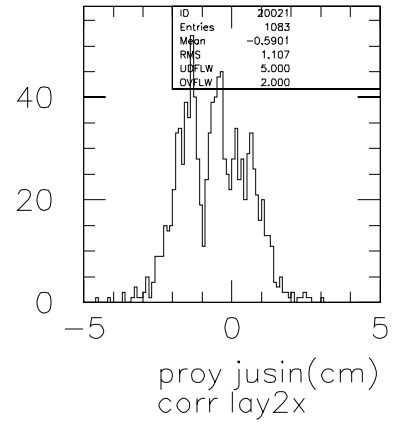
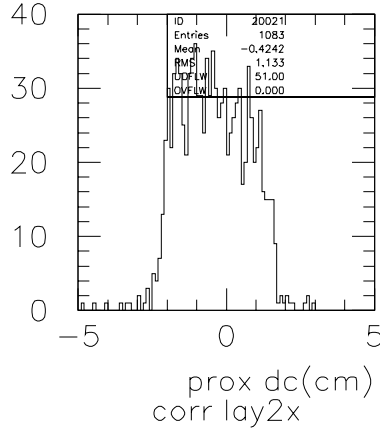
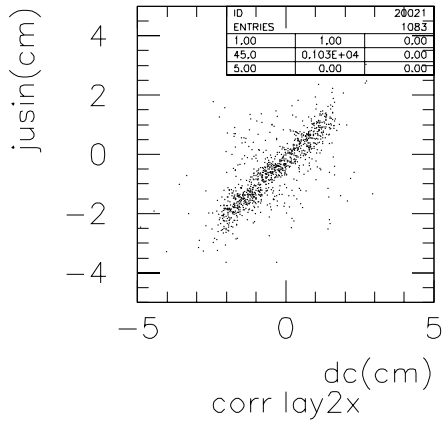
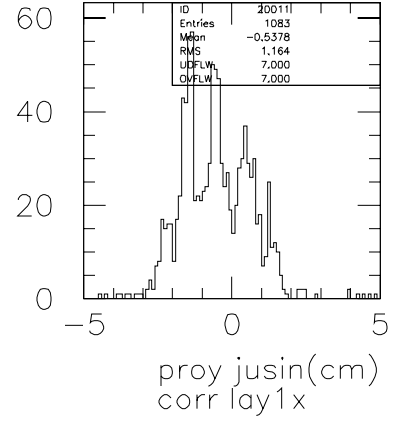
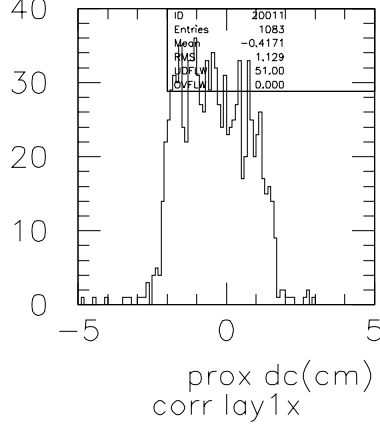
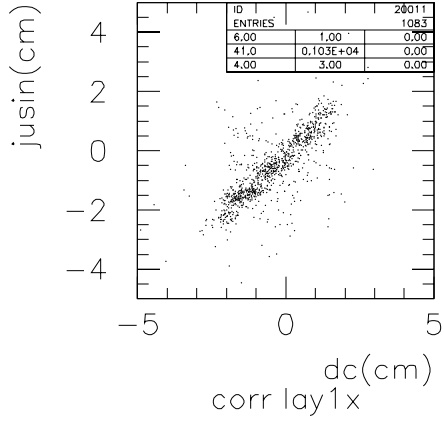
run00258 energy -2(Gev)



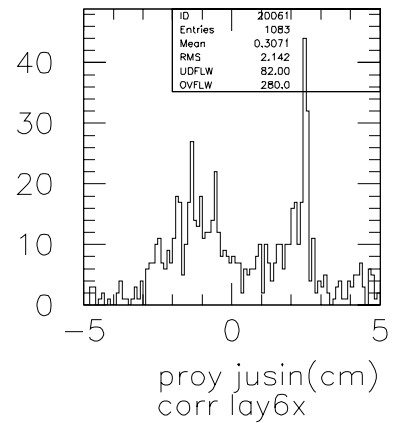
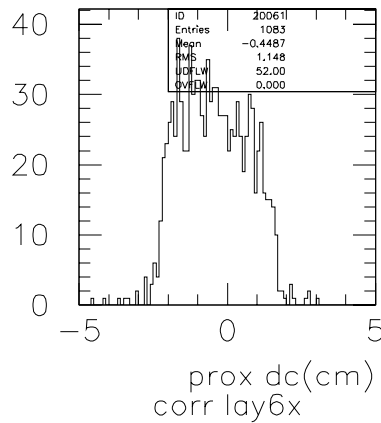
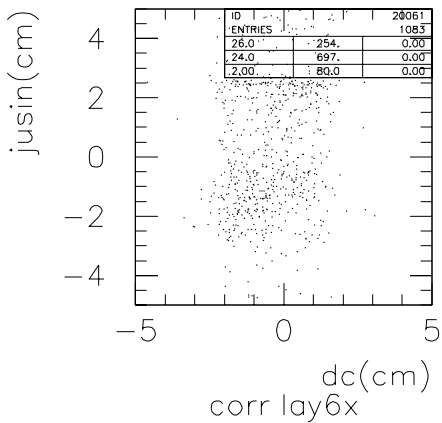
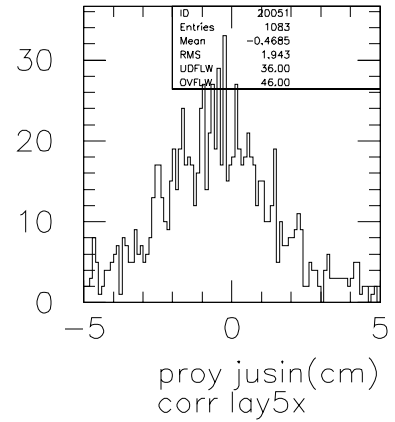
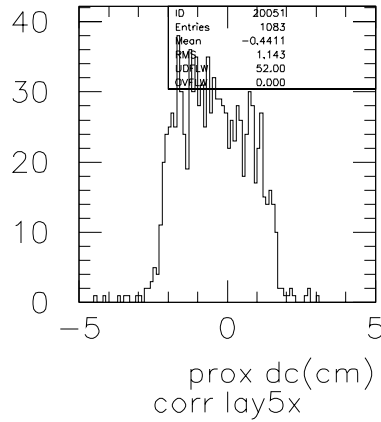
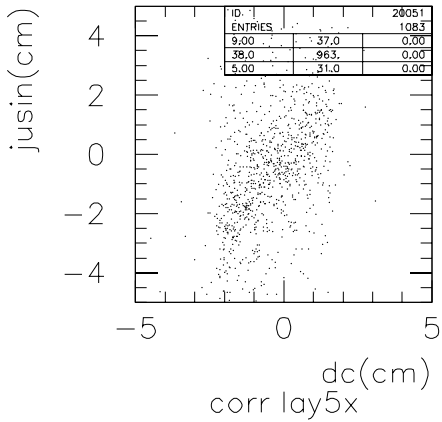
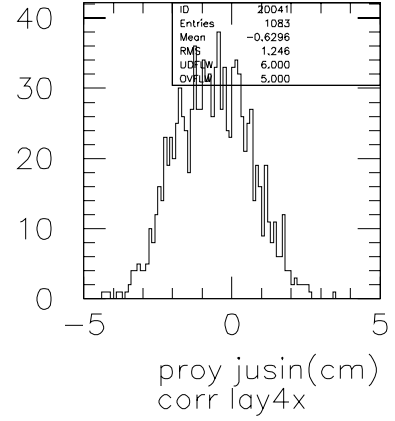
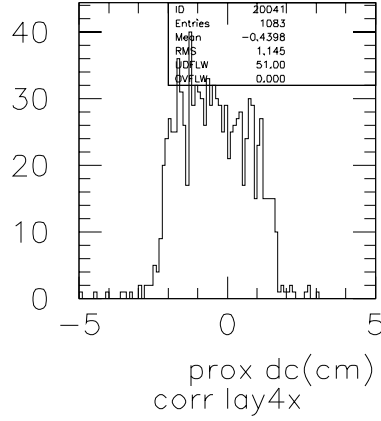
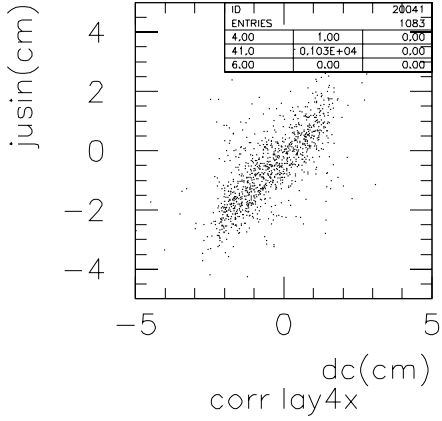
run00258 energy -2(Gev)



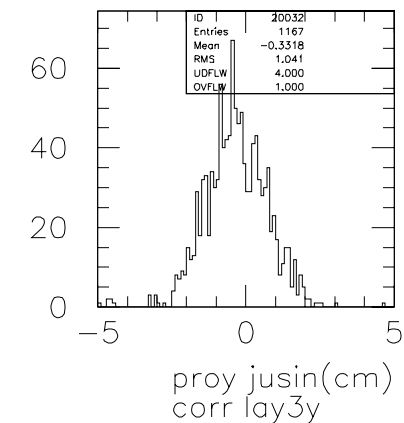
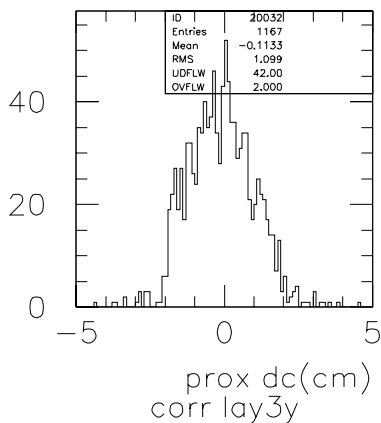
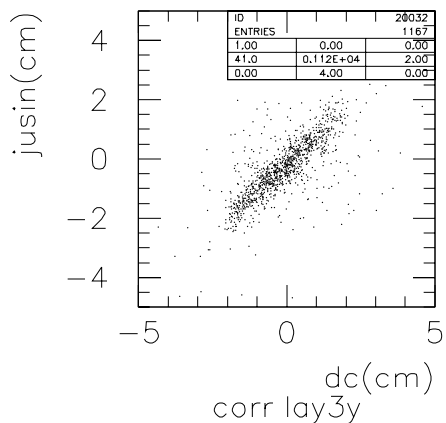
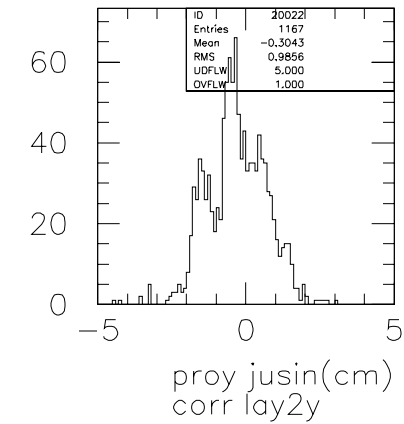
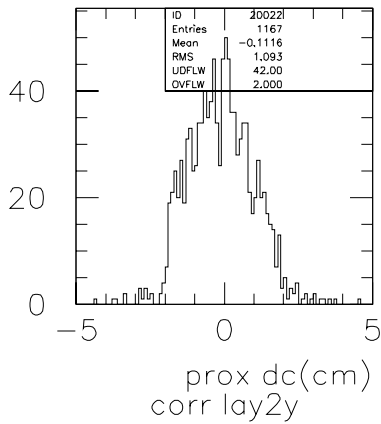
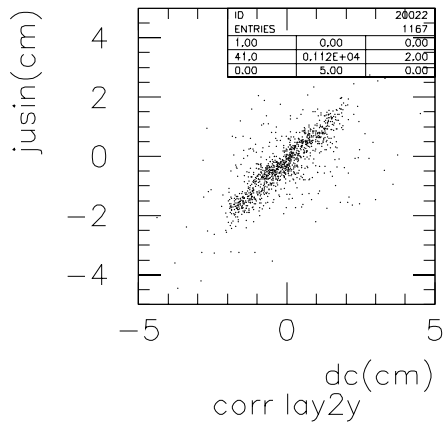
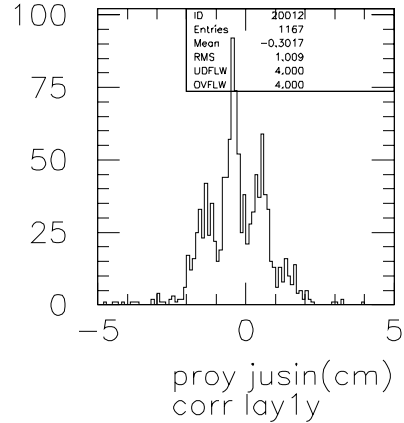
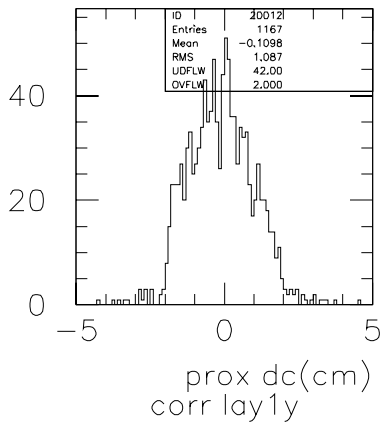
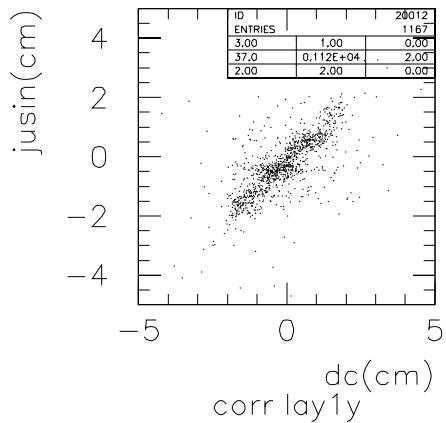
run00258 energy -2(Gev)



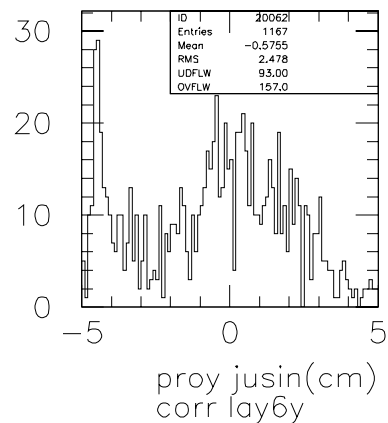
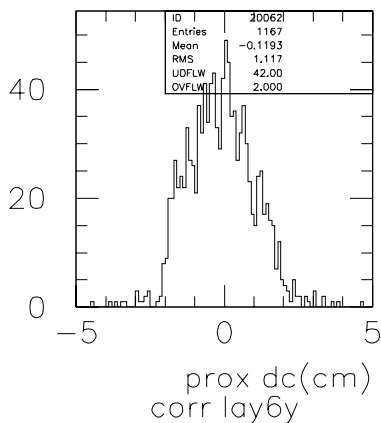
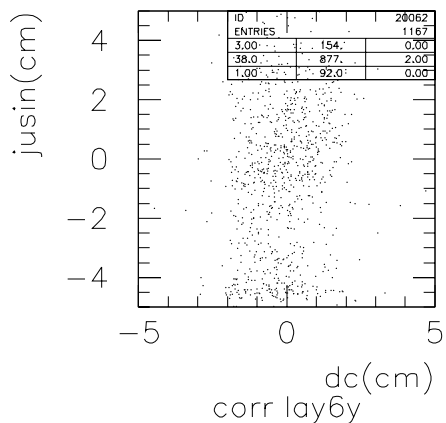
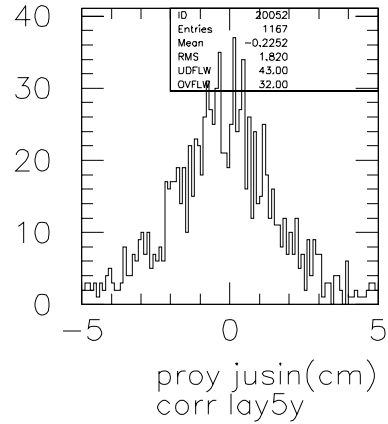
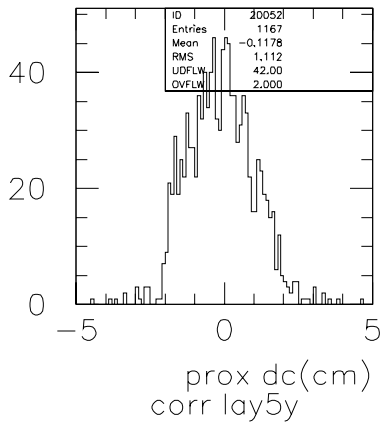
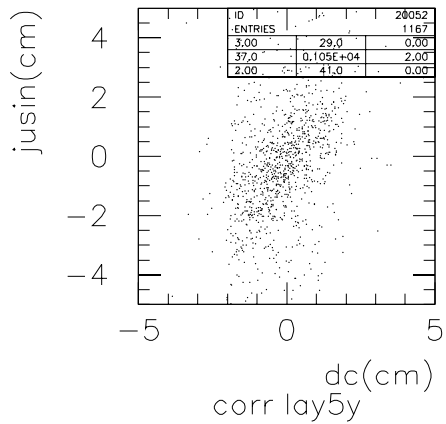
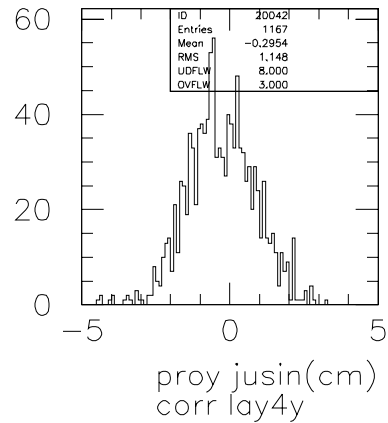
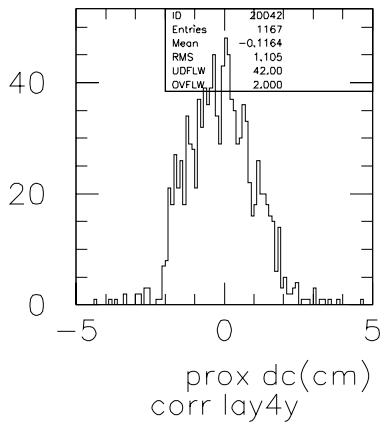
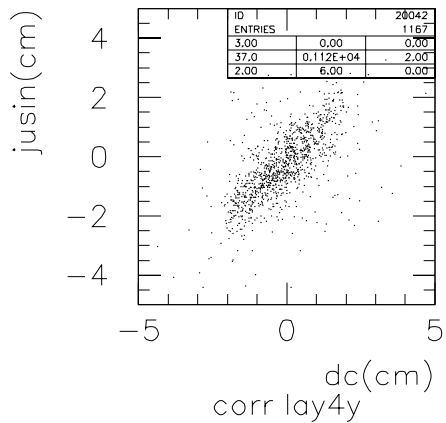
run00258 energy -2(Gev)



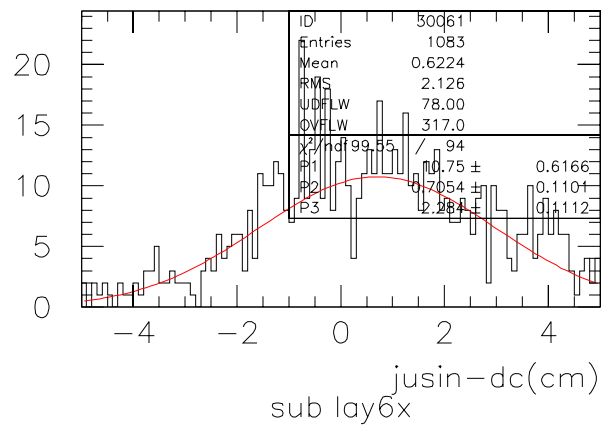
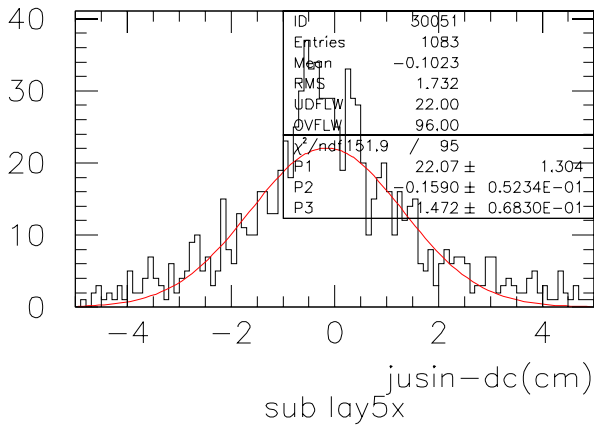
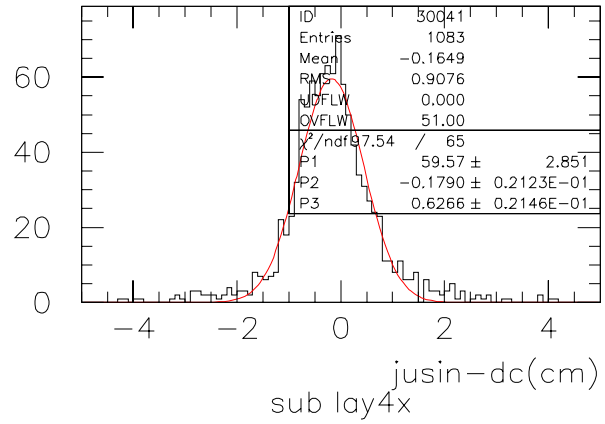
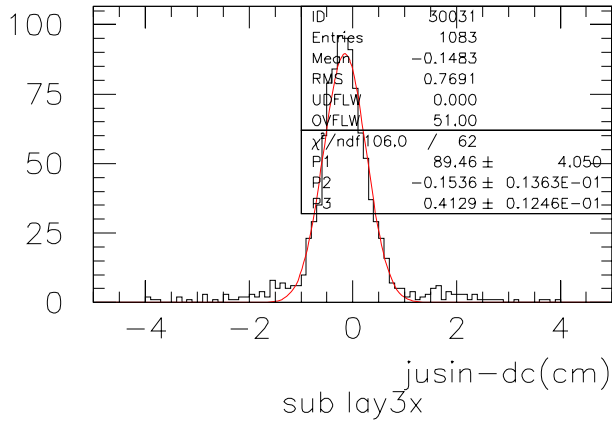
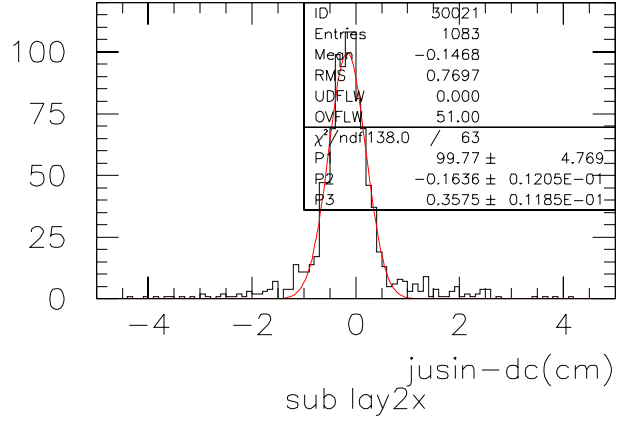
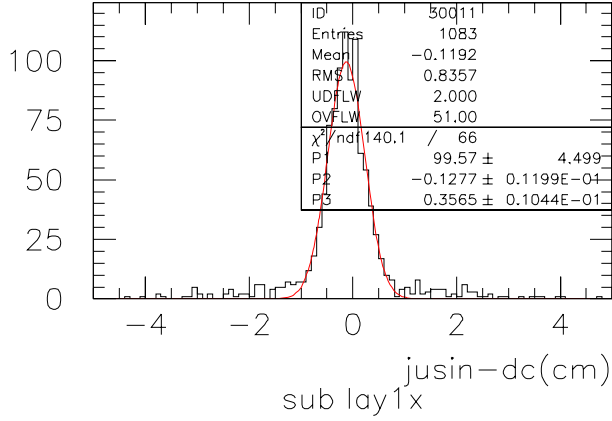
run00258 energy -2(Gev)



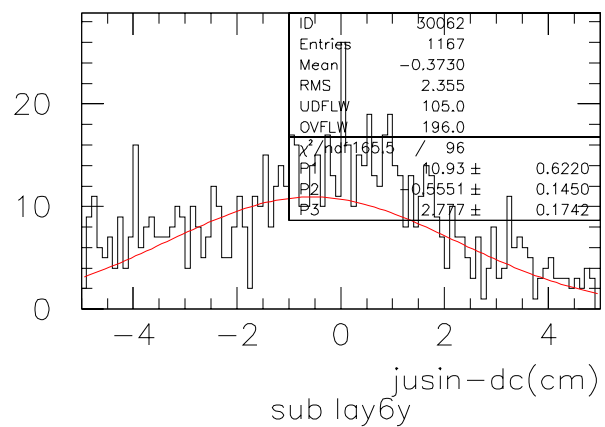
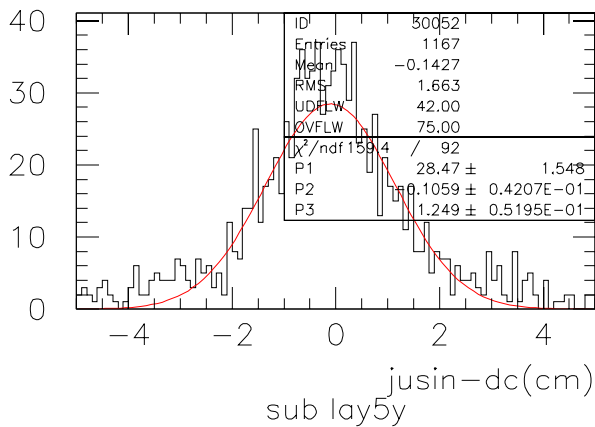
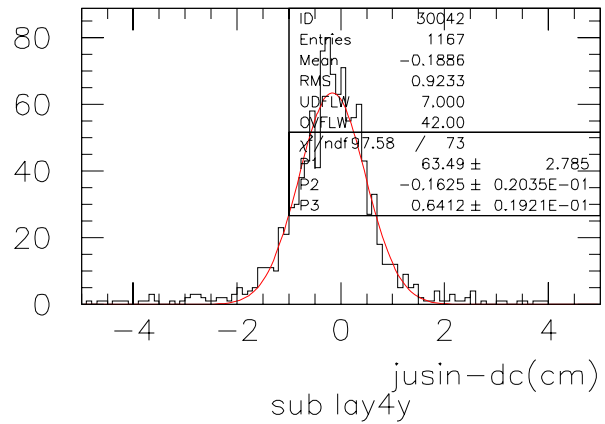
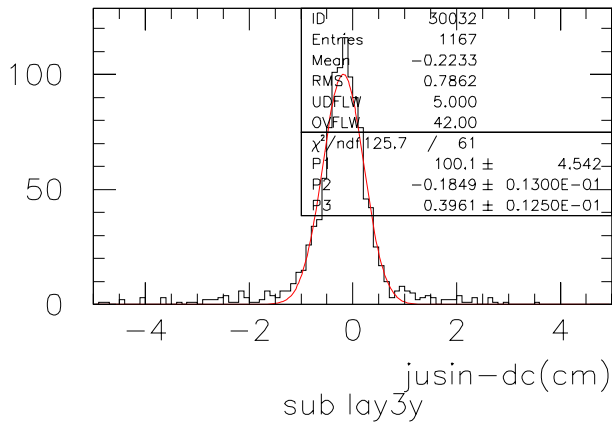
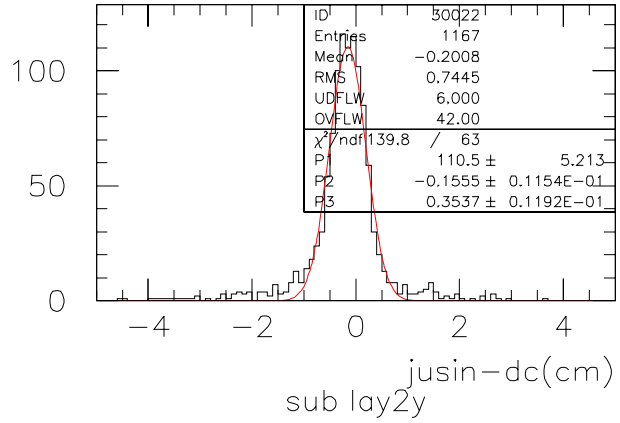
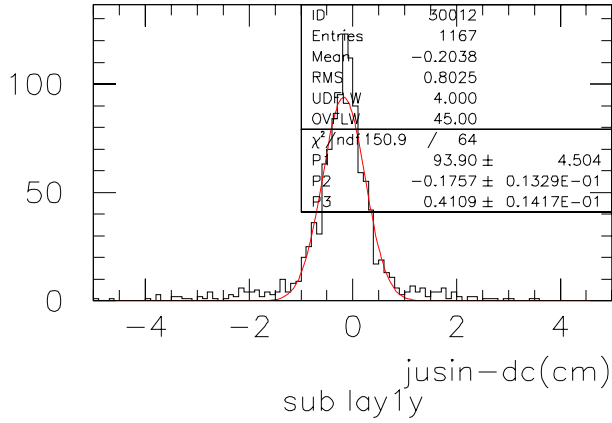
run00258 energy -2(Gev)

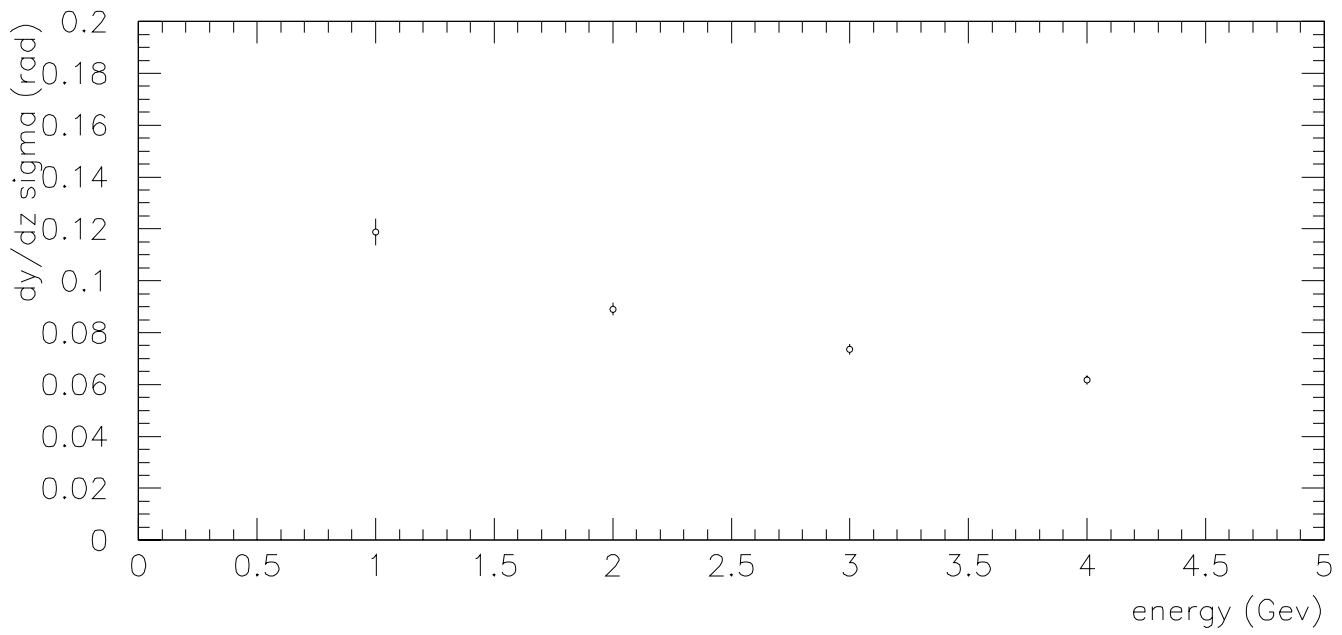
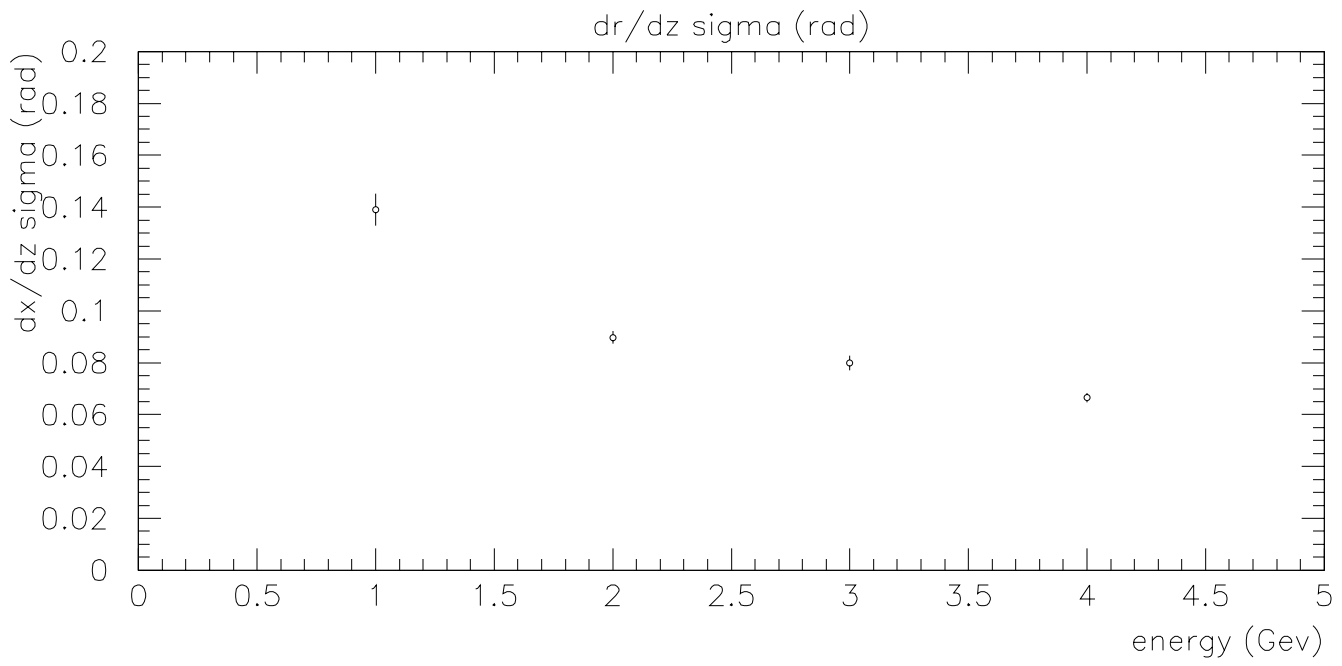


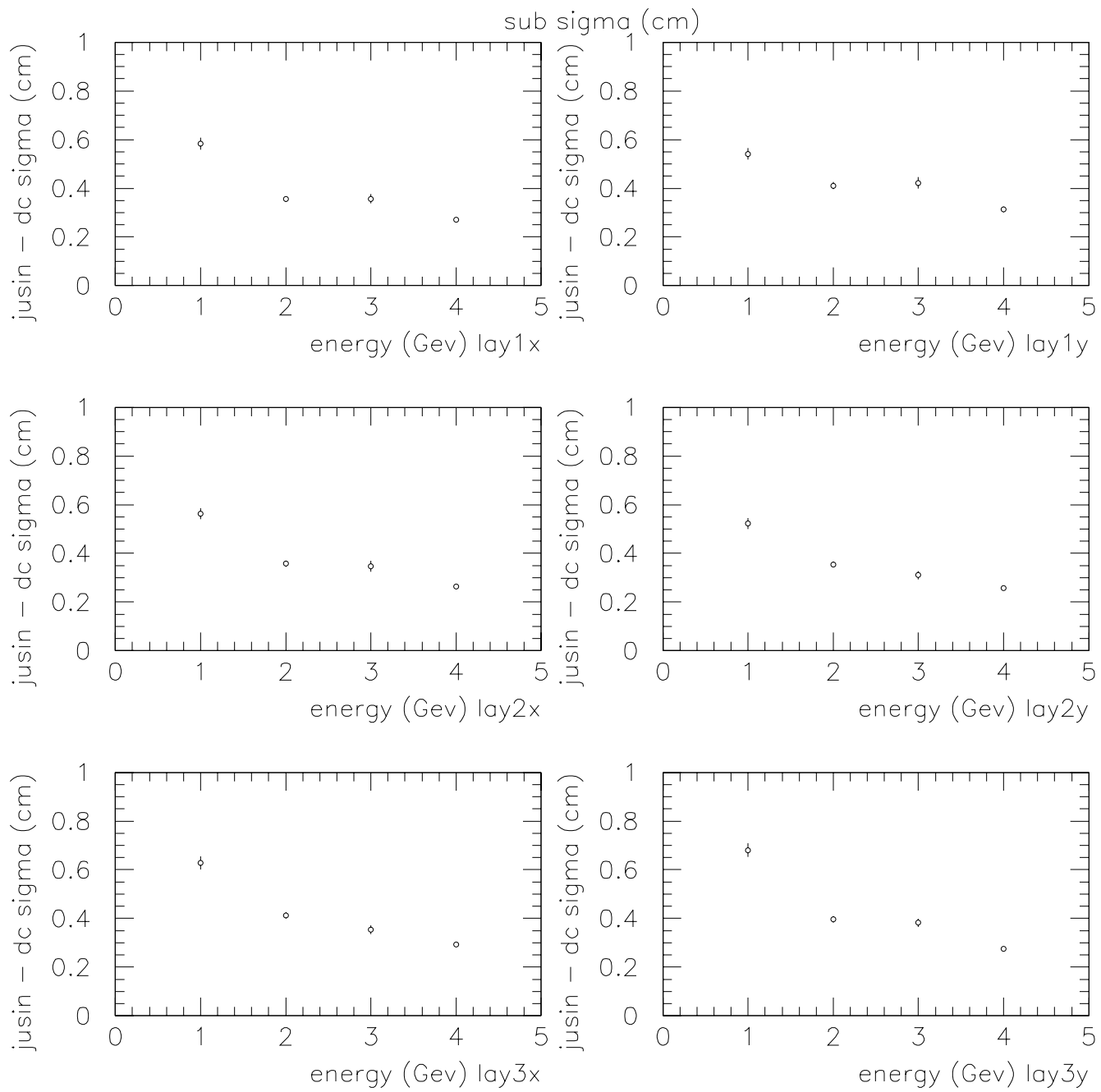
run00258 energy -2(Gev)

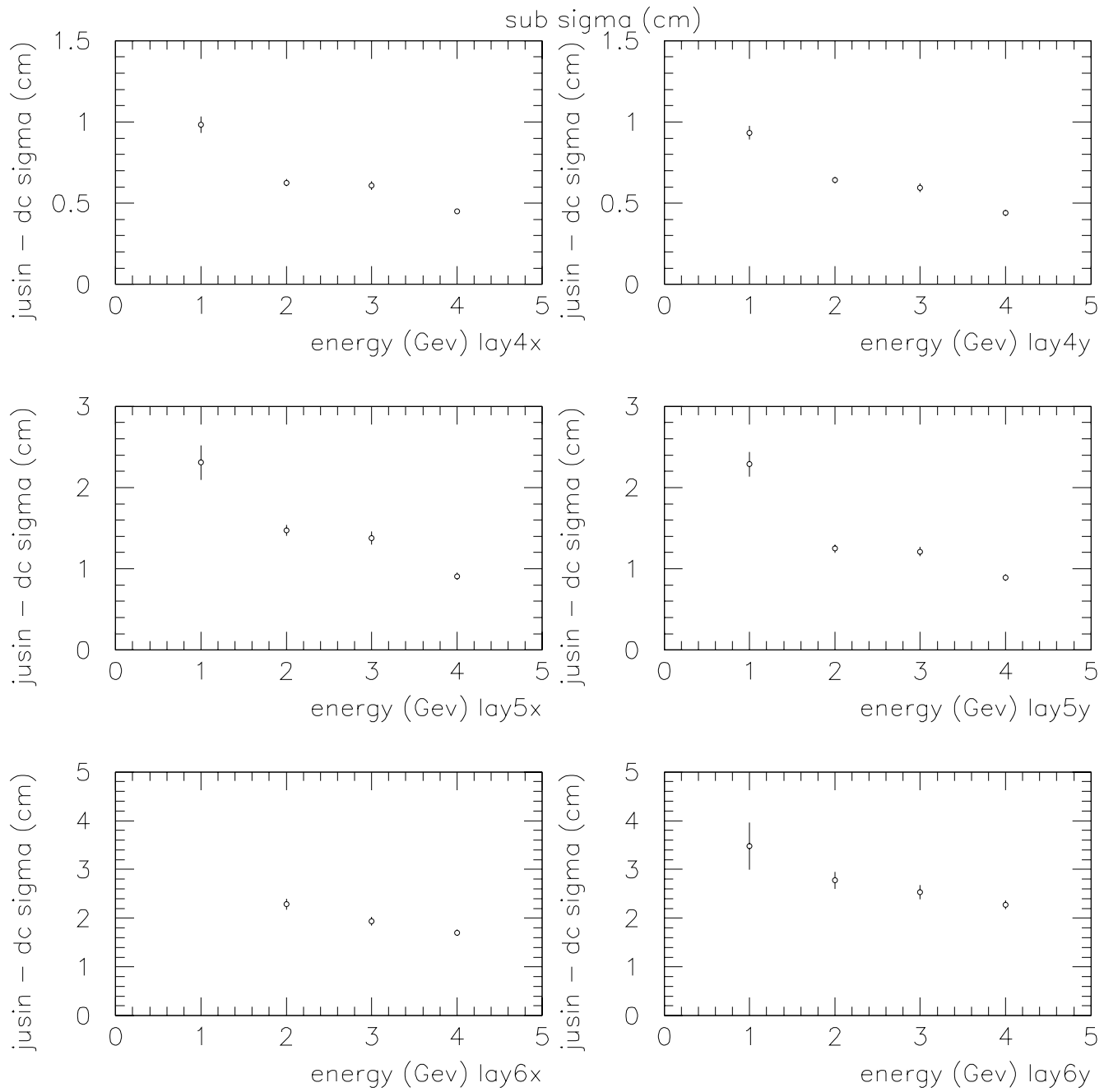


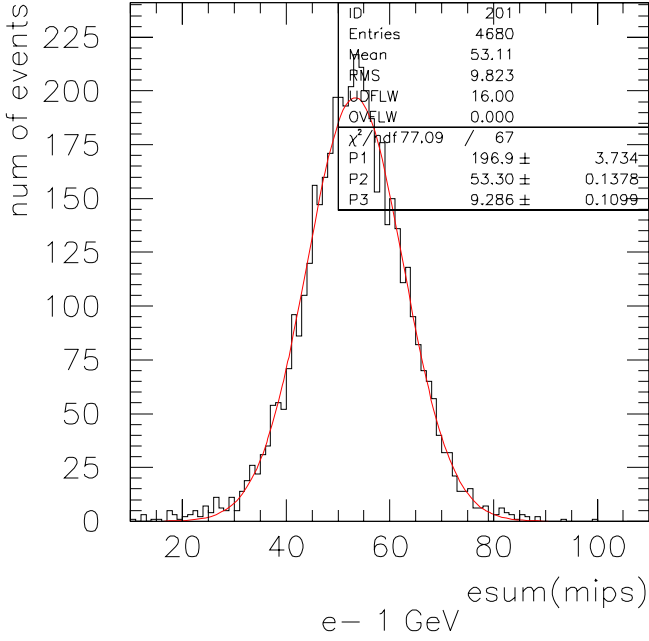
run00258 energy -2(Gev)



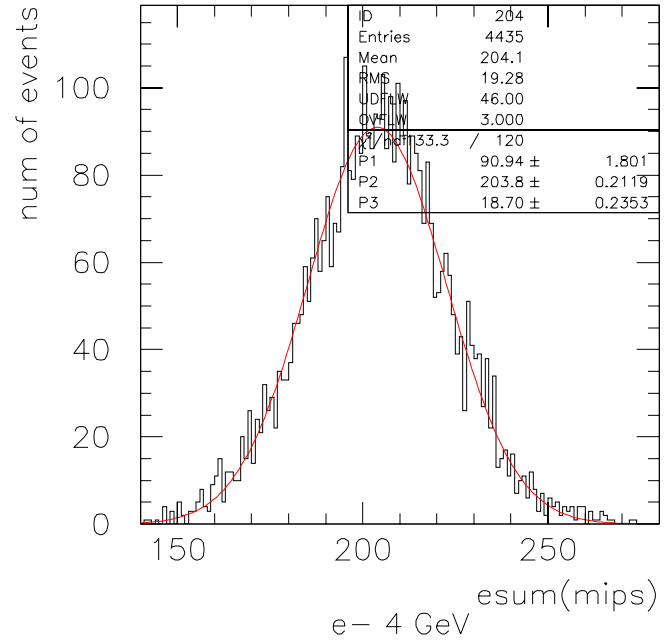
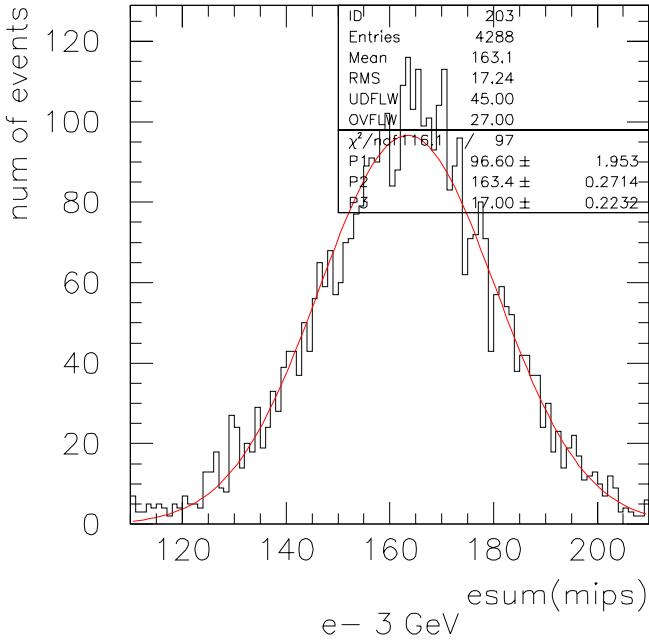
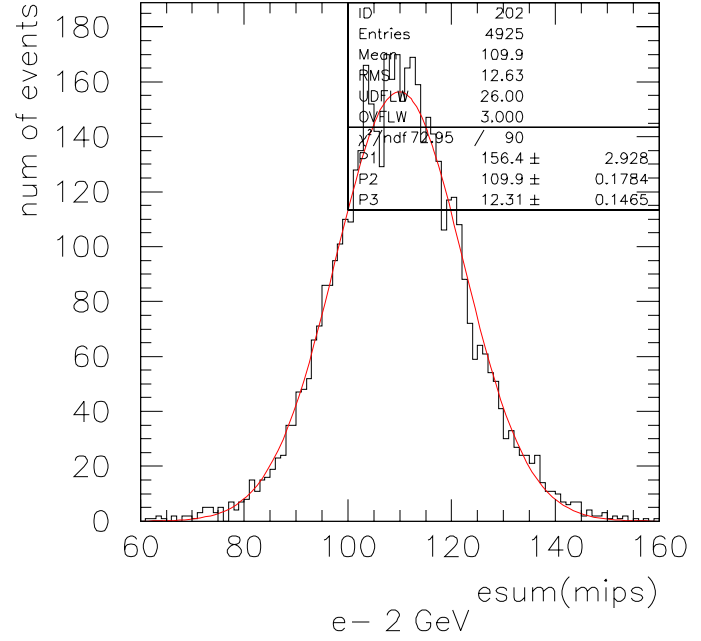




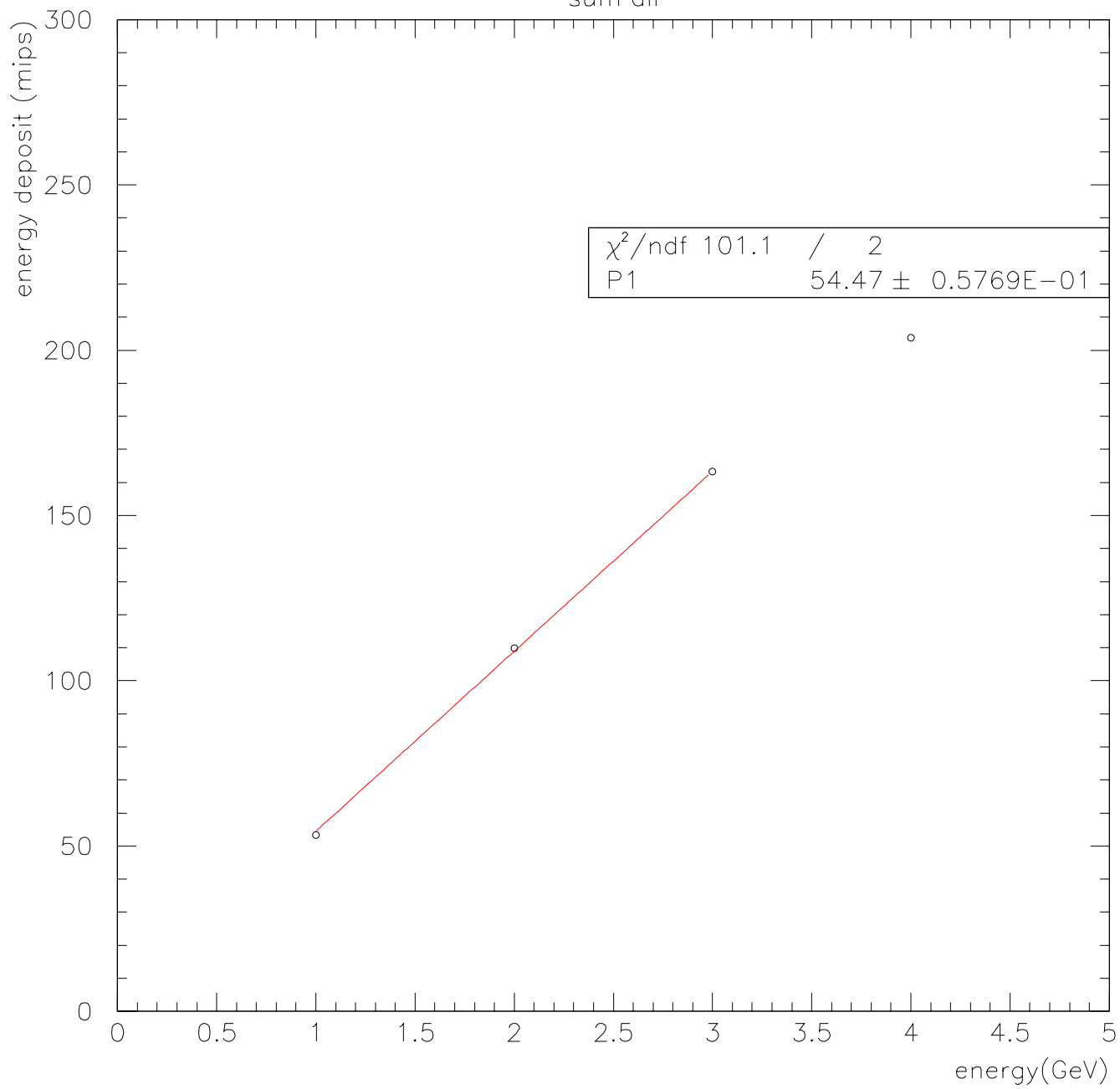




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