Status Report

GRAiNITA

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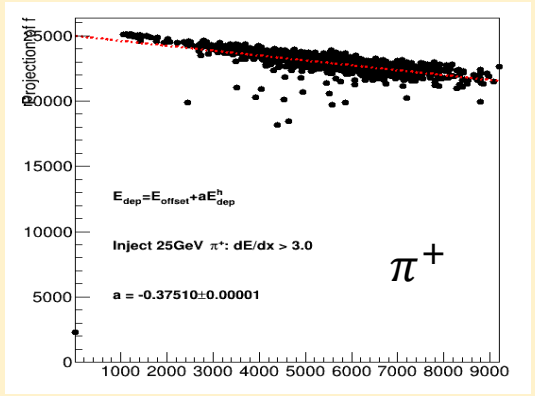
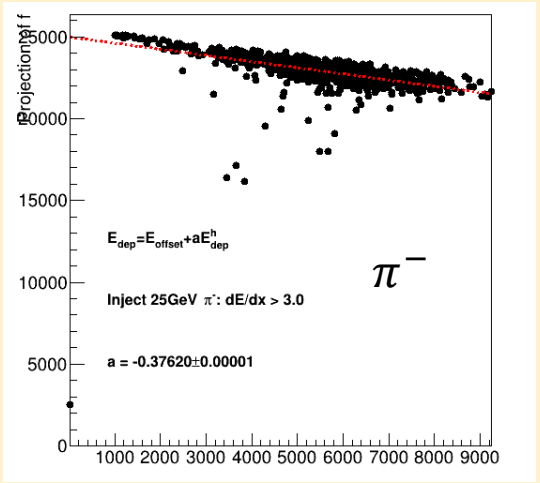
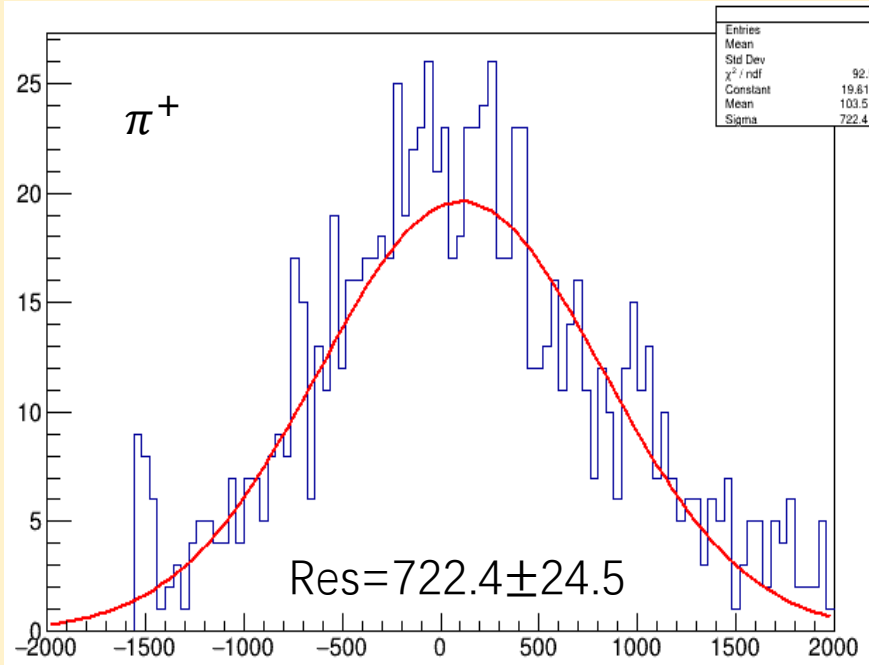
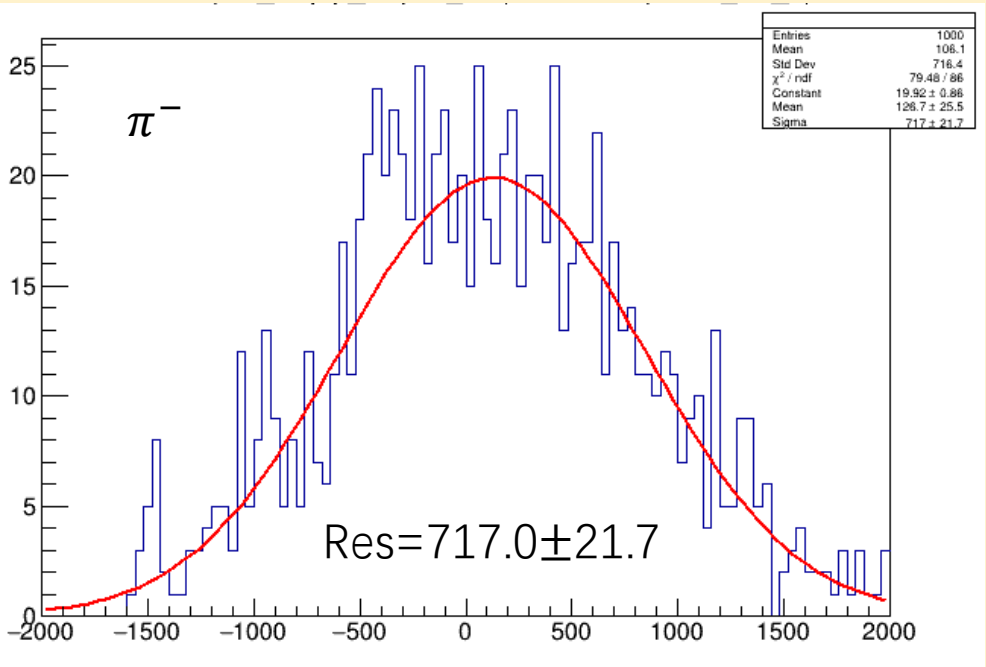
With the same simulation condition

- Material: ZnWO4 + CH2I2; Energy: 25 GeV







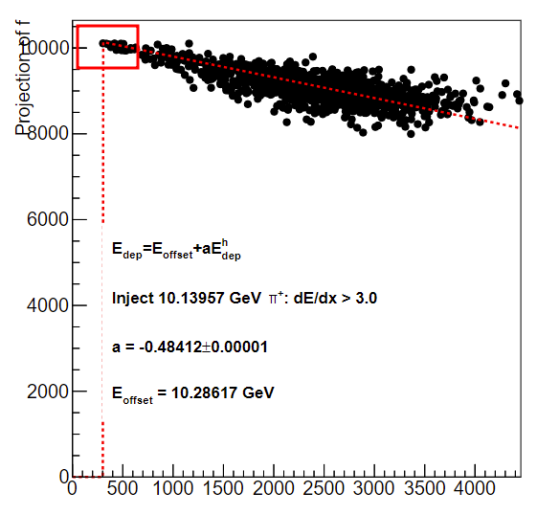


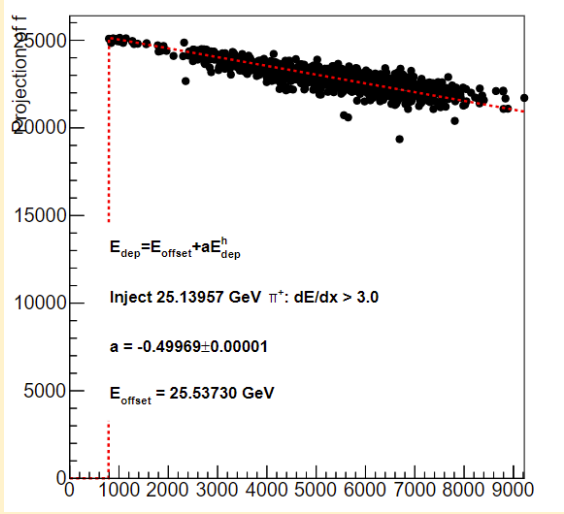
Updates

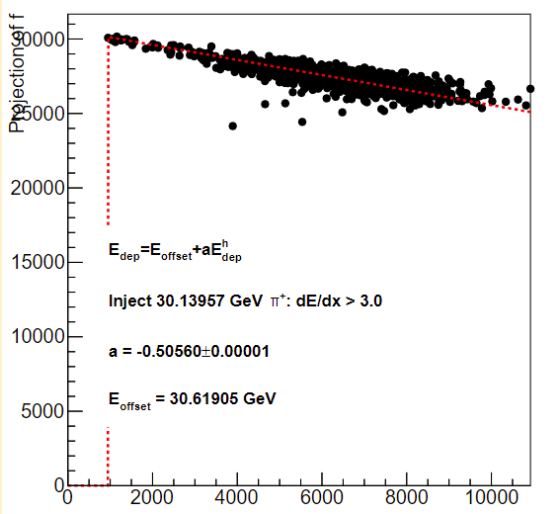
- The material is changed to BGO (density = 7.10 g/cm3)
- Initial kinetic energy (set by the particle gun, $E_{\mathbf{gun}}$) => energy
  - For π^+: the inject energy is actually the $E_{\mathbf{gun}} + m_{\pi^+}$
  - The offset in the linear correlation is fixed based on the inject energy (not kinetic energy) and starting point of the total energy of high dE/dx steps
- The resolution of the total deposited energy is checked after the "rotation".
- Same check with different materials (BGO=>BGO+H2O)

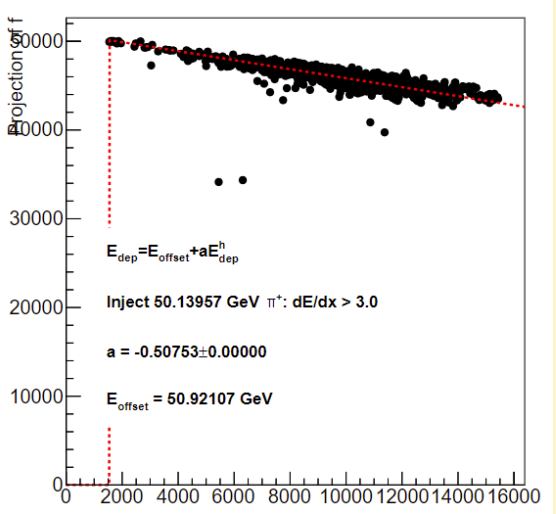
Fixing the offset value in the fit

- The linear correlation: $E_{dep} = E_{\mathrm{offset}} + aE_{dep}^{h}$
- The E_{dep} of the starting point is supposed to be the inject energy (kinetic energy + $m_{paritcle}$)
  - => Events with no invisible energy loss =>mainly EM
  - $E_{offset} = E_{inject} - a \cdot \min(E_{hep}^{h})$



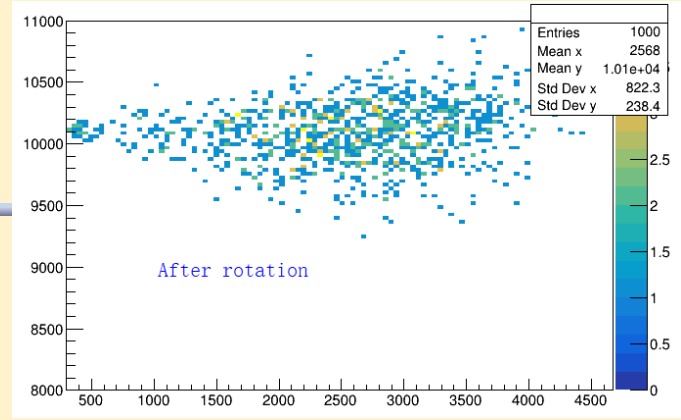


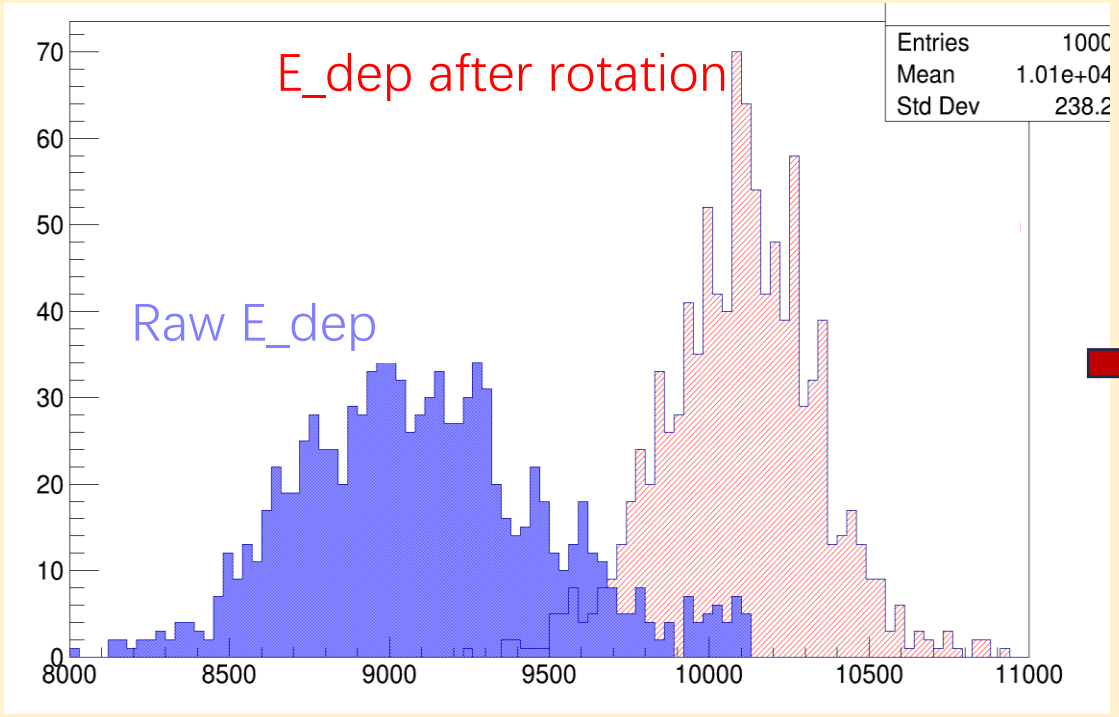


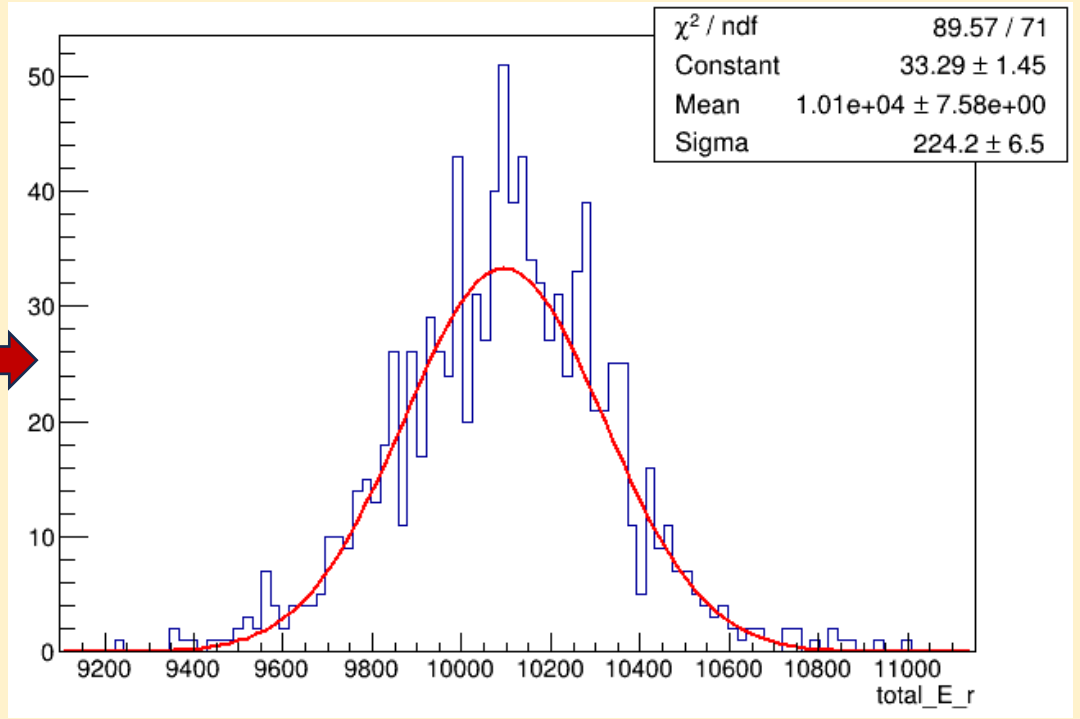


Rotating

- Rotating based on the starting point and a

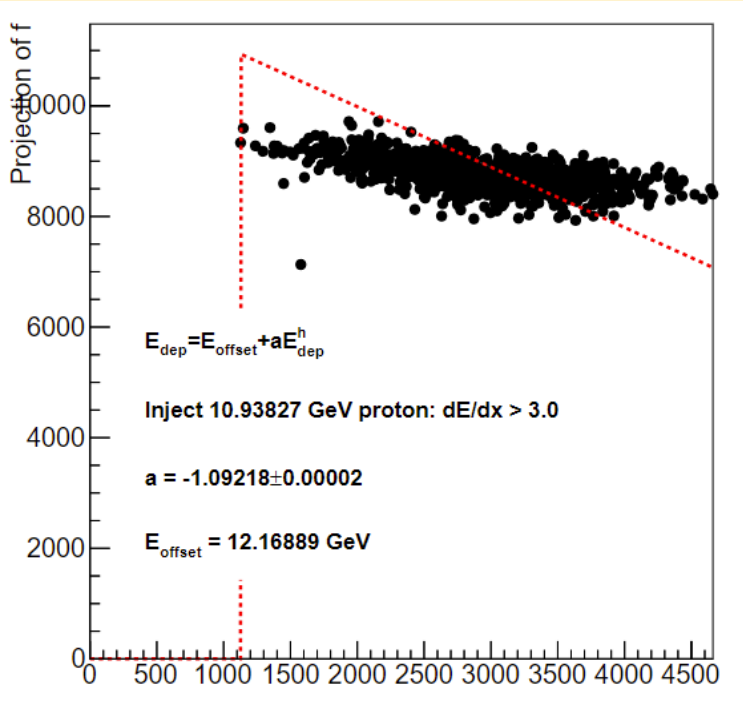


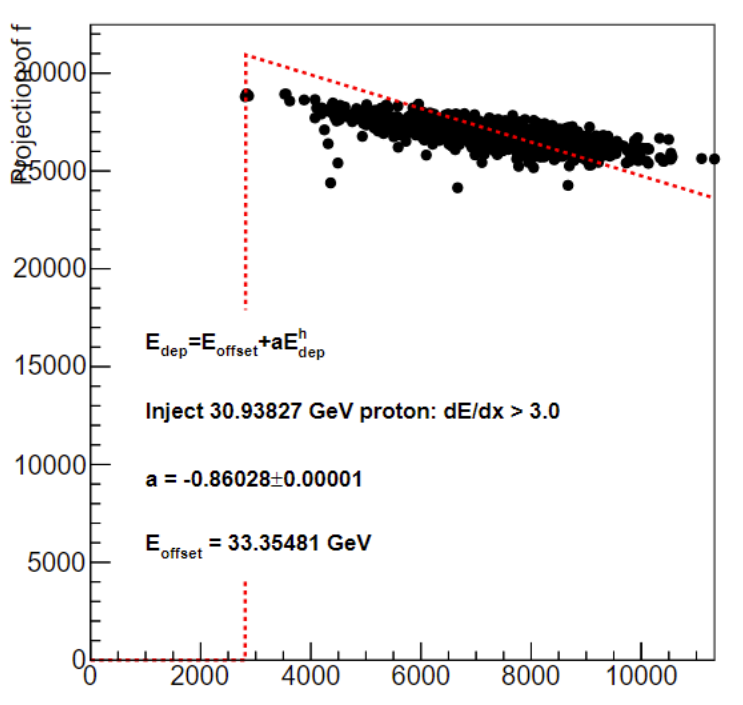


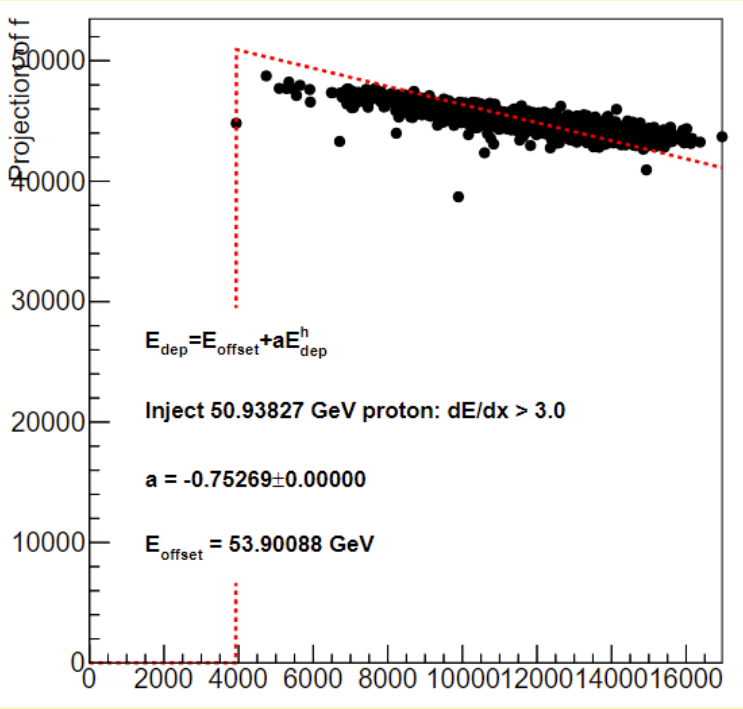


Not understanded yet…

- Fixing point of the correlation fit works for π^+ sample, but doesn't work well for proton samples







Check with BGO+H2O

- The a value stays similar value