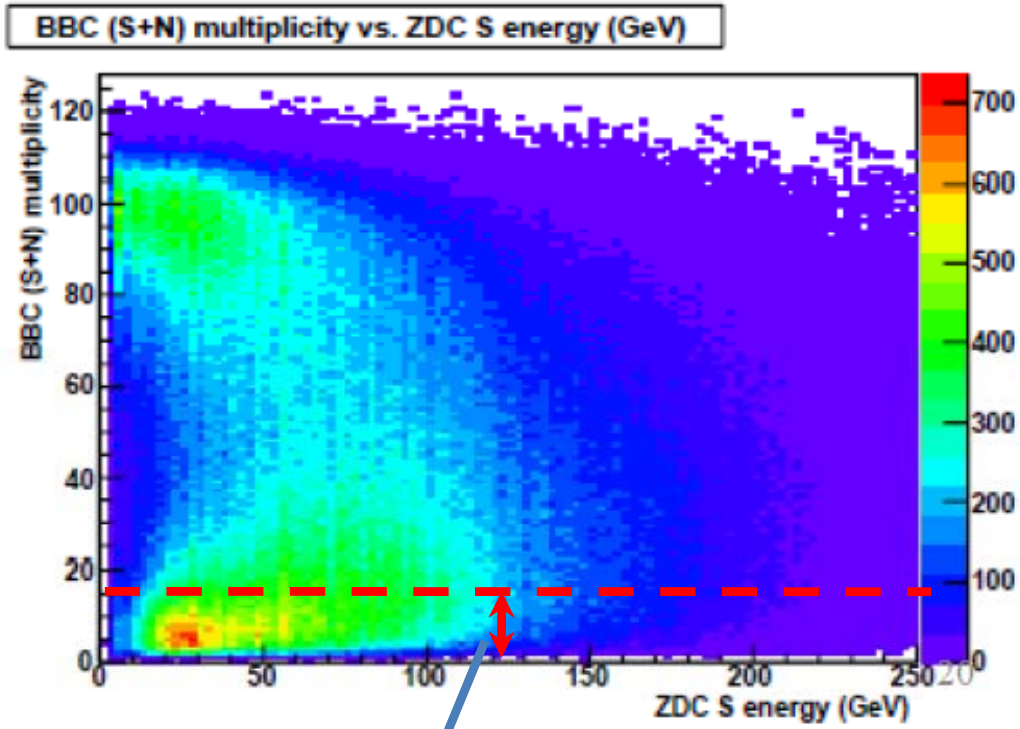
Forward neutron pPPG

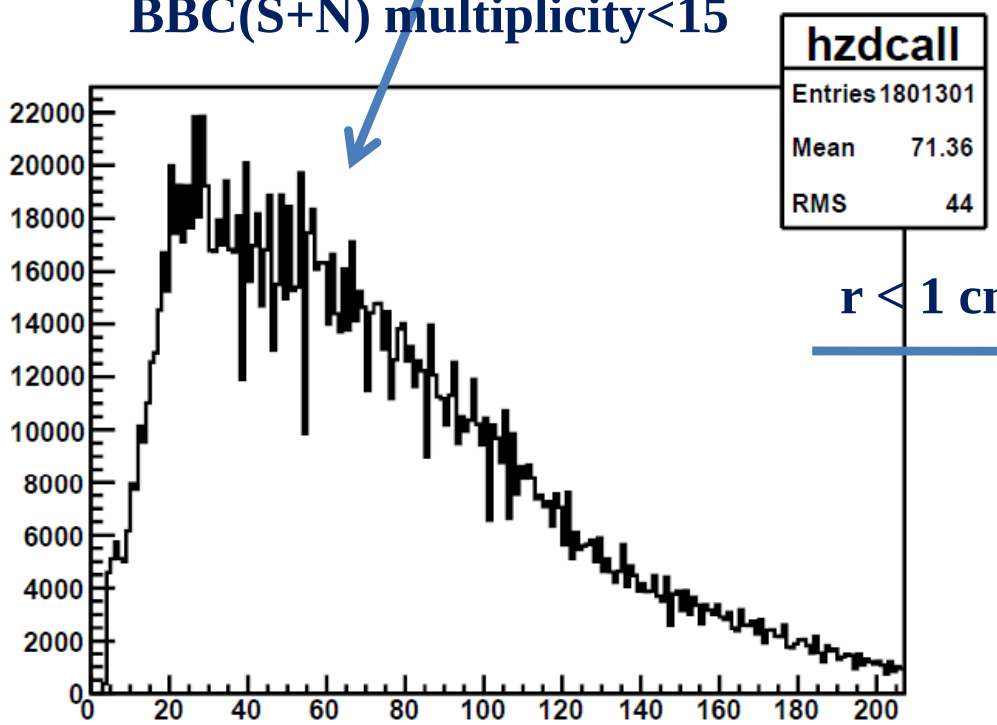
2008/07/23

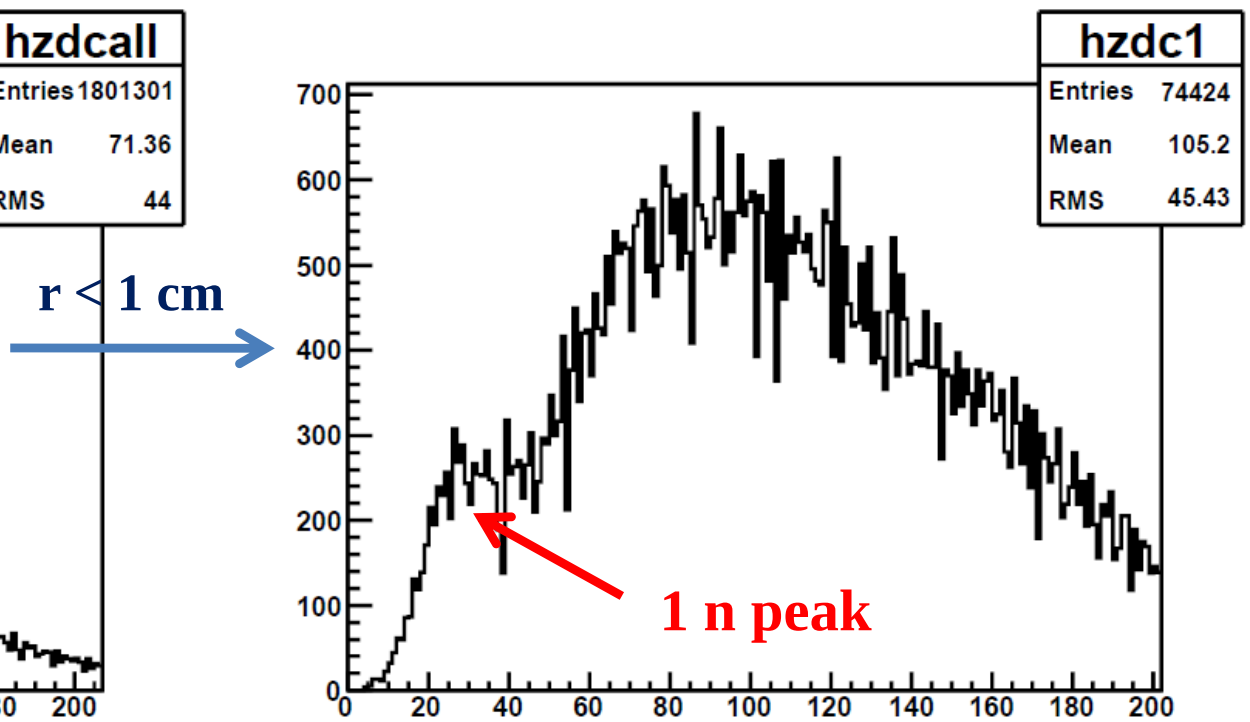
Manabu Togawa

CuCu 62 GeV data

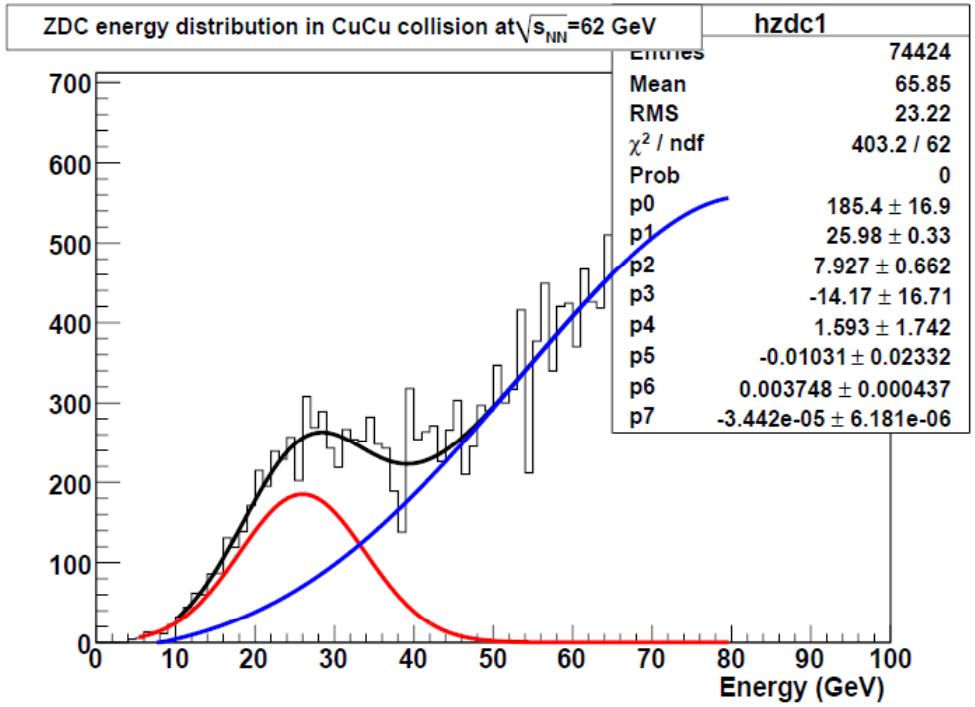


- Found neutron peak after following cuts.
  - BBC(S+N) multiplicity<15
  - r < 1 cm

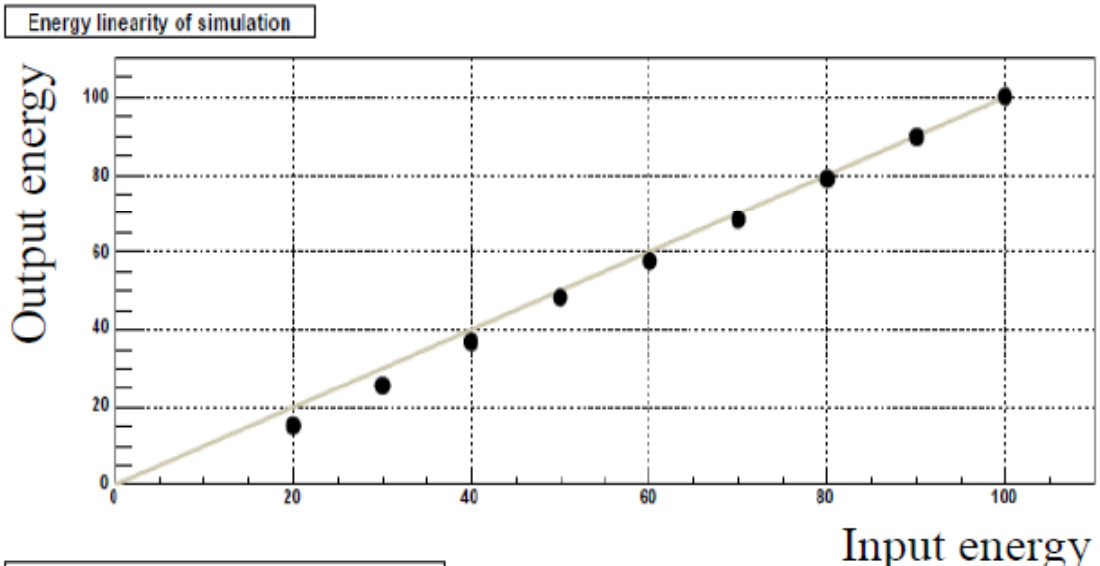




Compare with simulation



- After the fit (gaus+pol4)
  - Mean : **26.0±0.3** (fit error)
    - Incident energy should be **31 GeV (~84 %)**
  - Sigma : **7.9±0.7**
    - Resolution is **30.4±2.7%**



- Simulation for 30 GeV.
  - Mean : **25.7 (~86 %)**
  - Sigma : **7.9±0.7**
    - Resolution is **26.7 %**

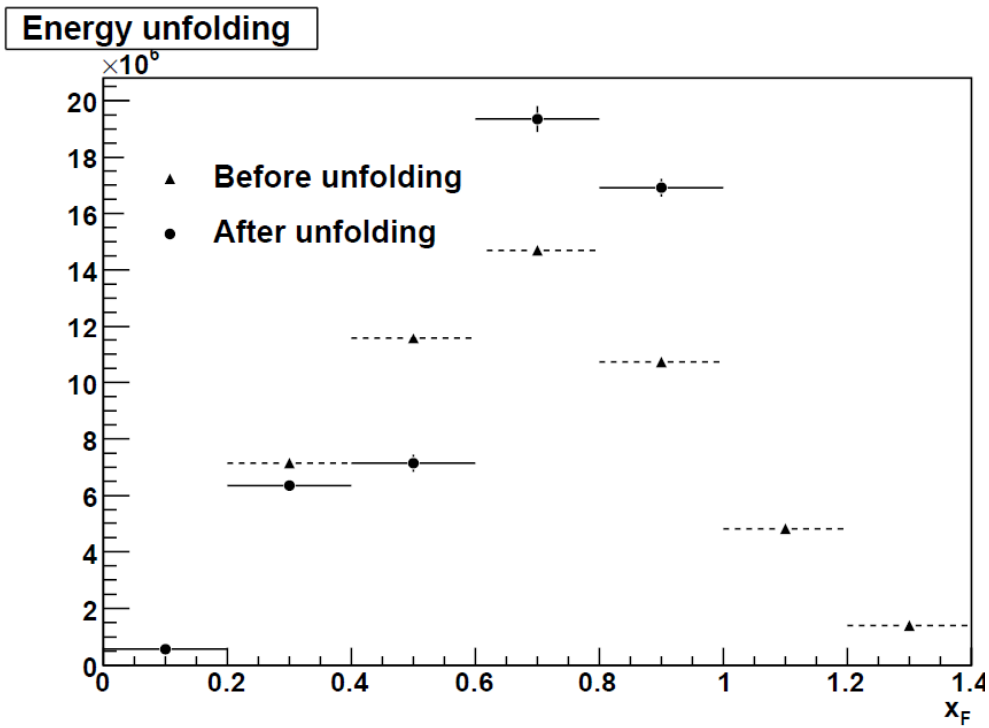
Resolution is not reproduced??
Or pol fit is not proper??

Trying to Bin20 → Bin15

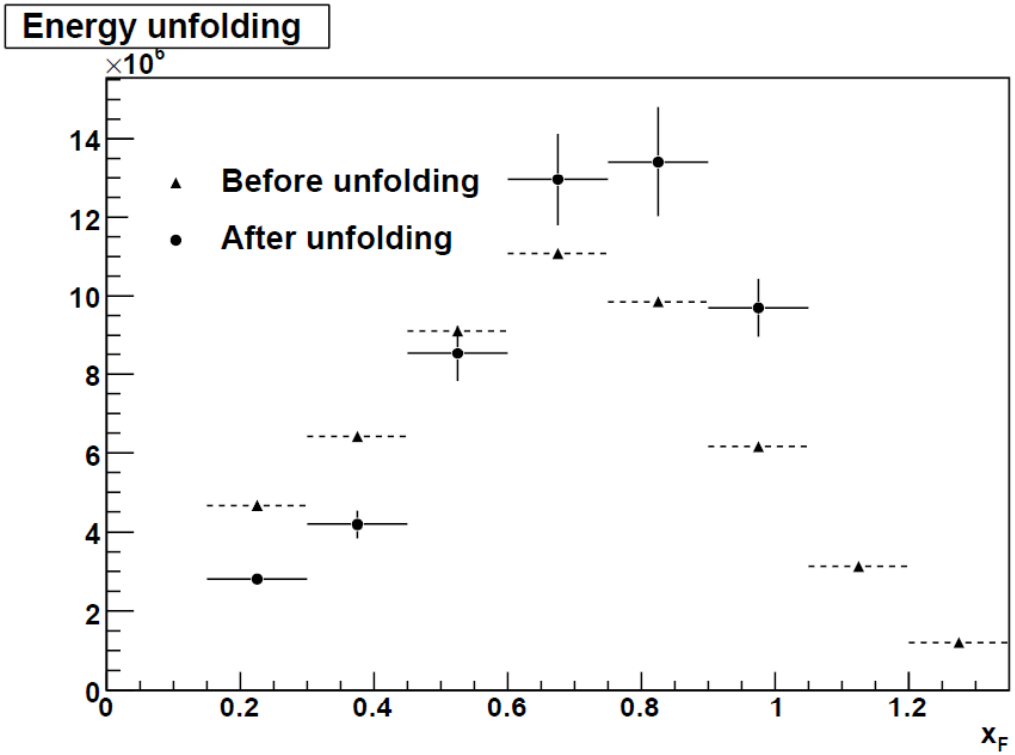
$$y(E') = A(E', E)x(E).$$

$$\vec{x} = A^{-1}\vec{y}, \qquad V_x = A^{-1}V_y(A^{-1})^T,$$

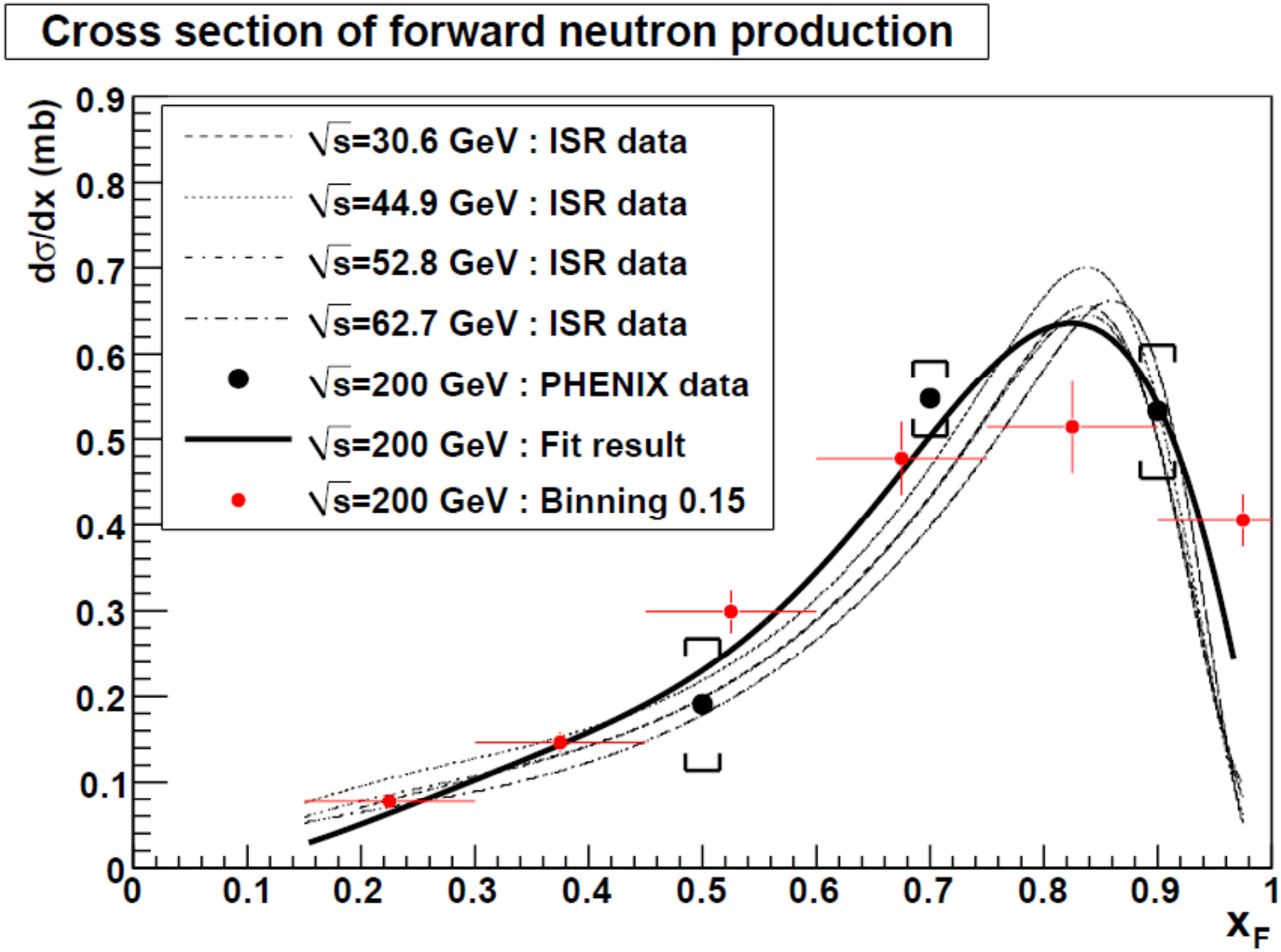
Binning 20



Binning 15

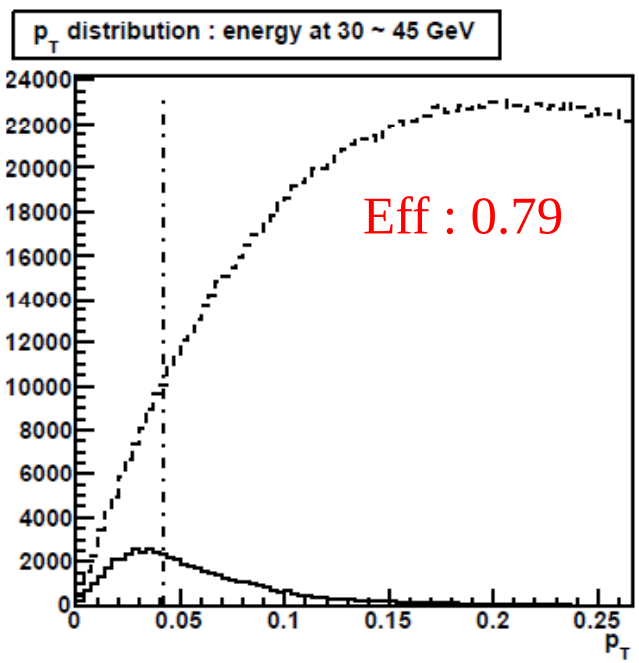


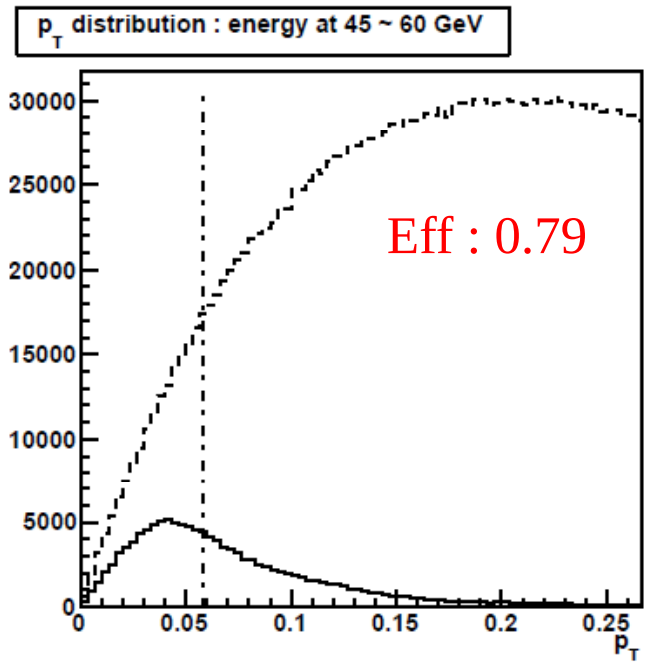
Comparison

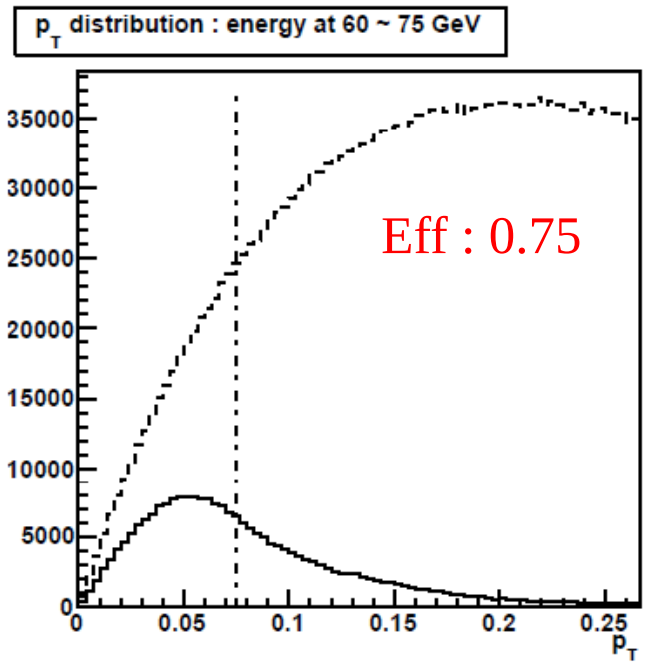


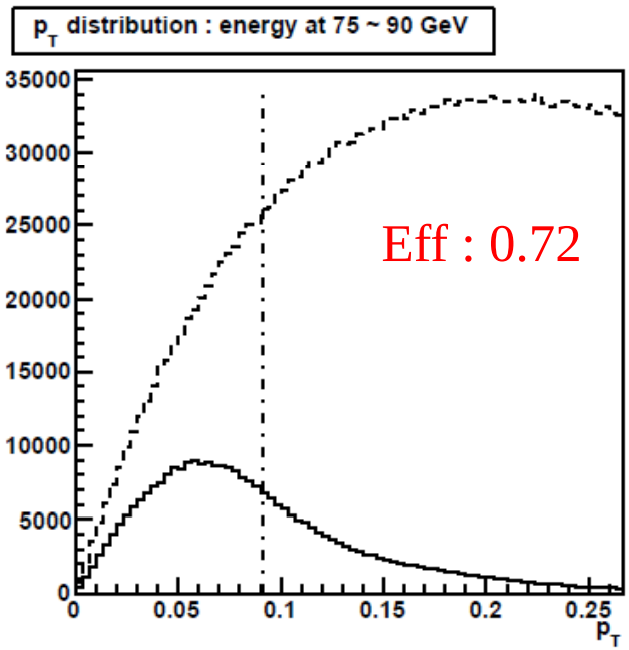
** Normalization for Fit result is not correct.

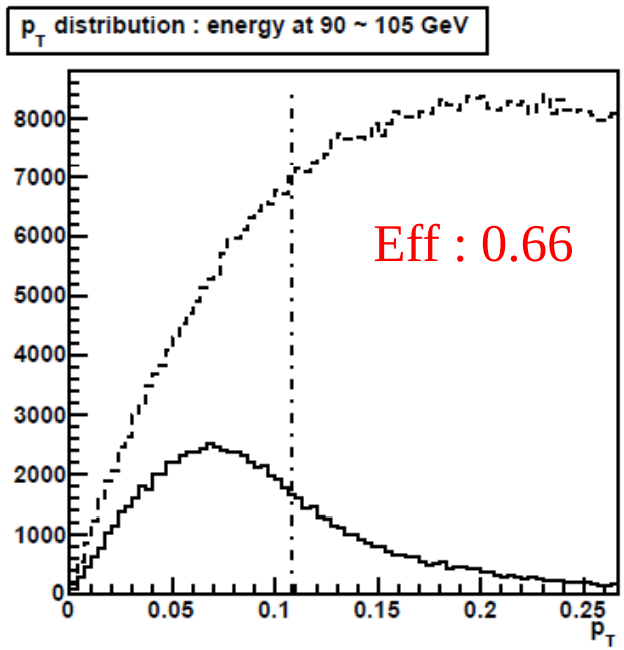
Acceptance for binning 15











Remaining major task

- Beam position using BPM
  - Now asking BPM.
- x_F-dependence is recalculated by phi-dep. definition.
  - It will be done soon. (next week)