



EIC Barrel-ToF

Material budget effects on EMC

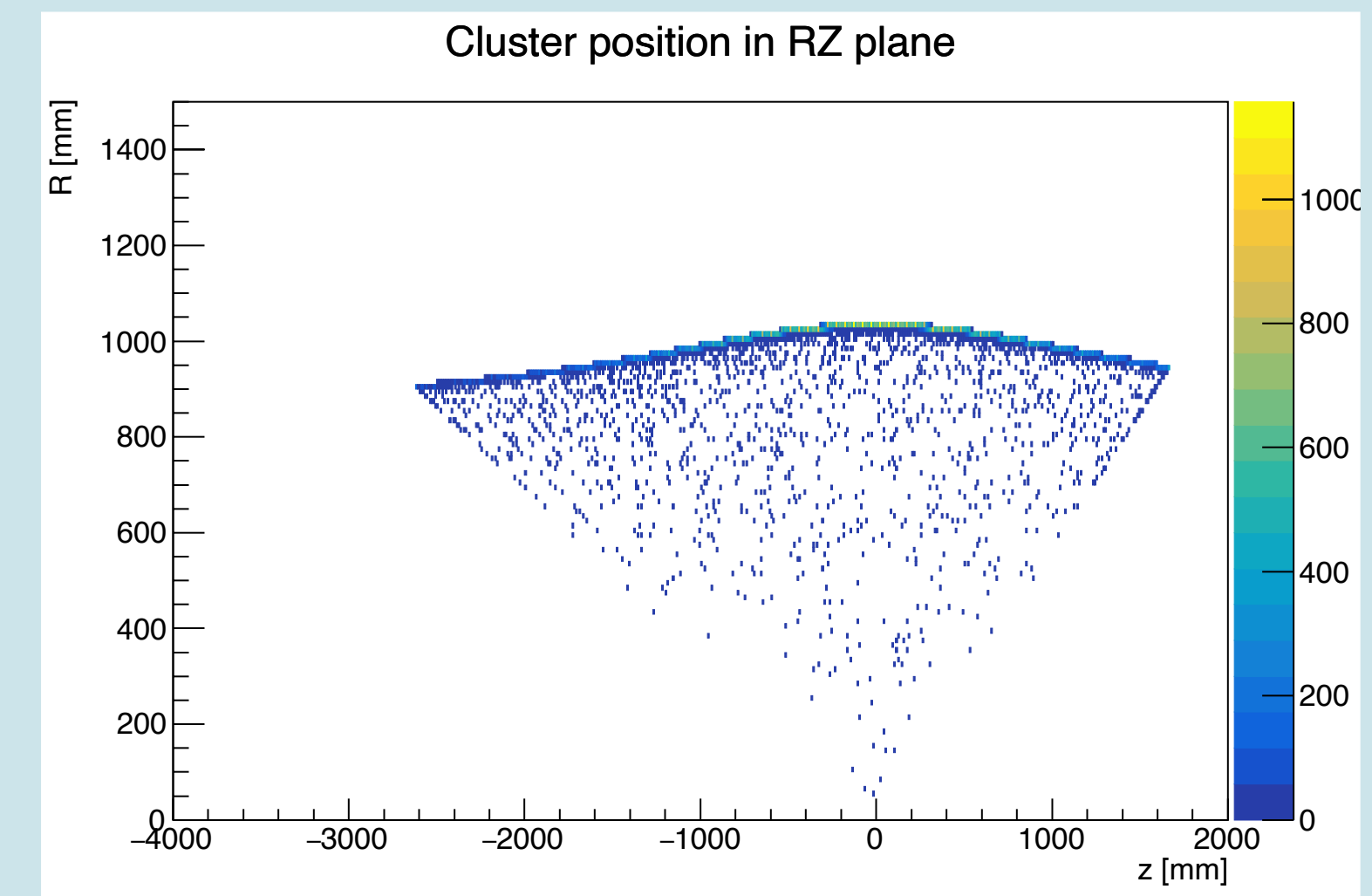
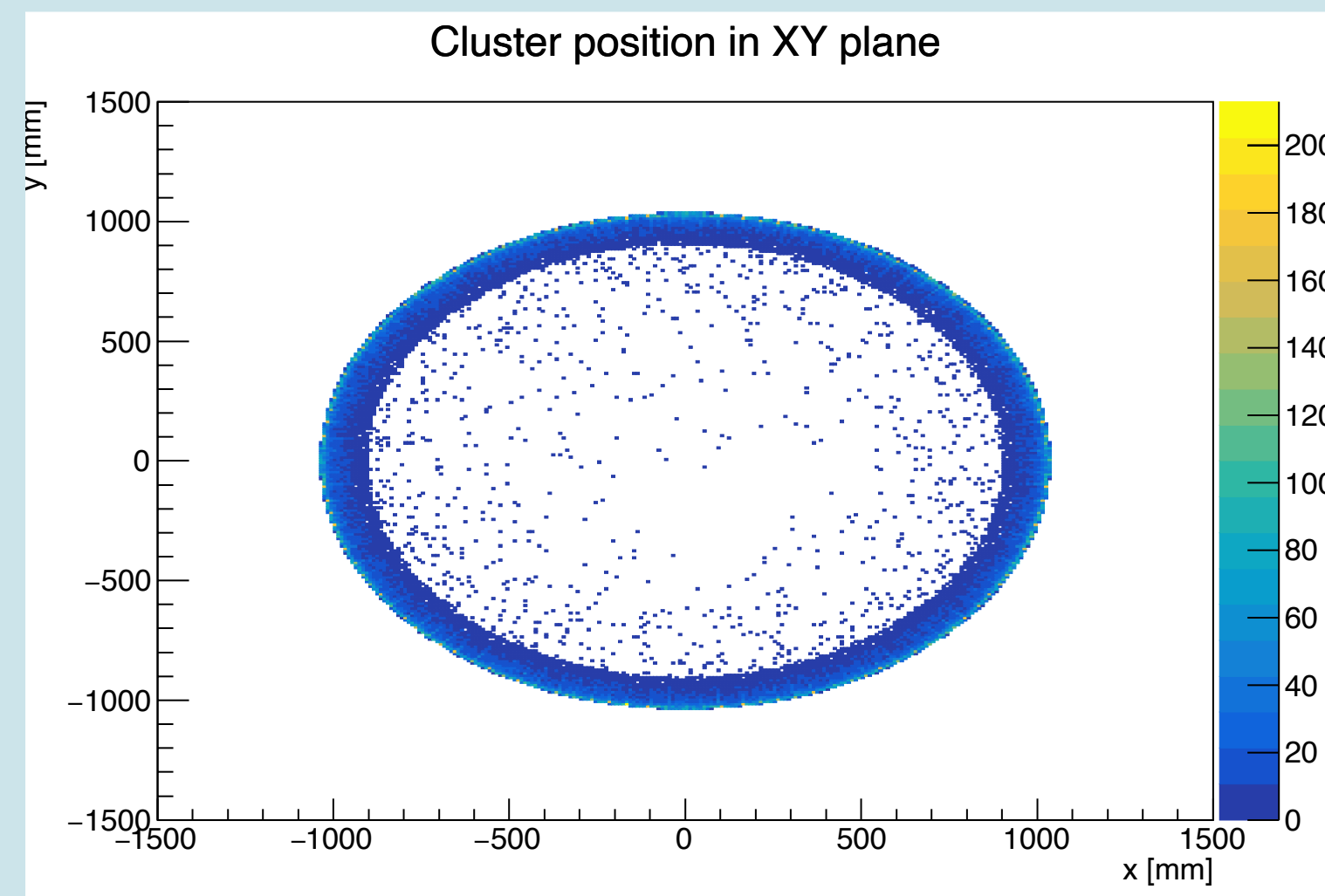
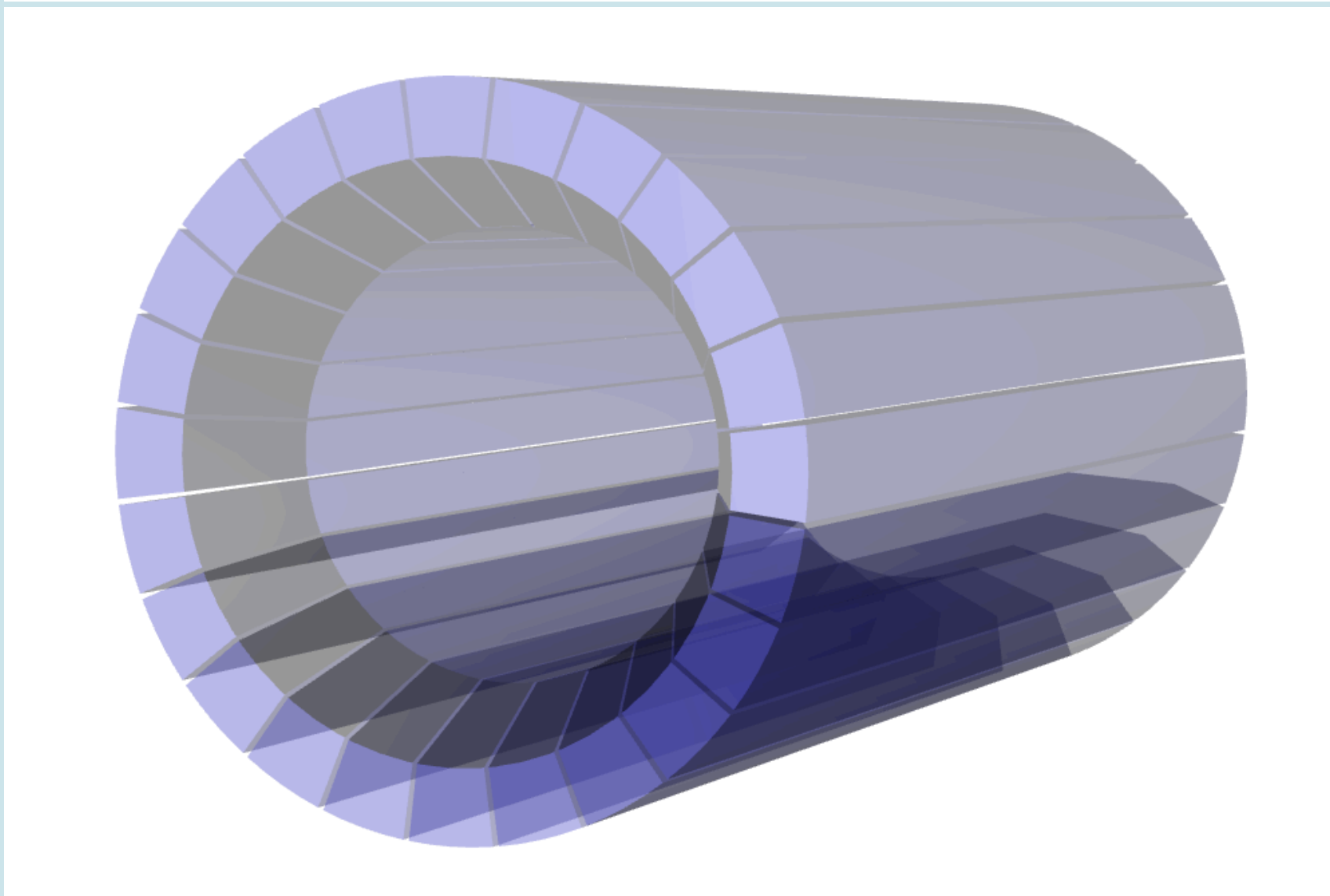
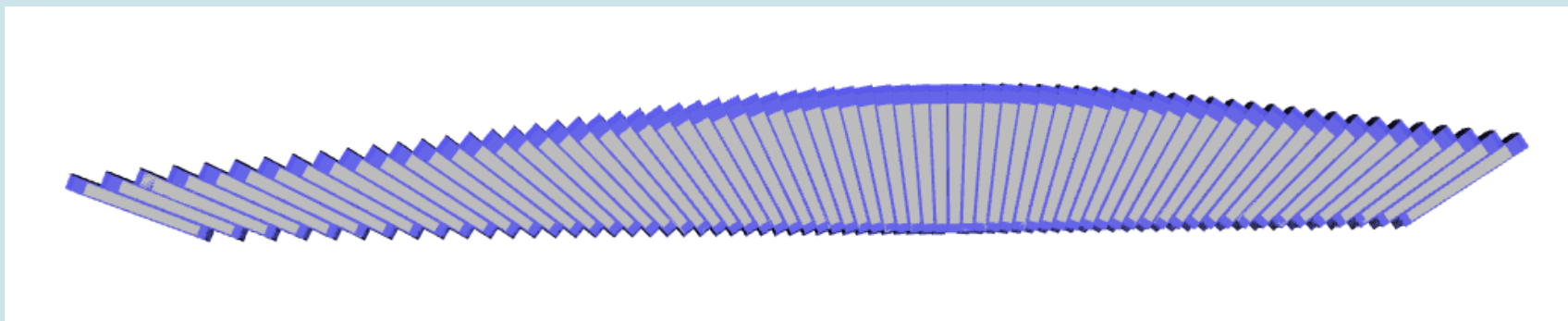
Satoshi Yano

Hiroshima University

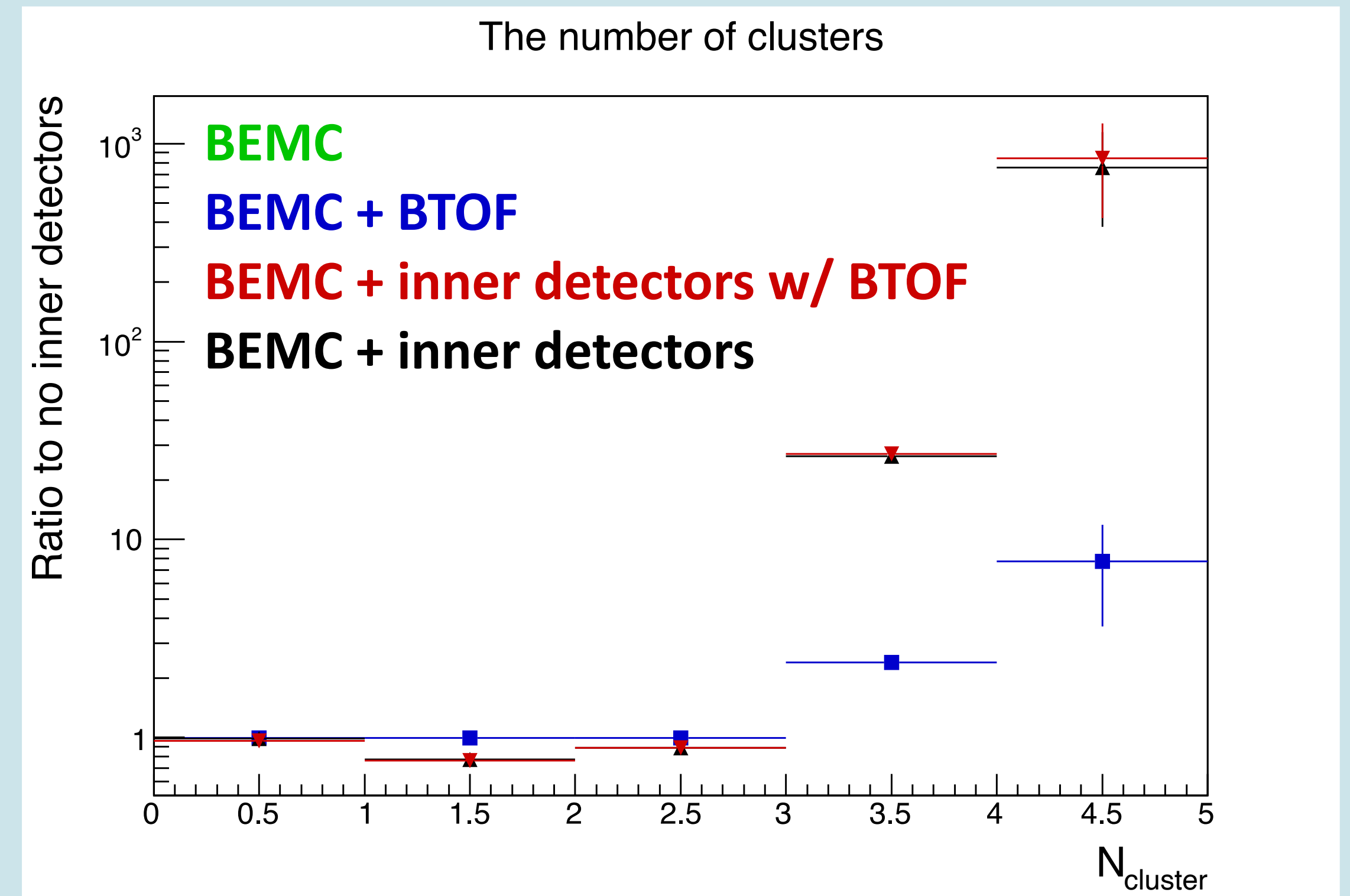
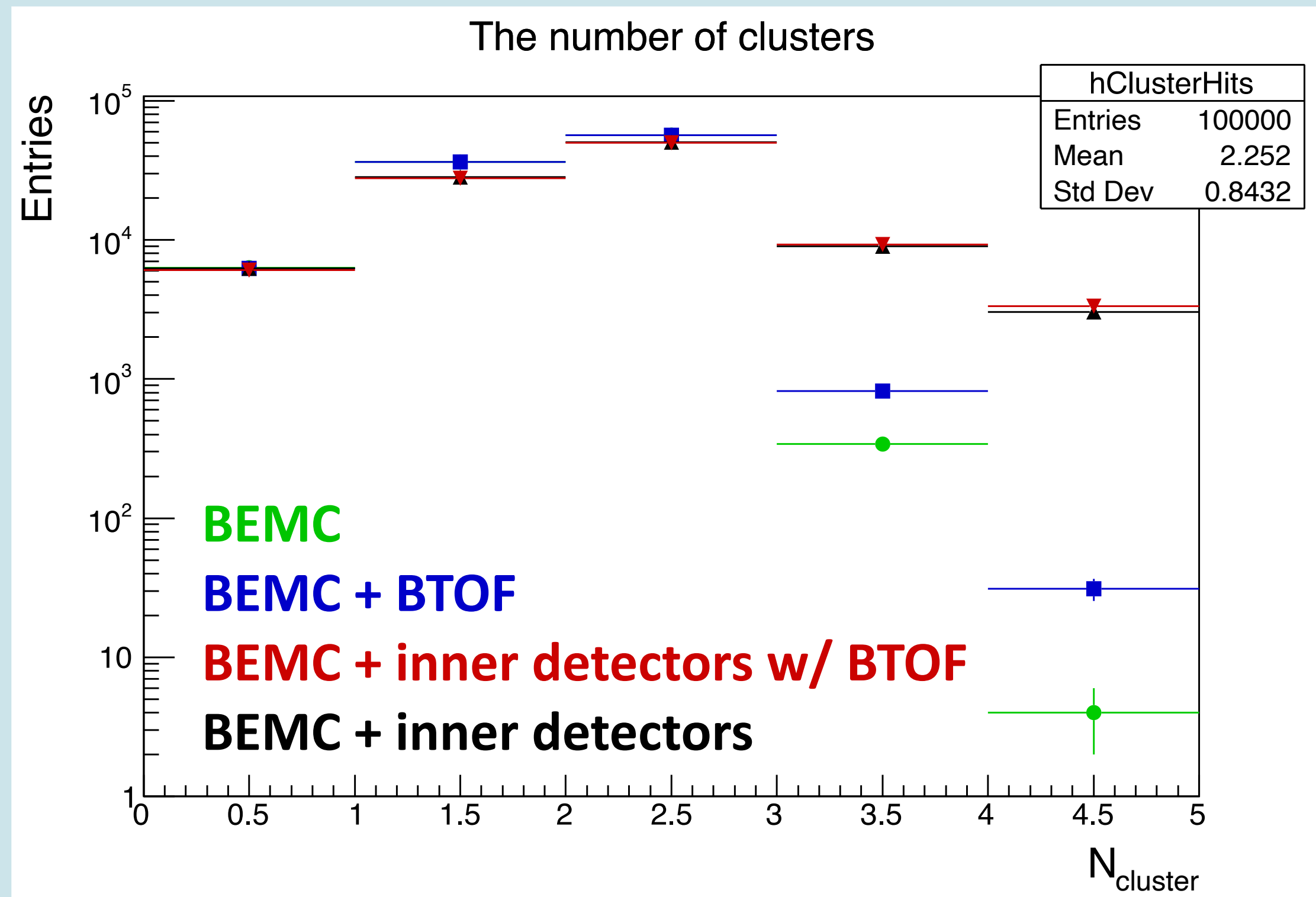
Barrel-EMC simulation in ePIC collaboration official software

問題点：クラスタとMC情報が紐付けされていない！！！！

- Barrel-EMC (SciGlass)
 - $R \sim 1020$ mm, $-1.79 < \eta < 1.34$
- Generate one neutral pion per event
 - 100000 events
 - $|\eta| < 2.5$

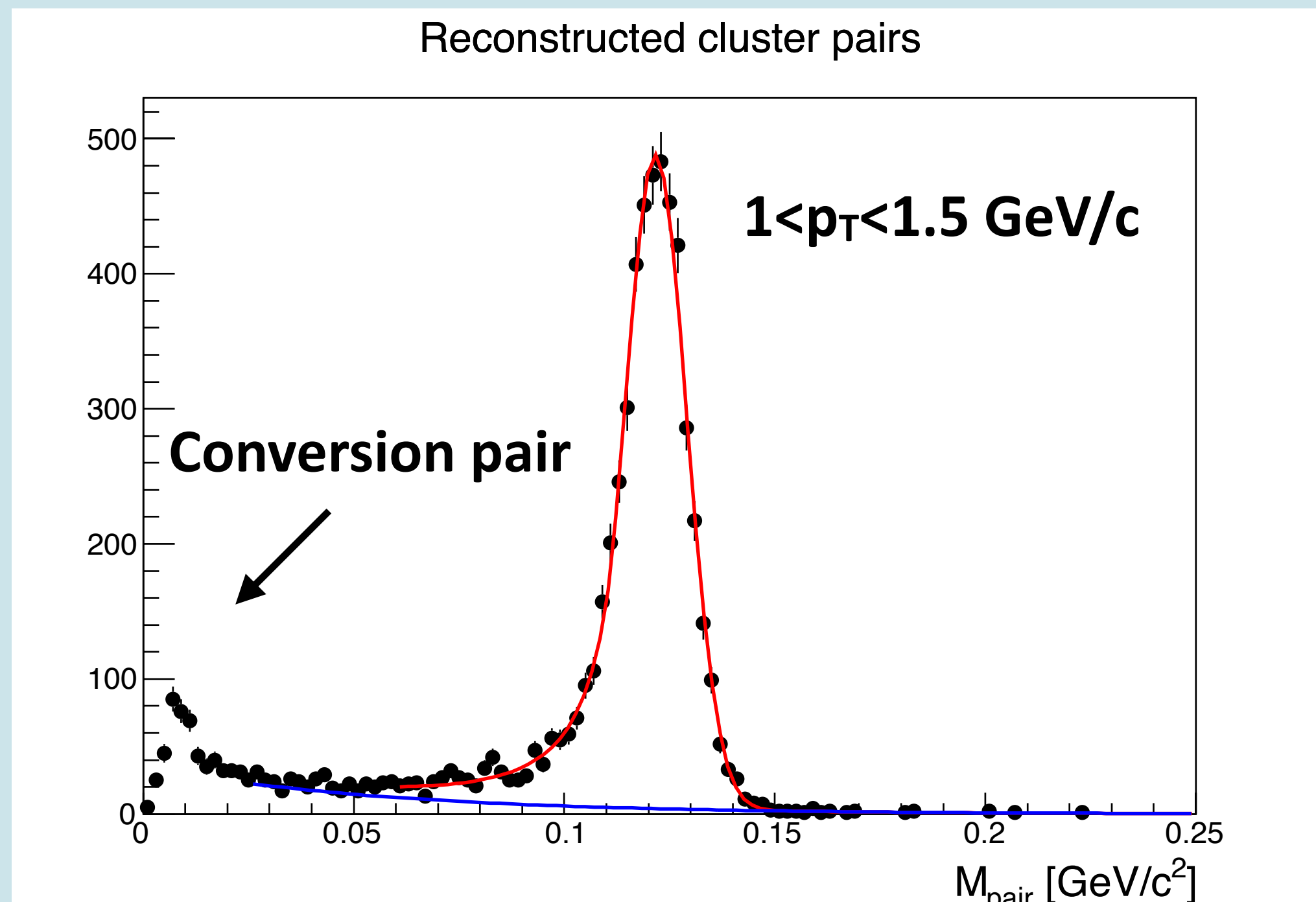


The number of BEMC cluster

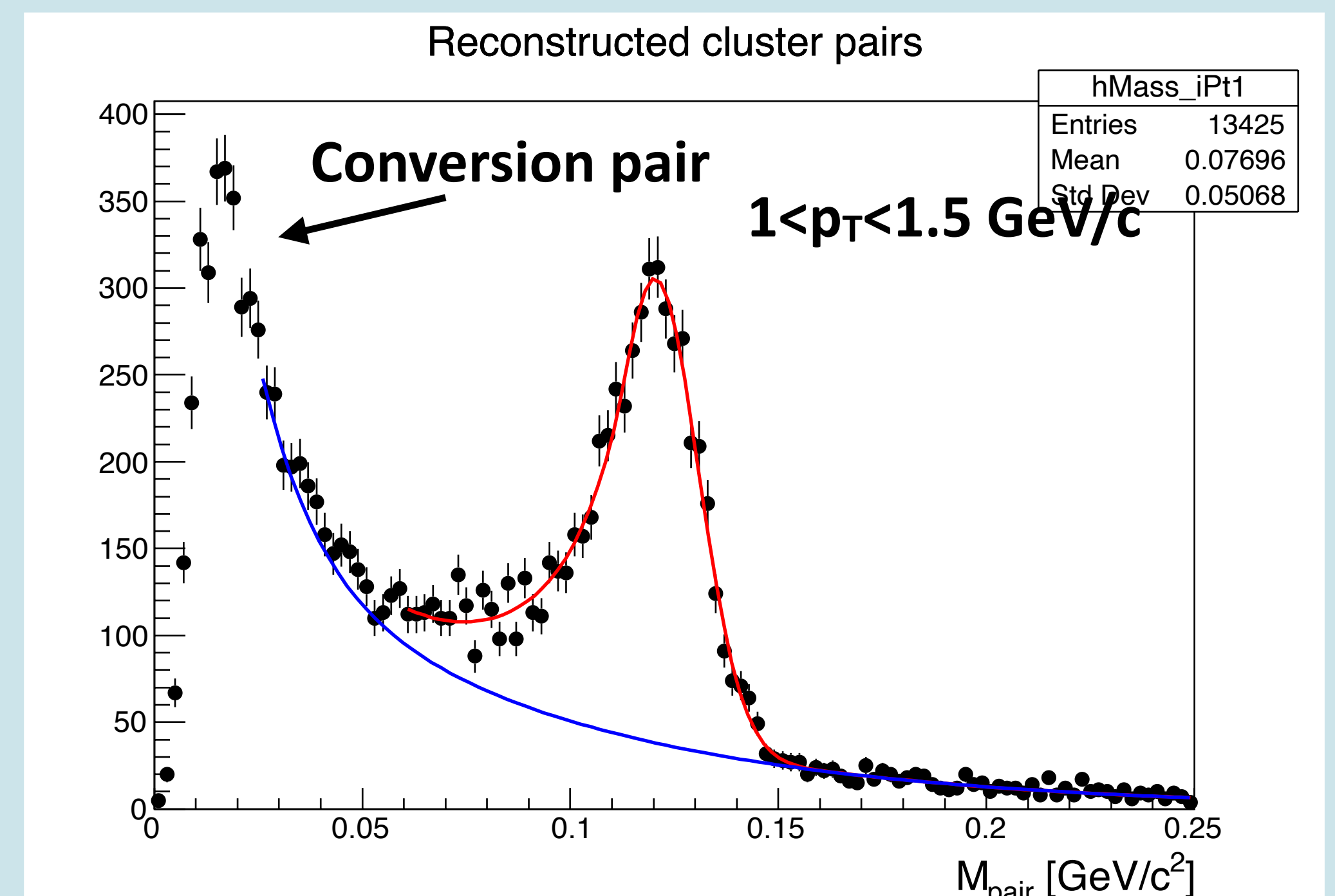


Invariant mass distribution of cluster pair

Only BEMC



BEMC + inner detectors



- Fit function: CB (peak) + expo (b.g.)

Reconstructed peak width

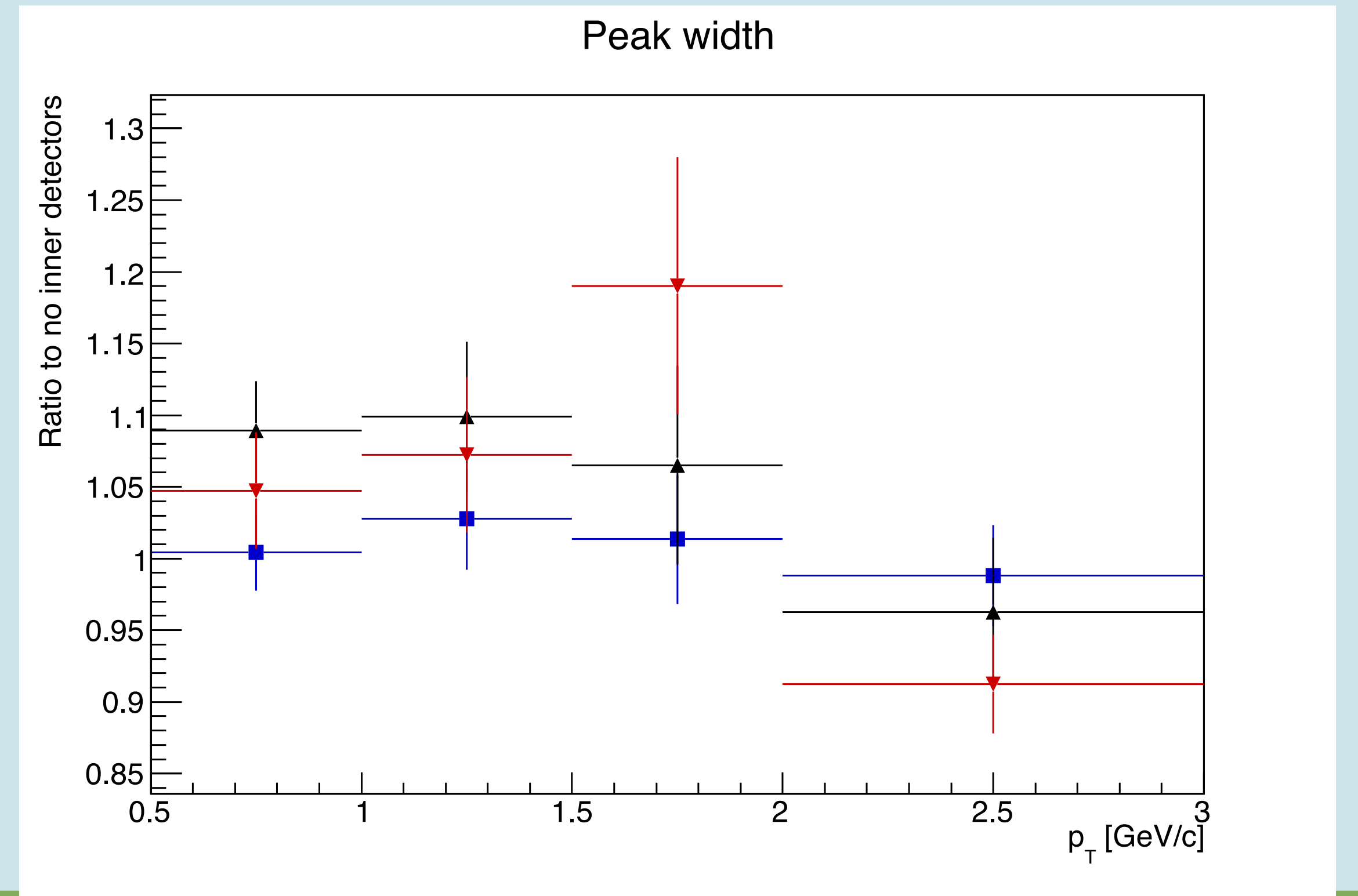
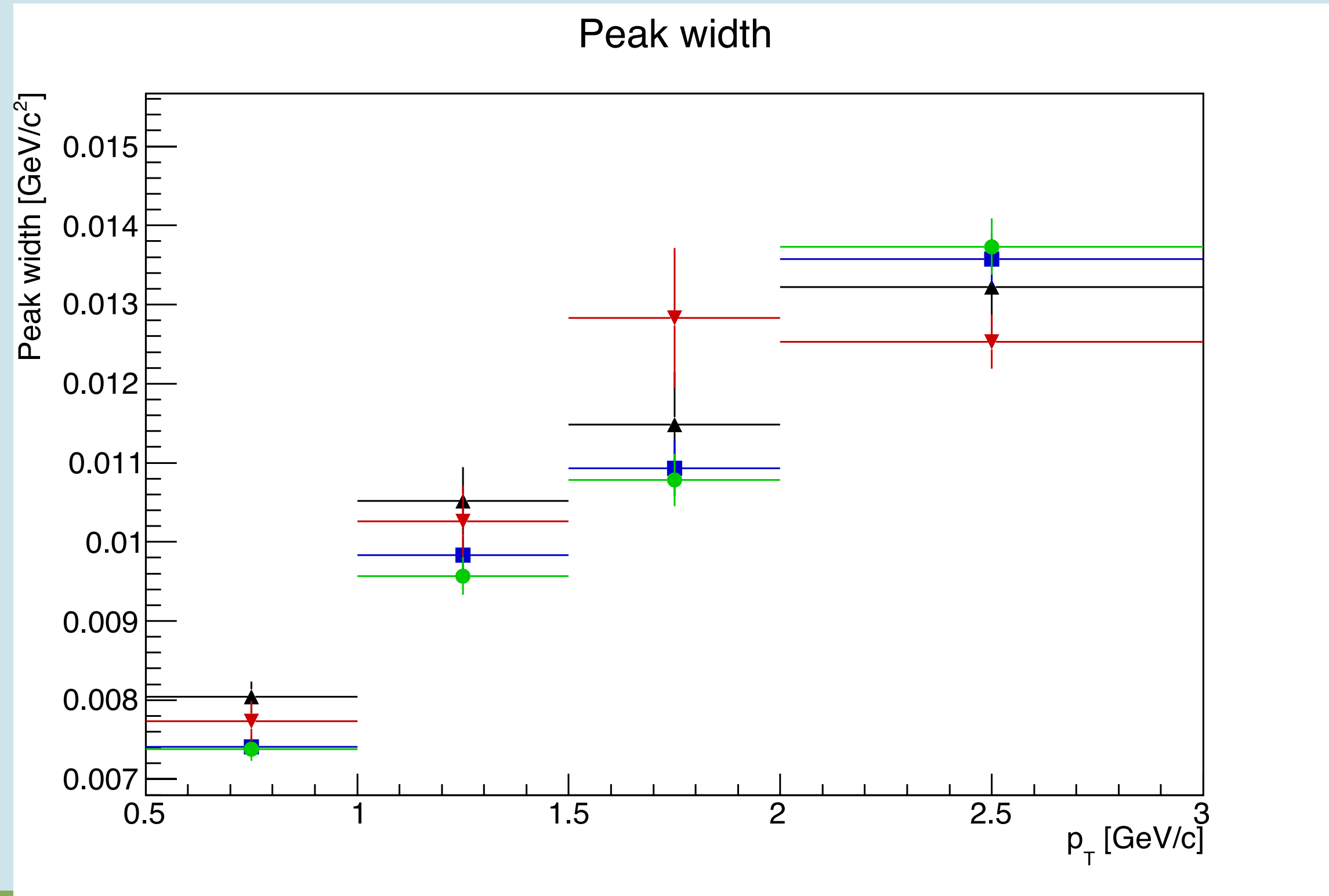
Left side of fitted CB function

BEMC

BEMC + BTOF

BEMC + inner detectors w/ BTOF

BEMC + inner detectors



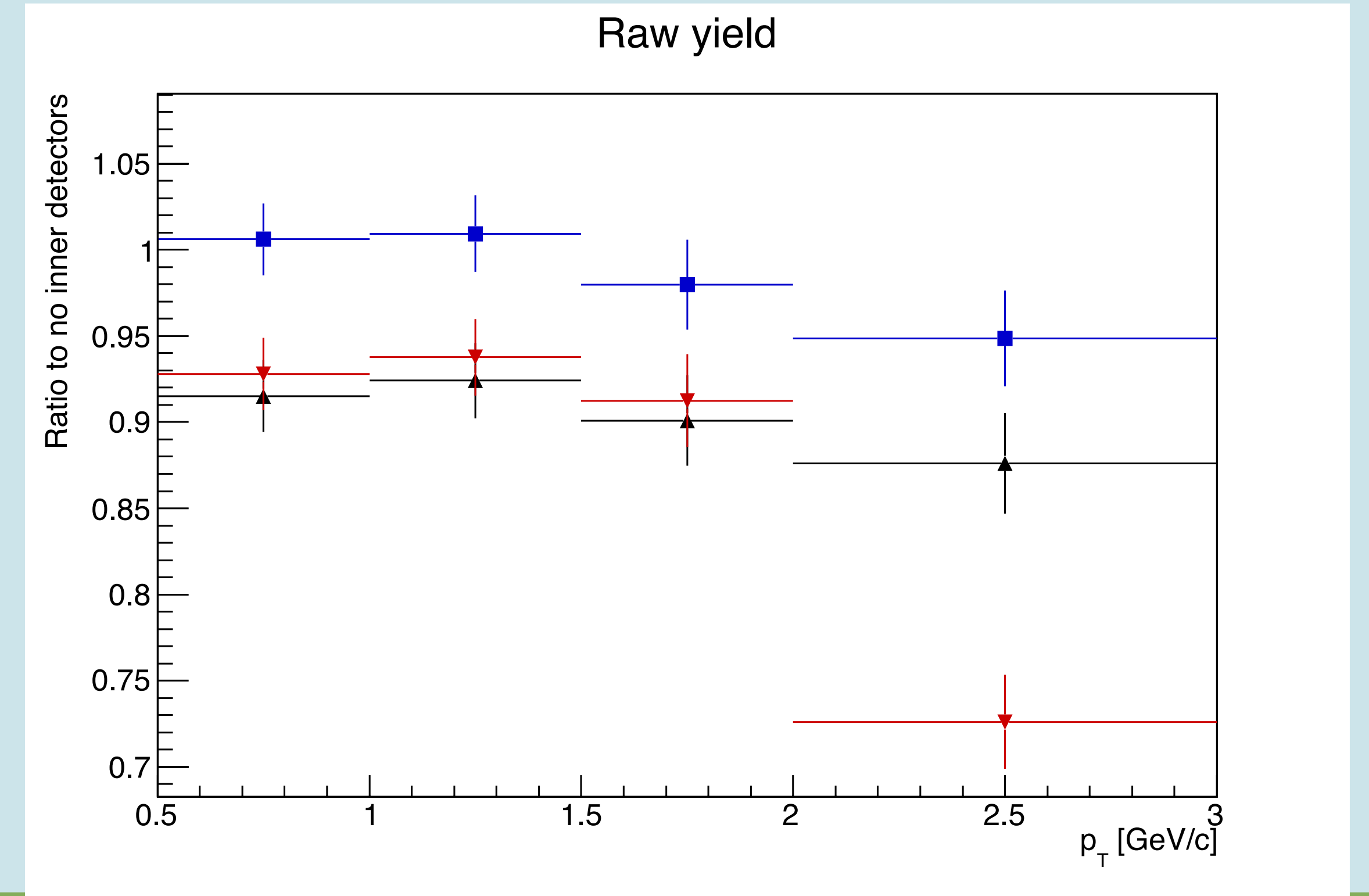
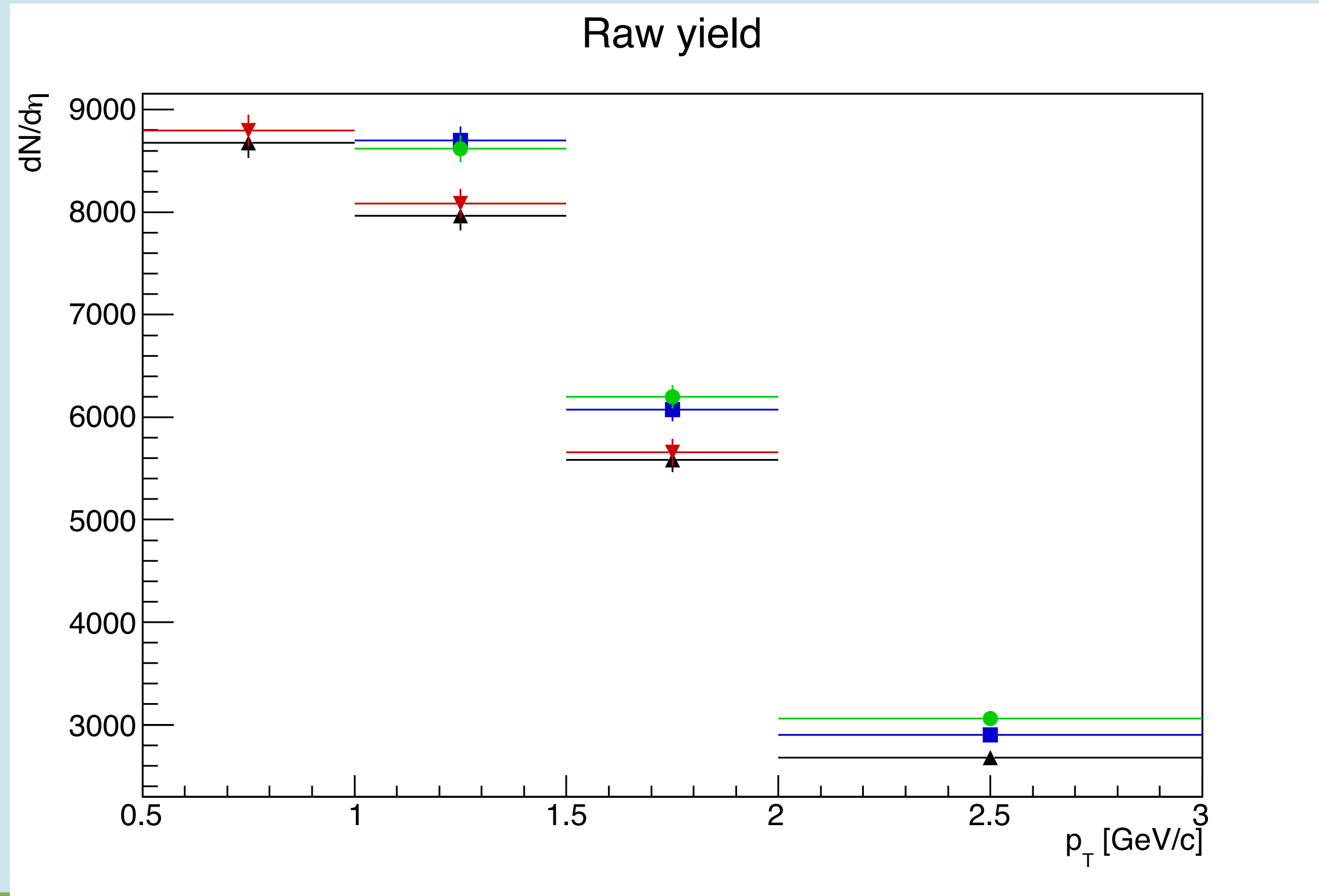
Reconstructed raw yield

BEMC

BEMC + BTOF

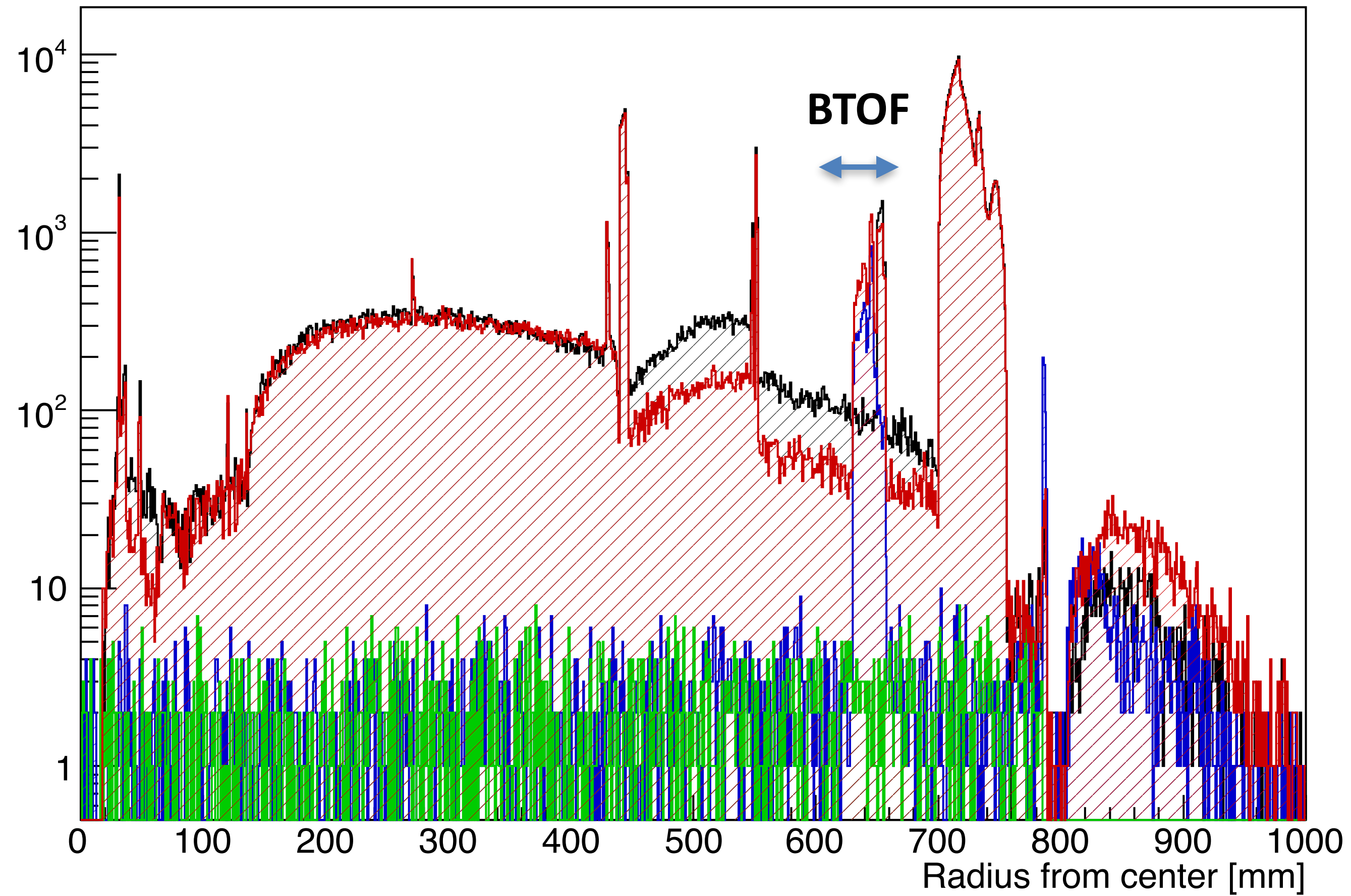
BEMC + inner detectors w/ BTOF

BEMC + inner detectors



Particle production position

Particle production position



Nothing (air)
BTOF
Inner detectors w/ BTOF
Inner detectors