

# MPD PID for 40M PHQMD

Data set:

40M mb events Bi+Bi @  $\sqrt{s} = 9.2$  GeV  
 $|Z_{\text{vertex}}| < 50$  cm (MC)

Track selection:

- 1)  $|\eta| < 1.3$
- 2)  $N_{\text{hits}} \geq 20$
- 3) both primary + secondary

1<sup>st</sup> PID configuration:

**Bayesian** approach (max prob)  
 $\pm 3$ -sigma non-zero probability region

2<sup>nd</sup> PID configuration:

**N-sigma** method (ALICE)  
 $\pm 3$ -sigma non-zero probability region

3<sup>rd</sup> PID configuration:

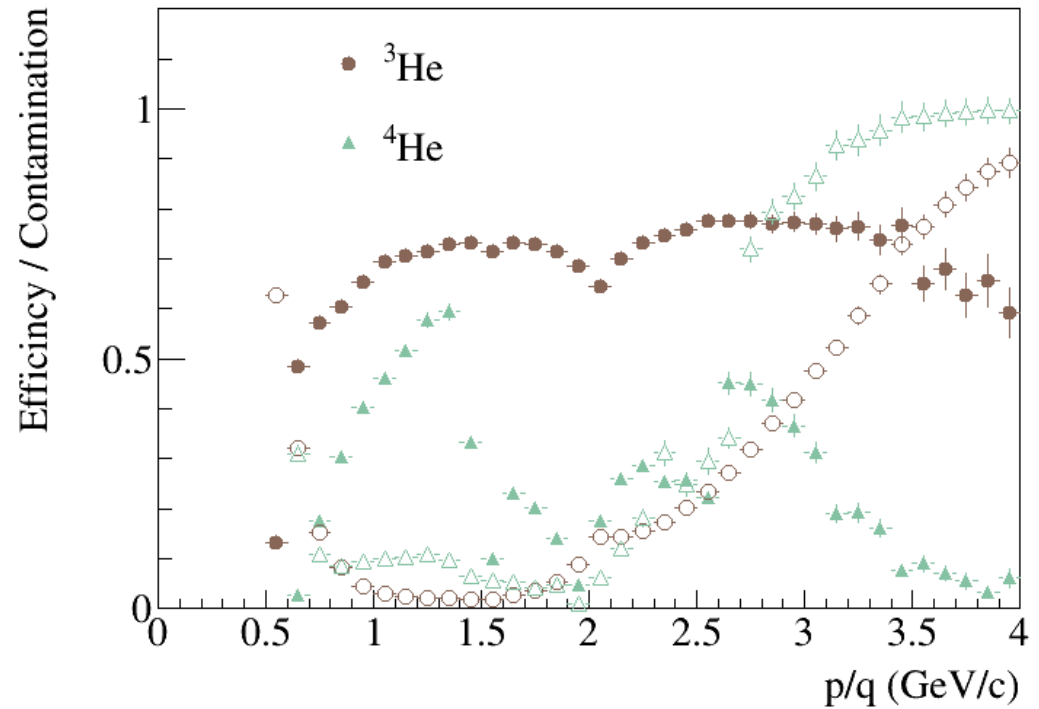
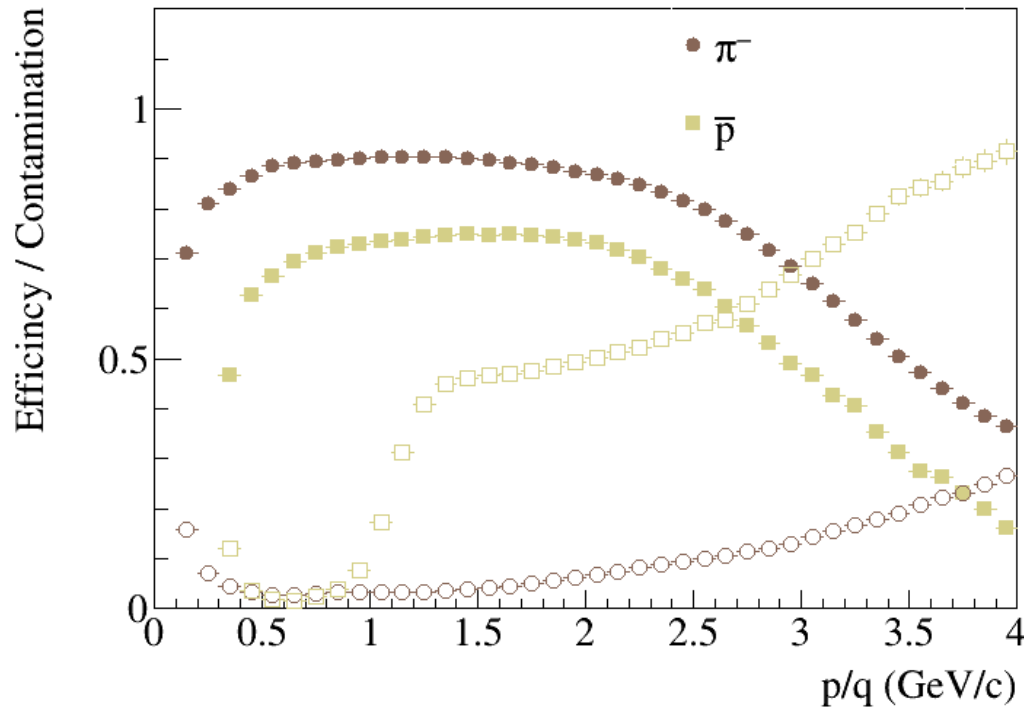
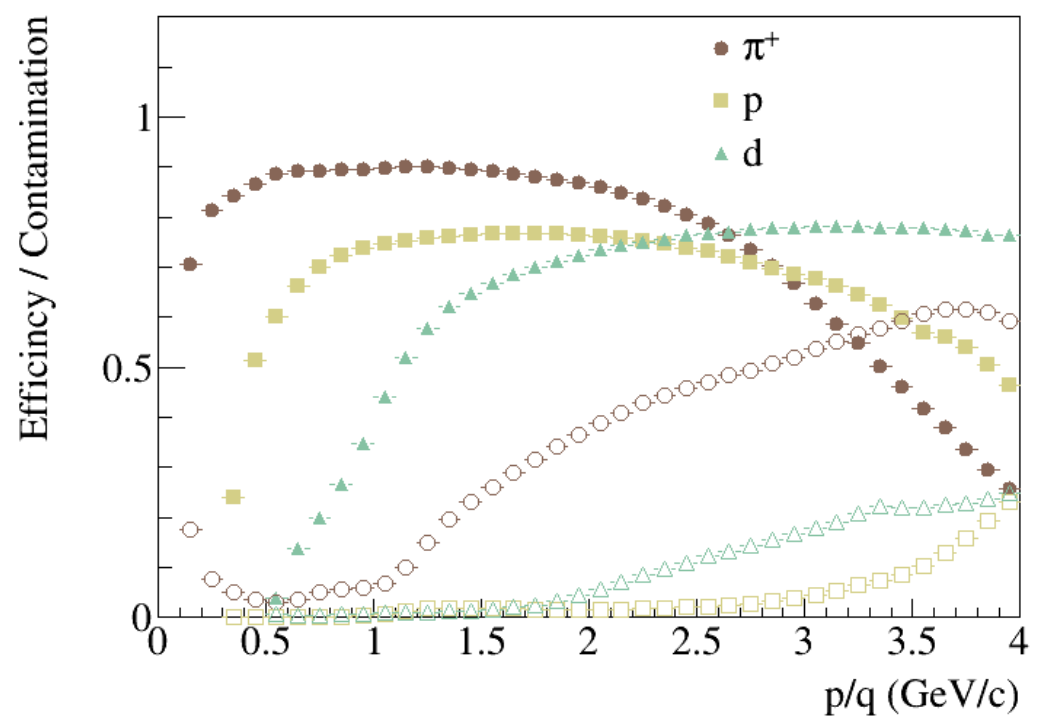
**N-sigma** method (ALICE)  
 $\pm 2$ -sigma non-zero probability region

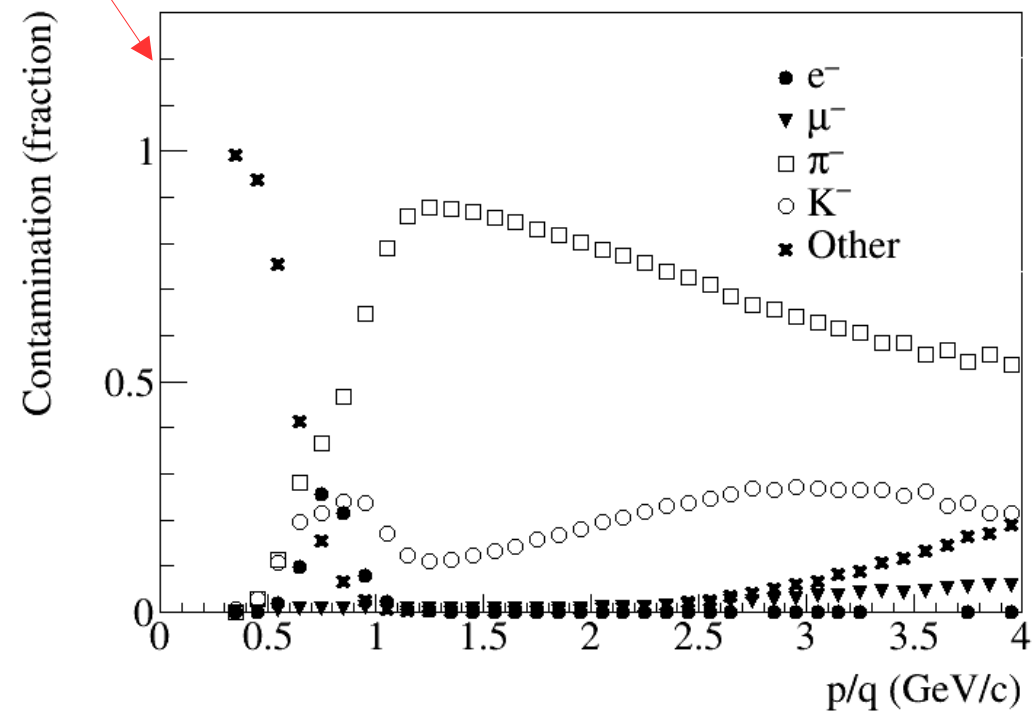
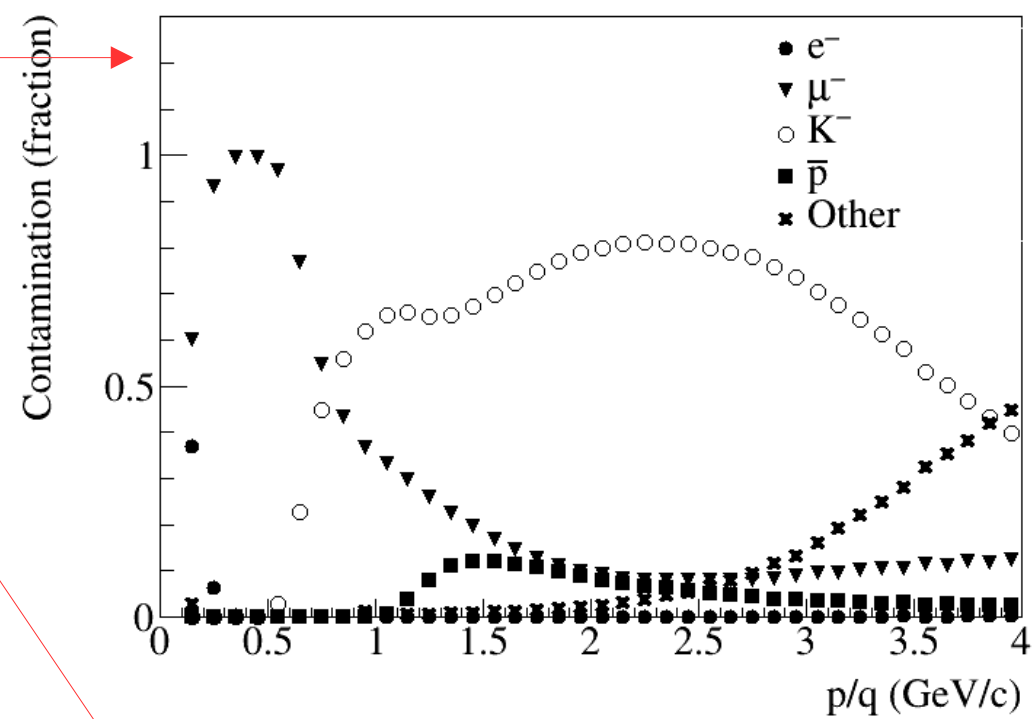
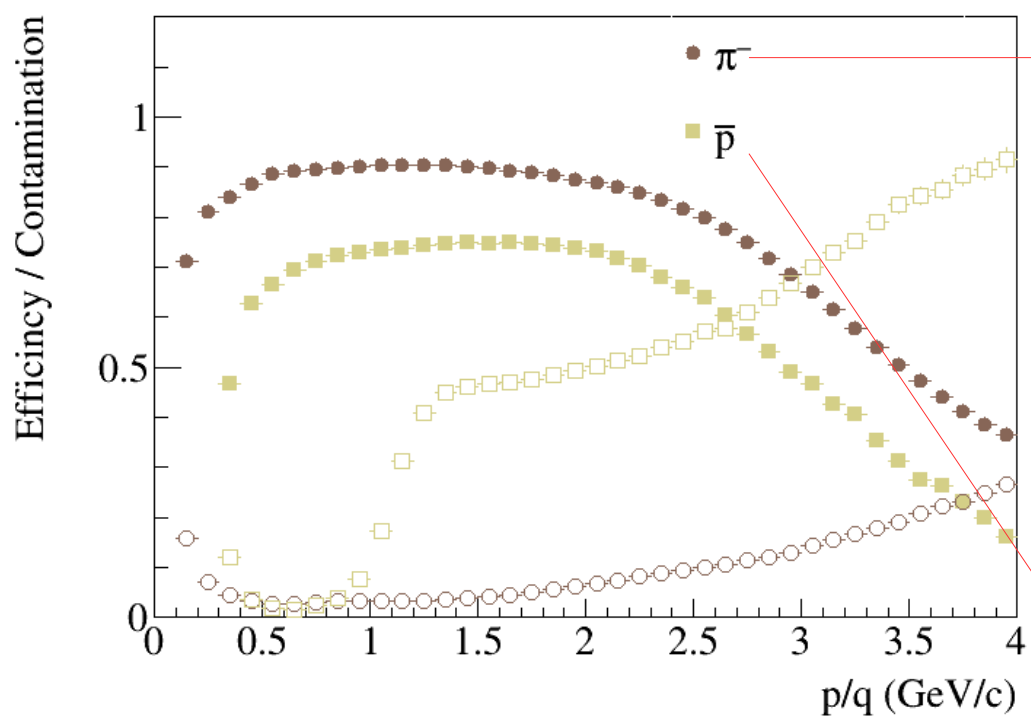
1<sup>st</sup> PID configuration:

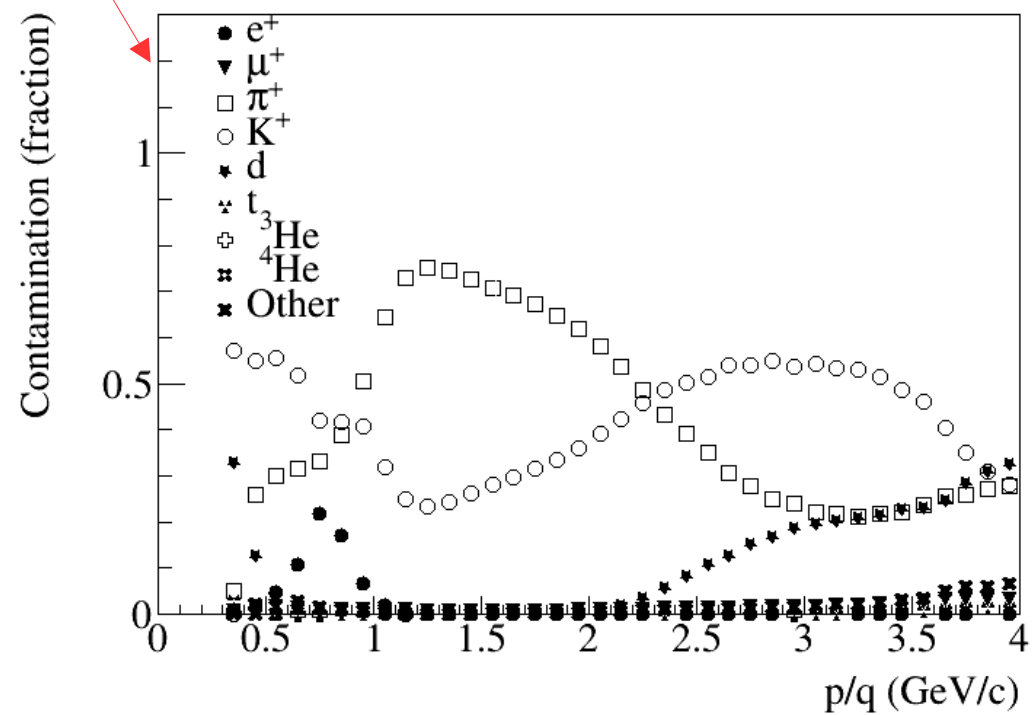
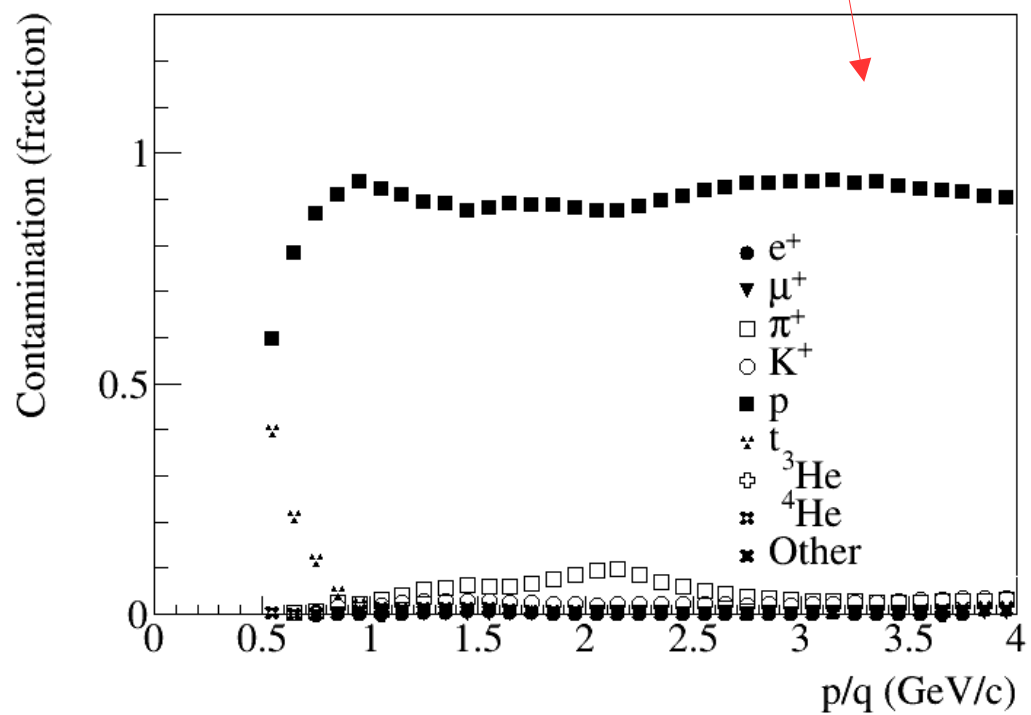
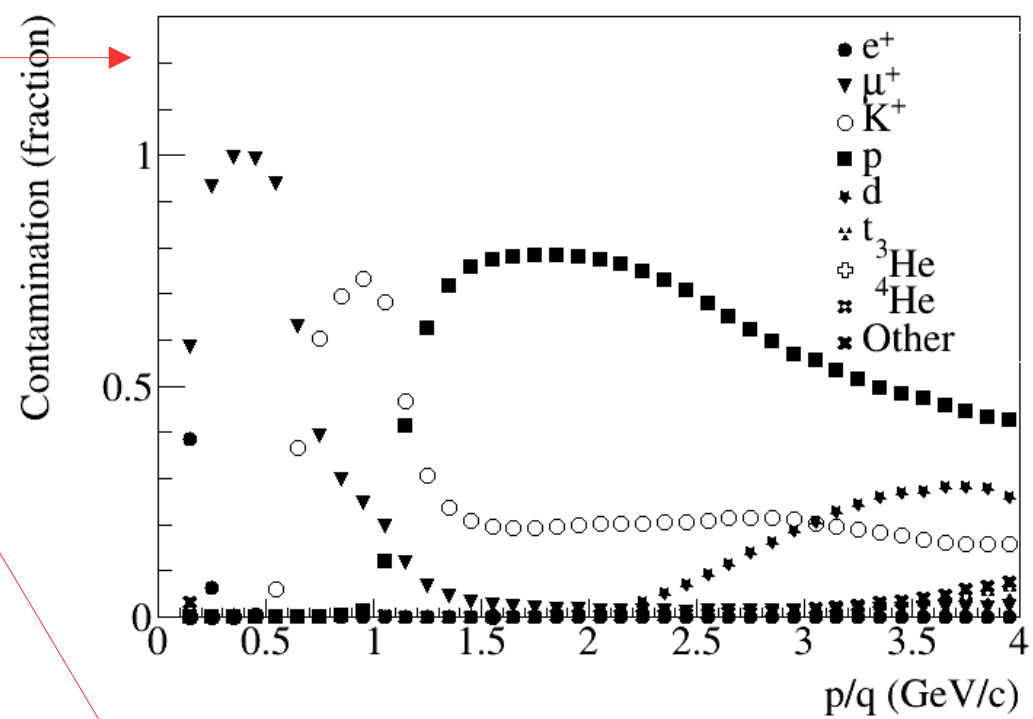
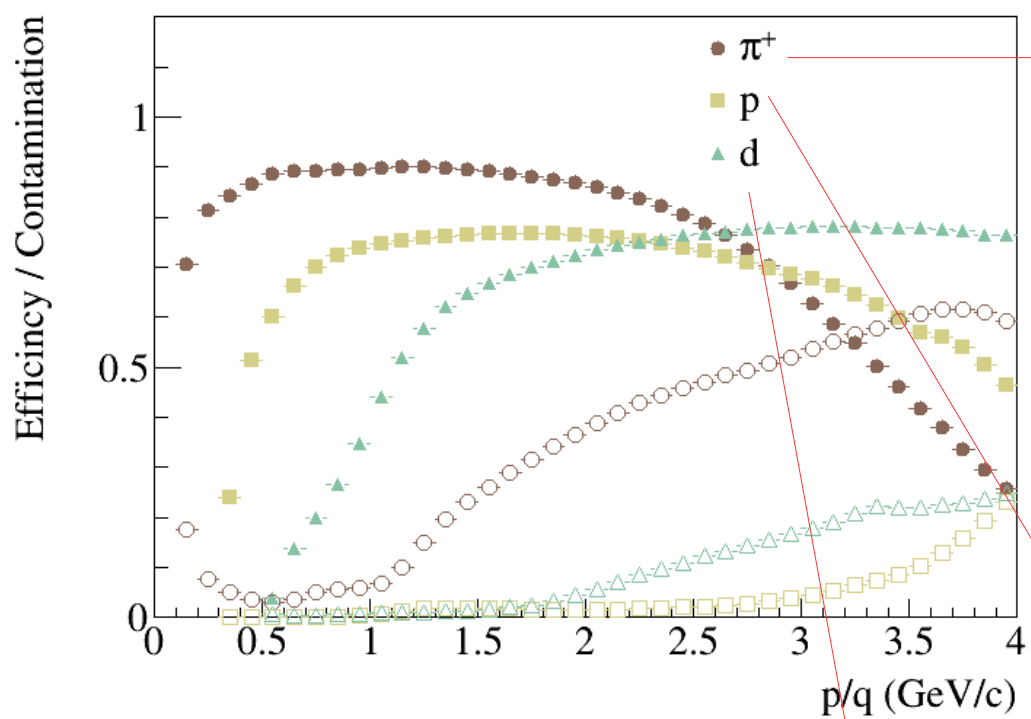
Bayesian approach (max prob)

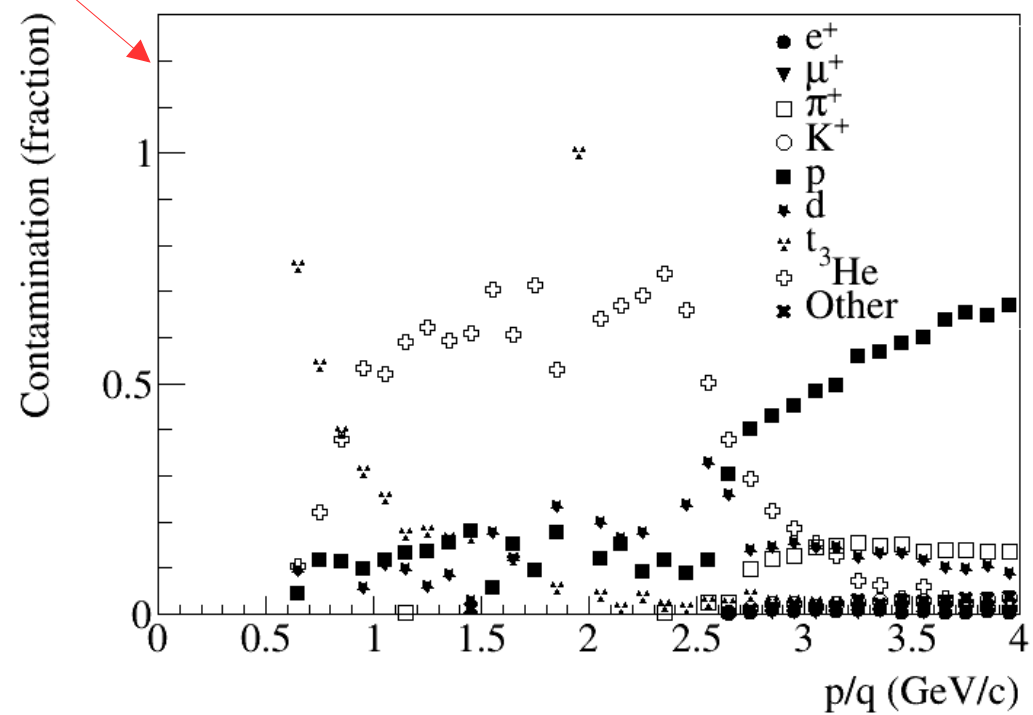
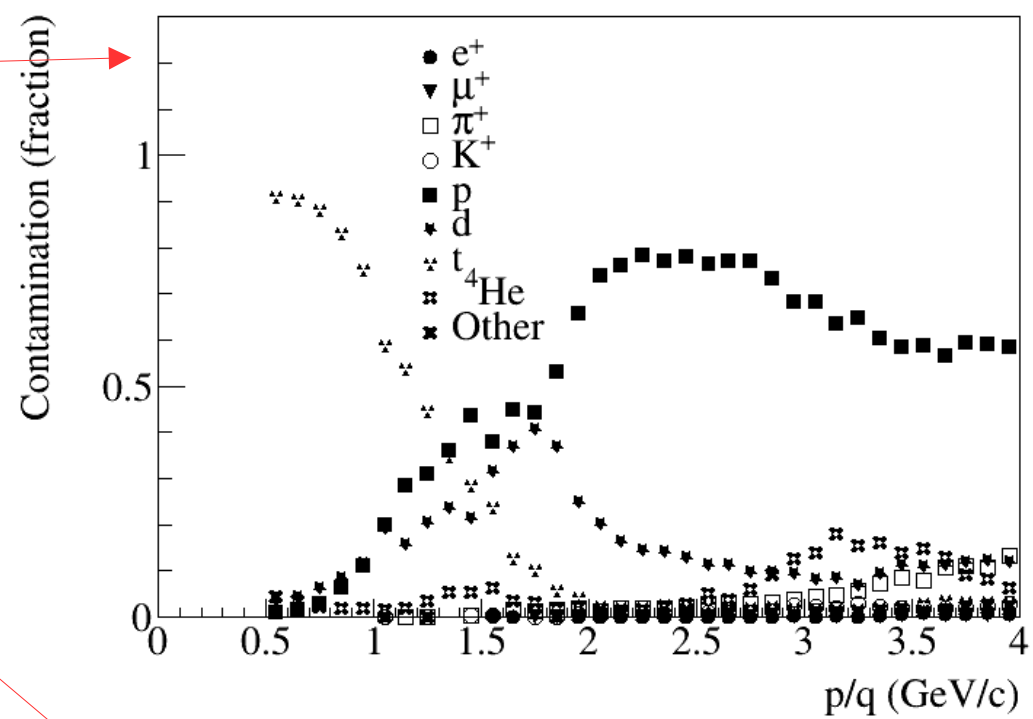
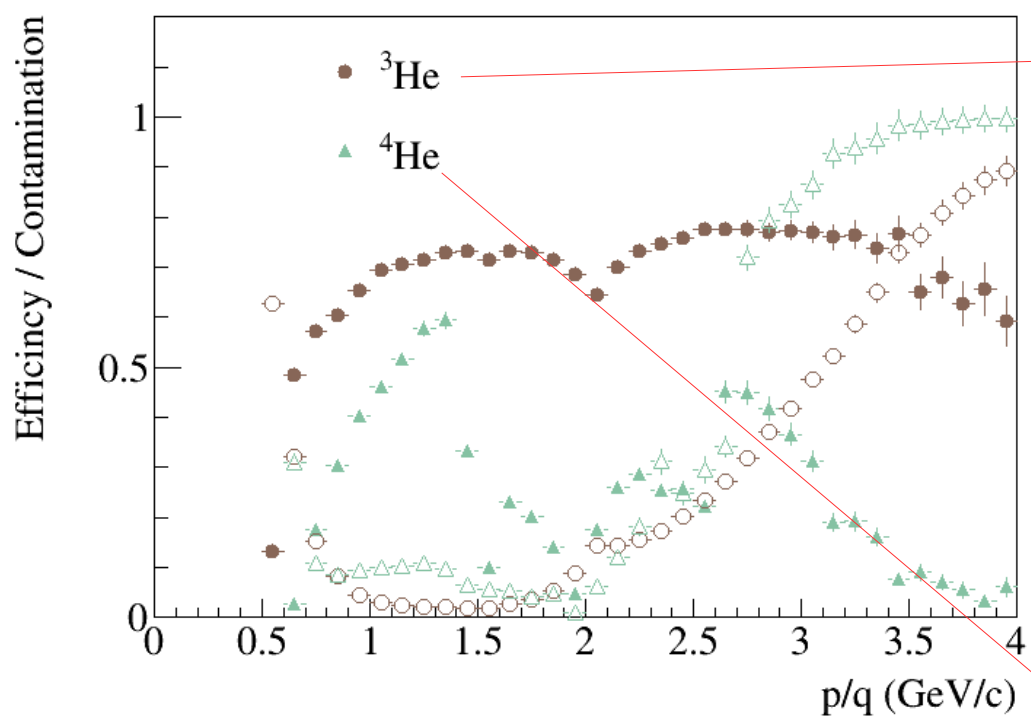
$\pm 3$ -sigma non-zero probability region

dE/dx + TOF







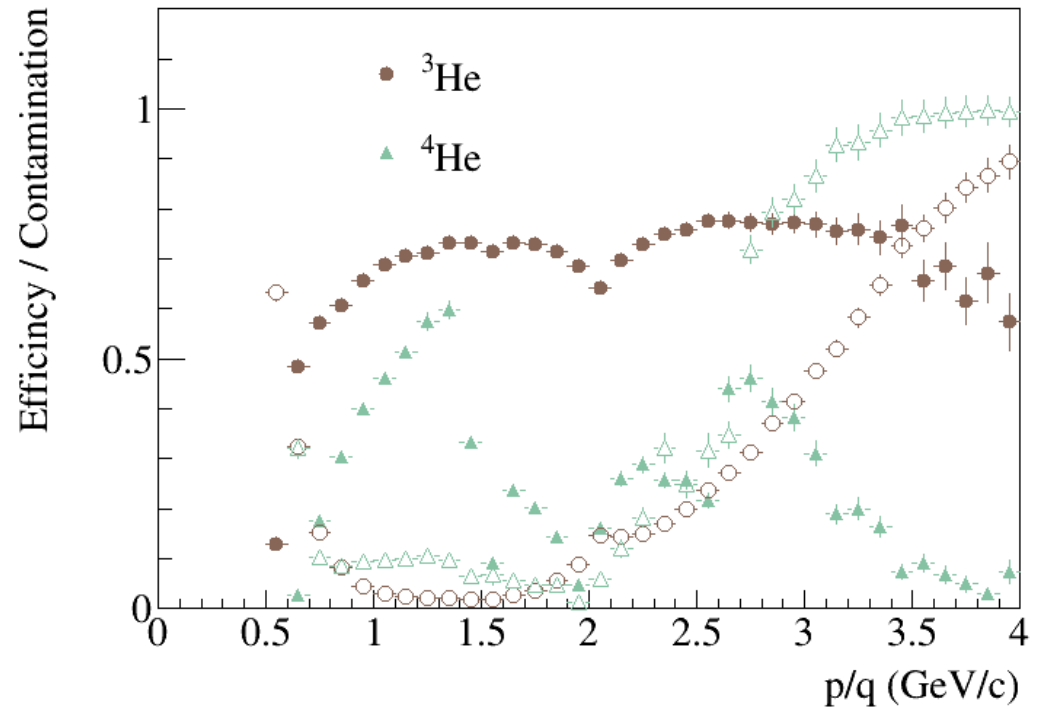
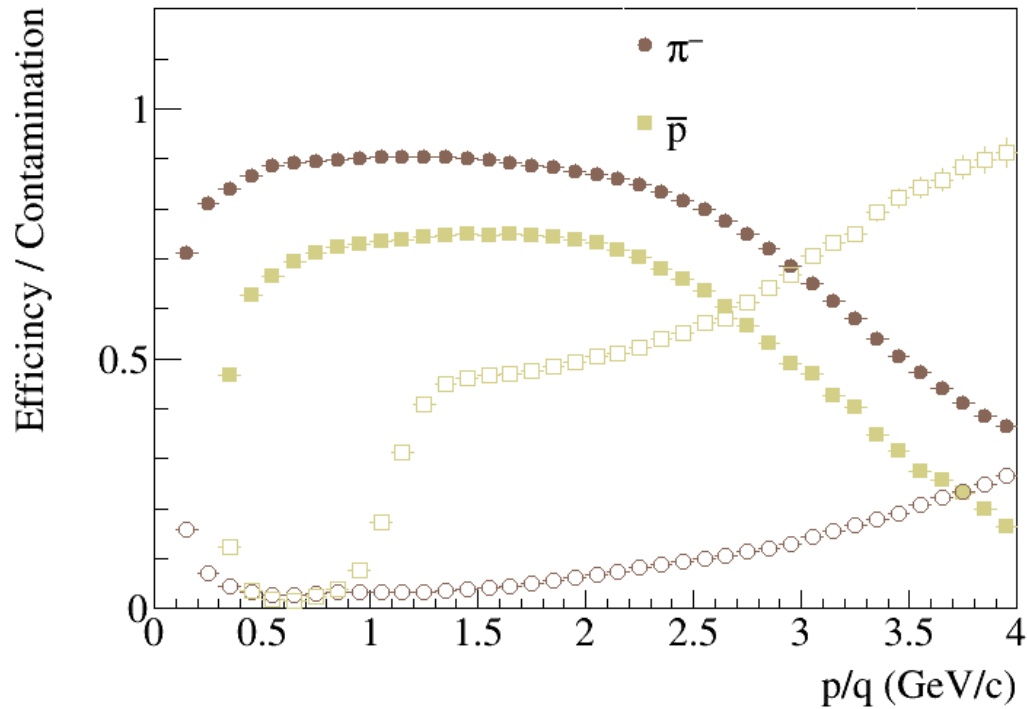
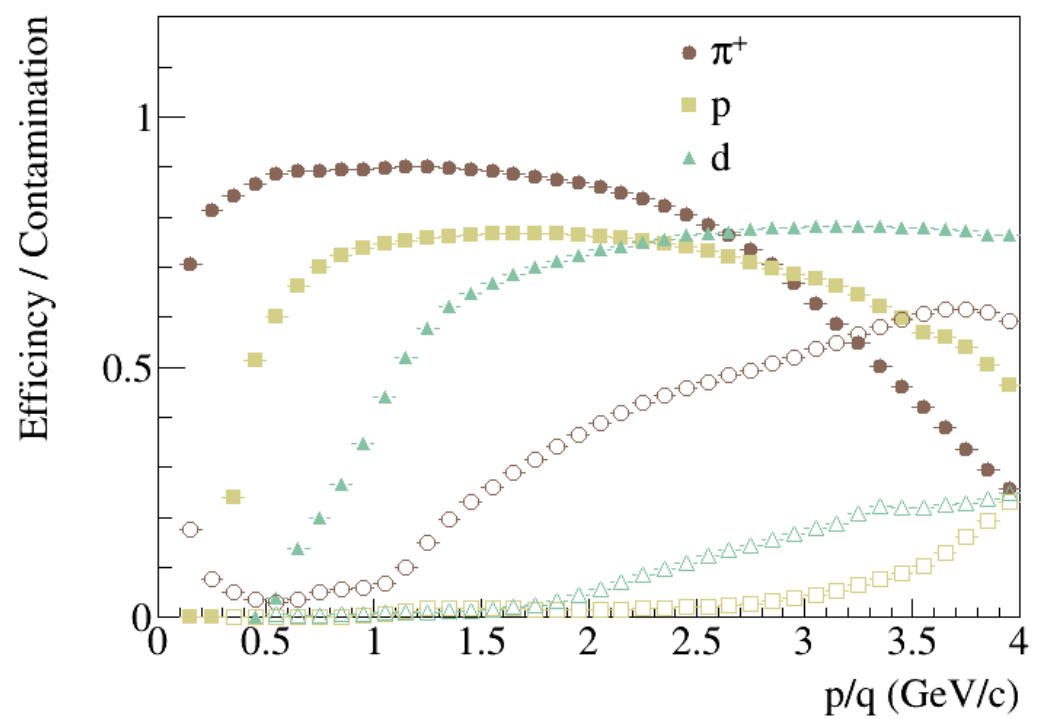


1<sup>st</sup> PID configuration:

Bayesian approach (max prob)

$\pm 3$ -sigma non-zero probability region

( dE/dx + TOF ) + ( dE/dx )

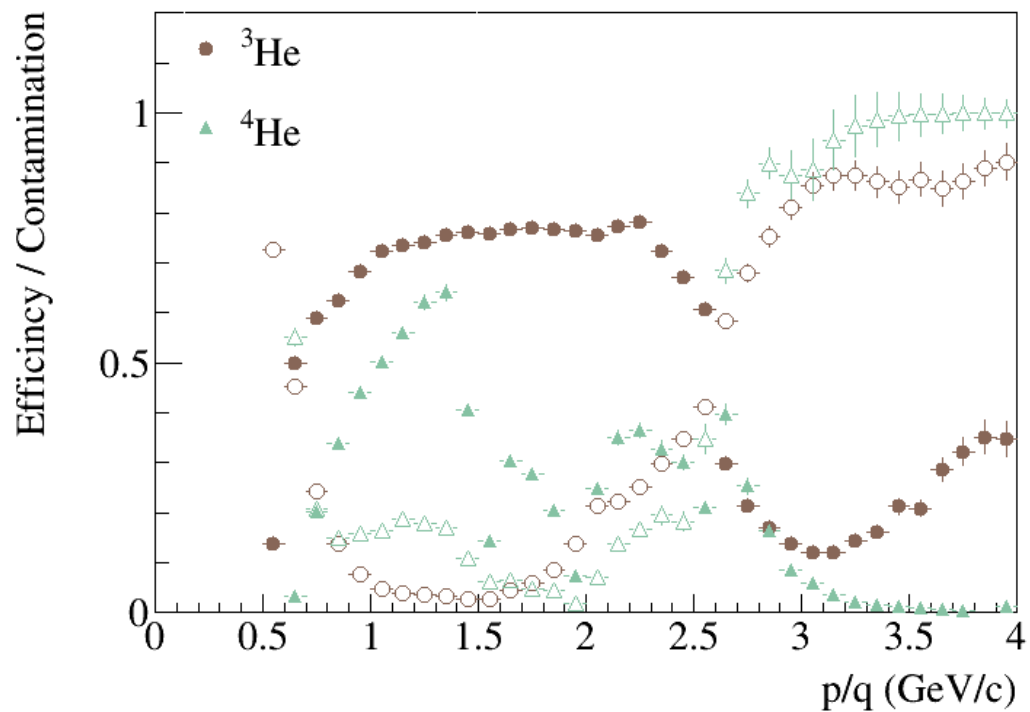
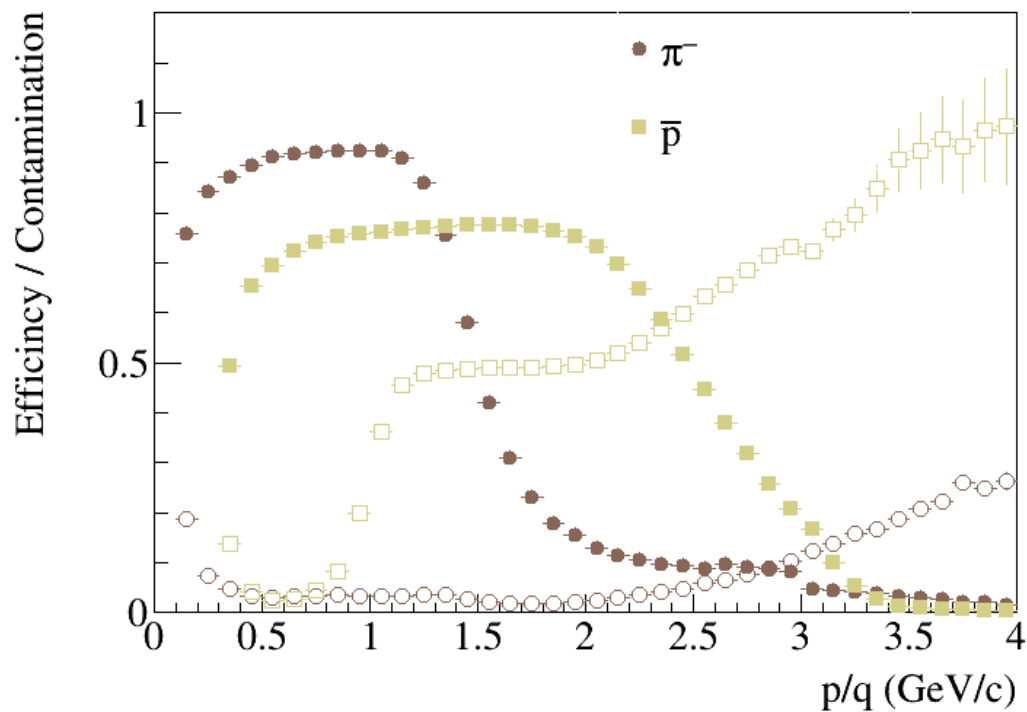
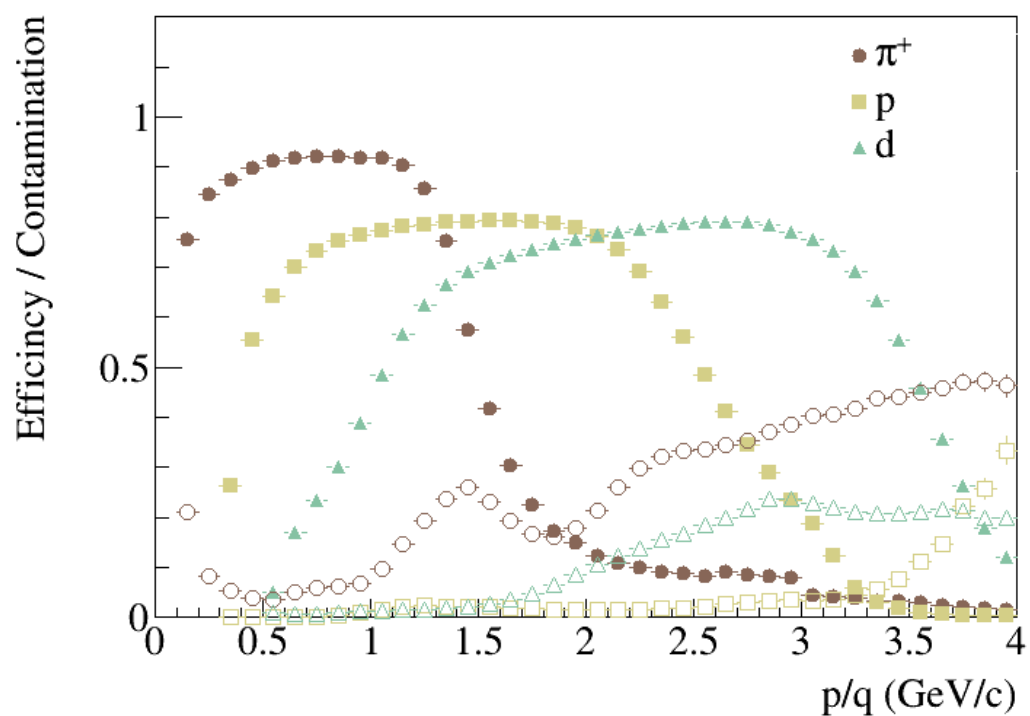


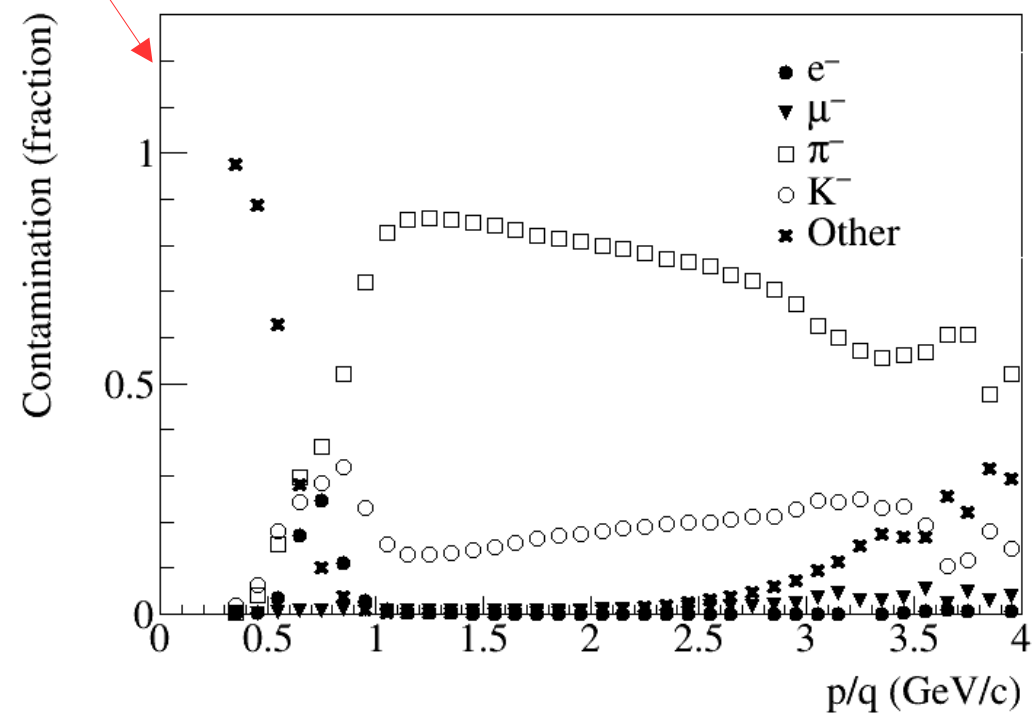
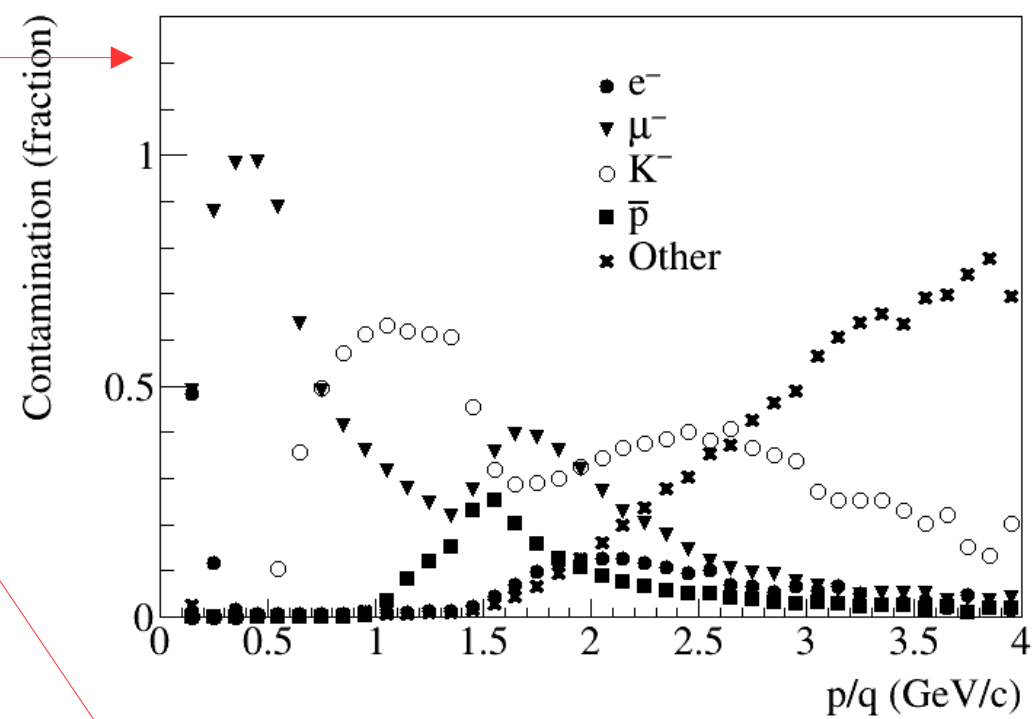
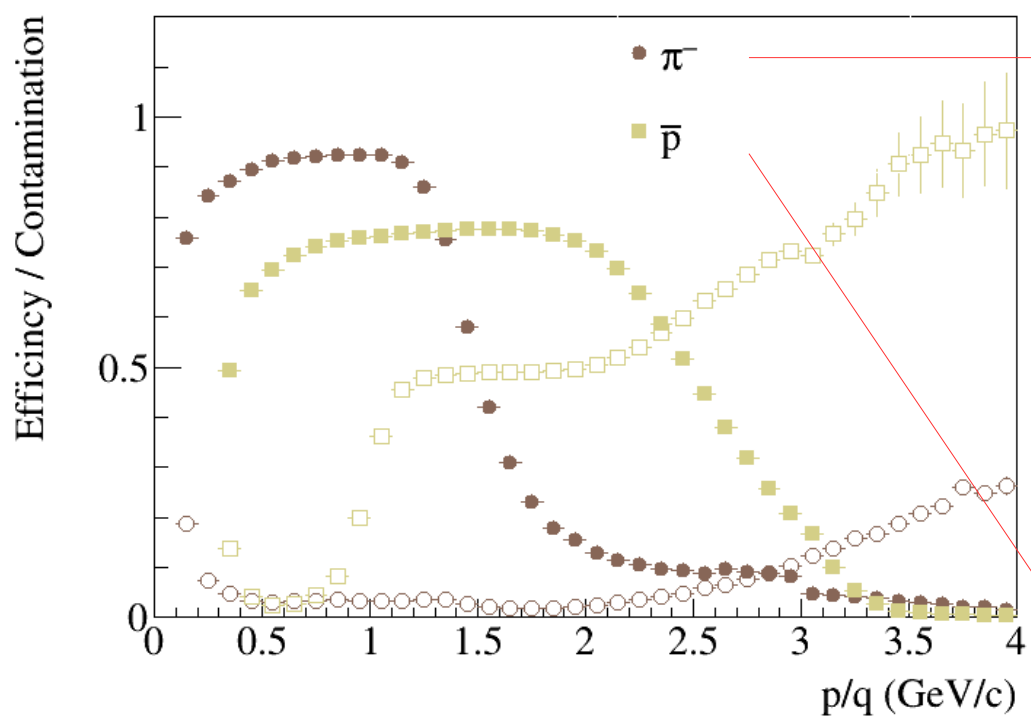
2<sup>nd</sup> PID configuration:

N-sigma method (ALICE)

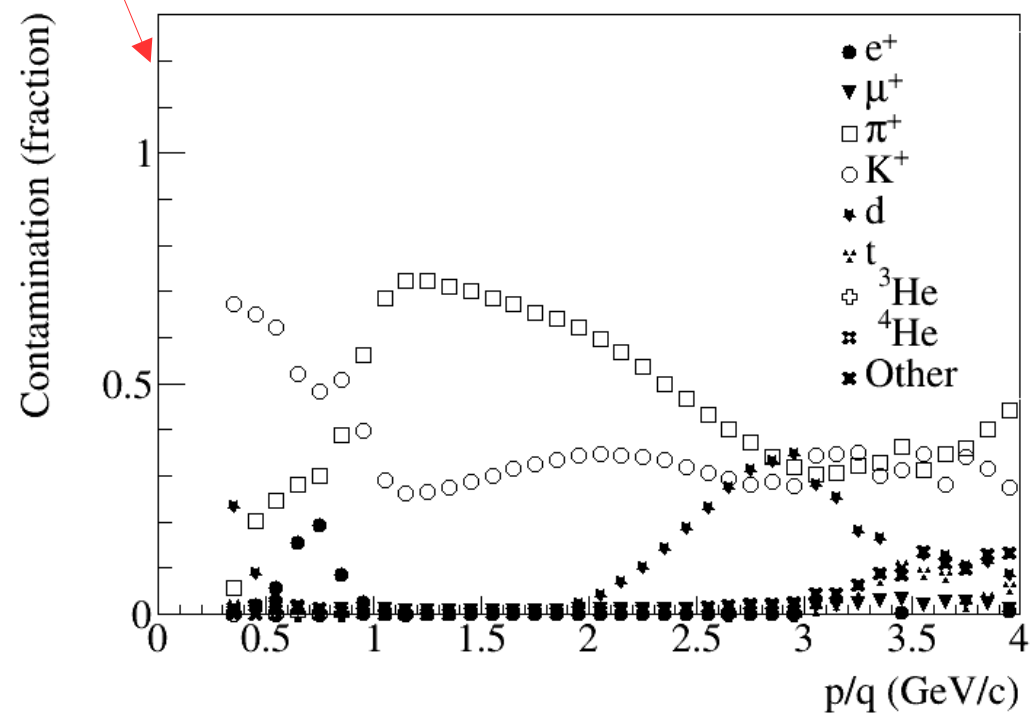
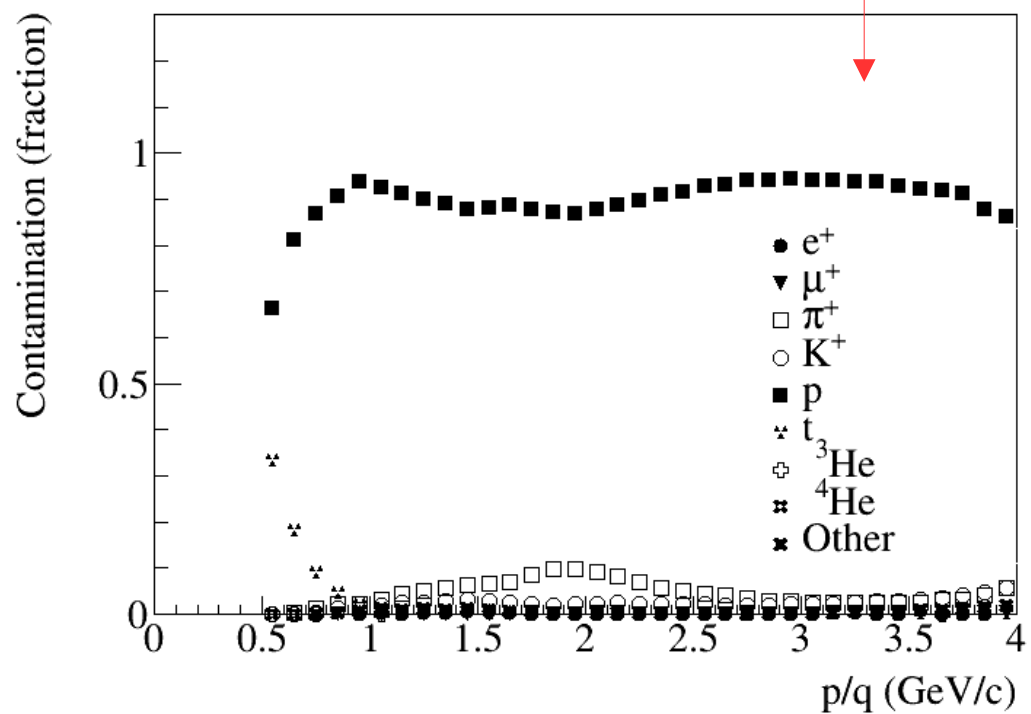
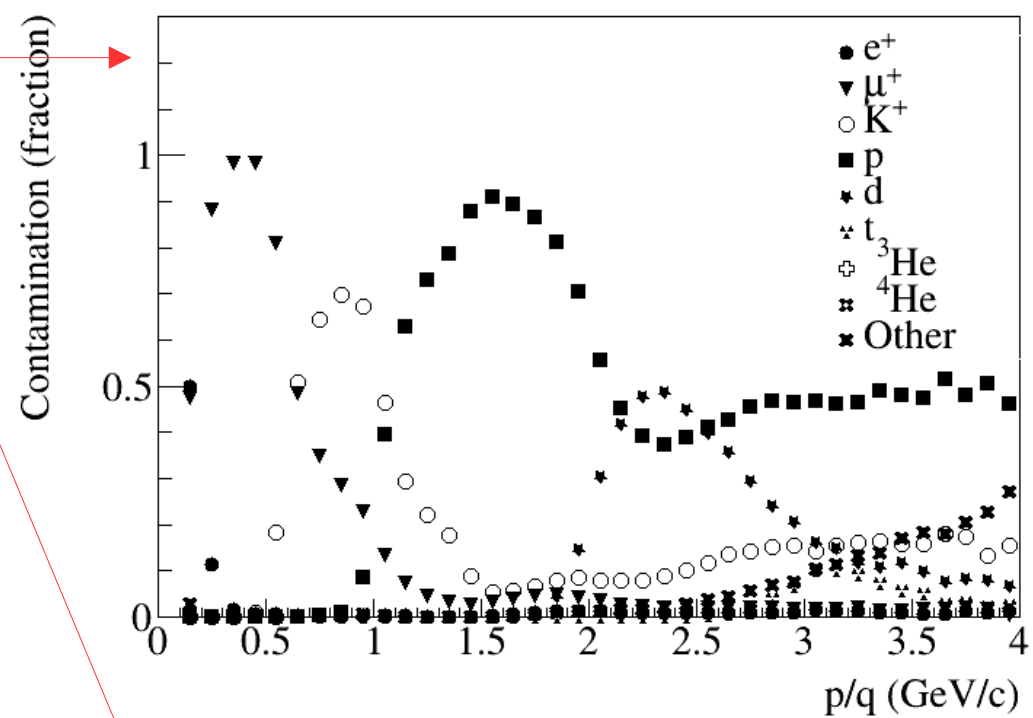
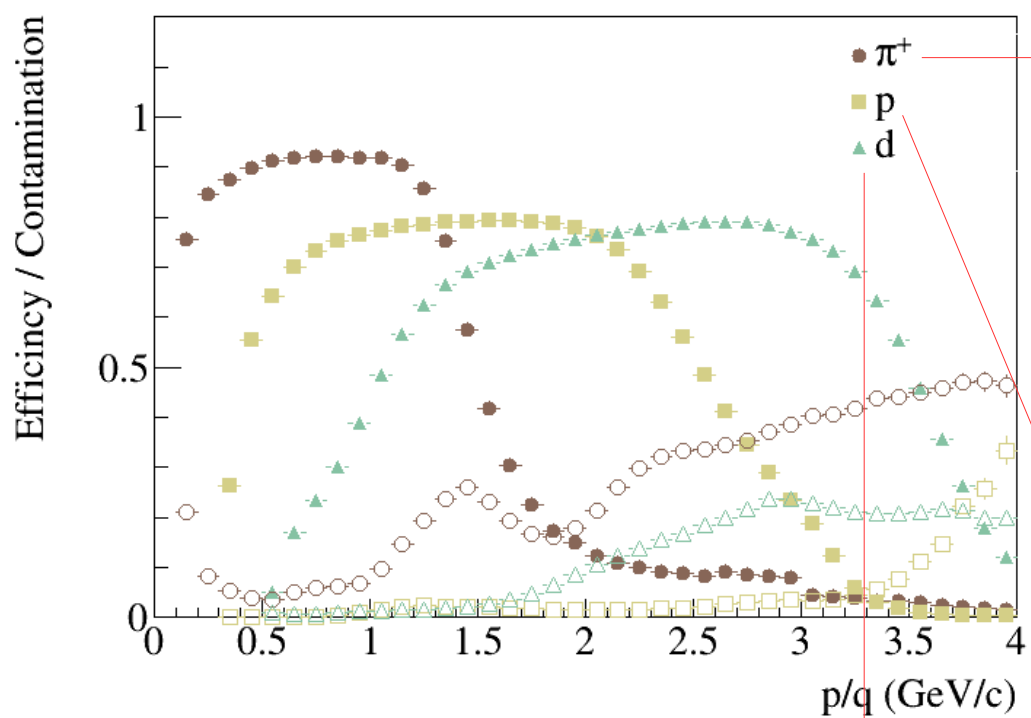
±3-sigma non-zero probability region

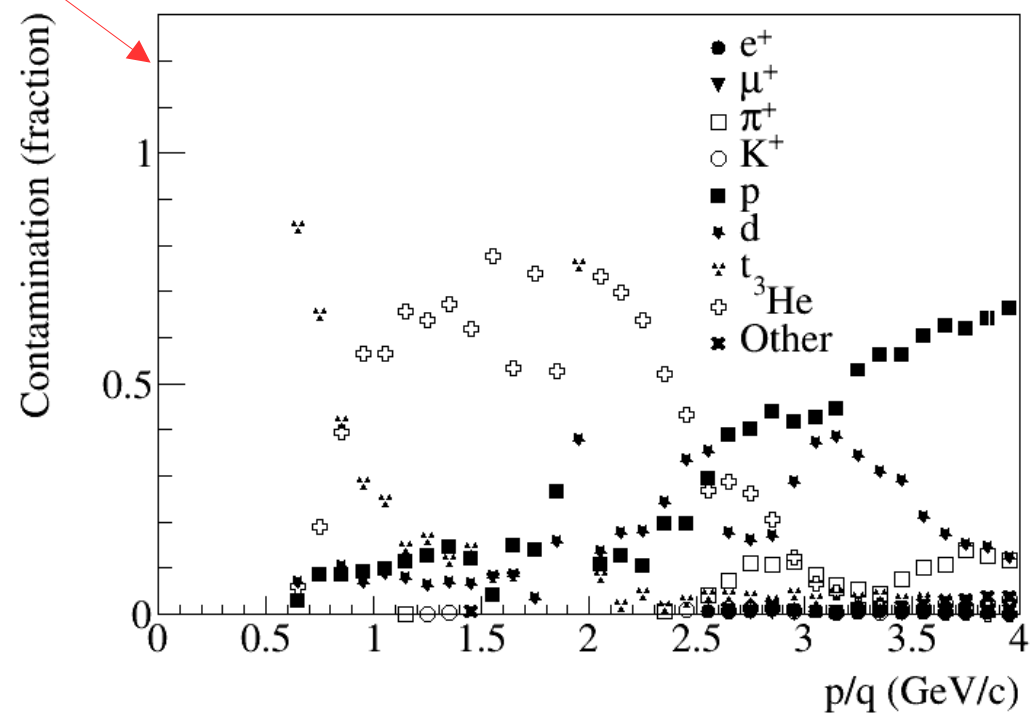
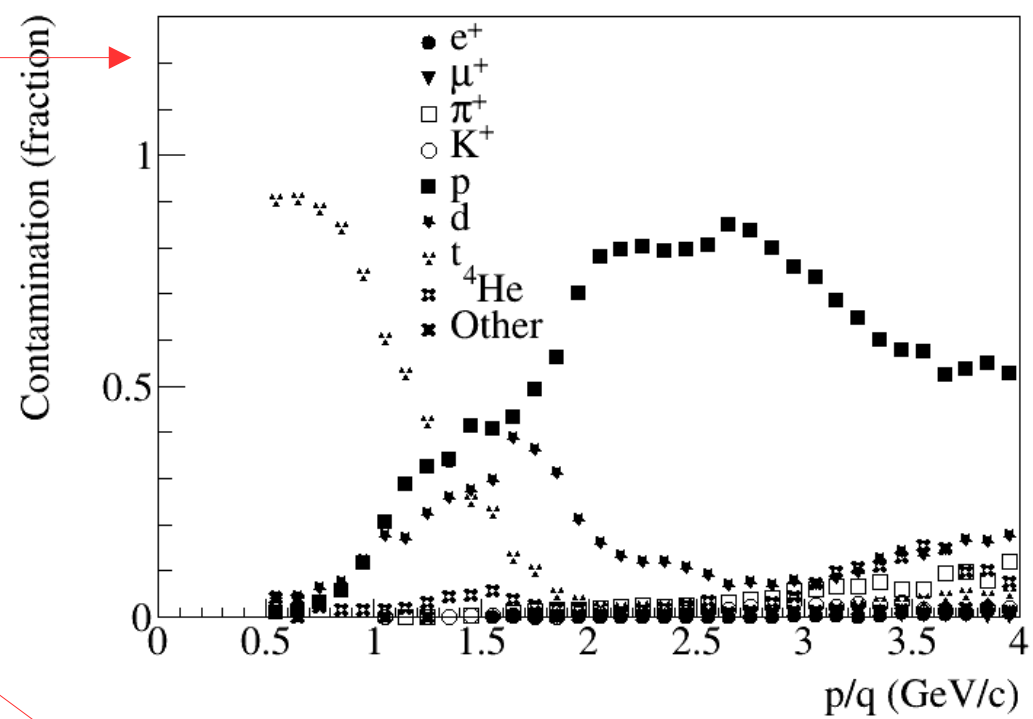
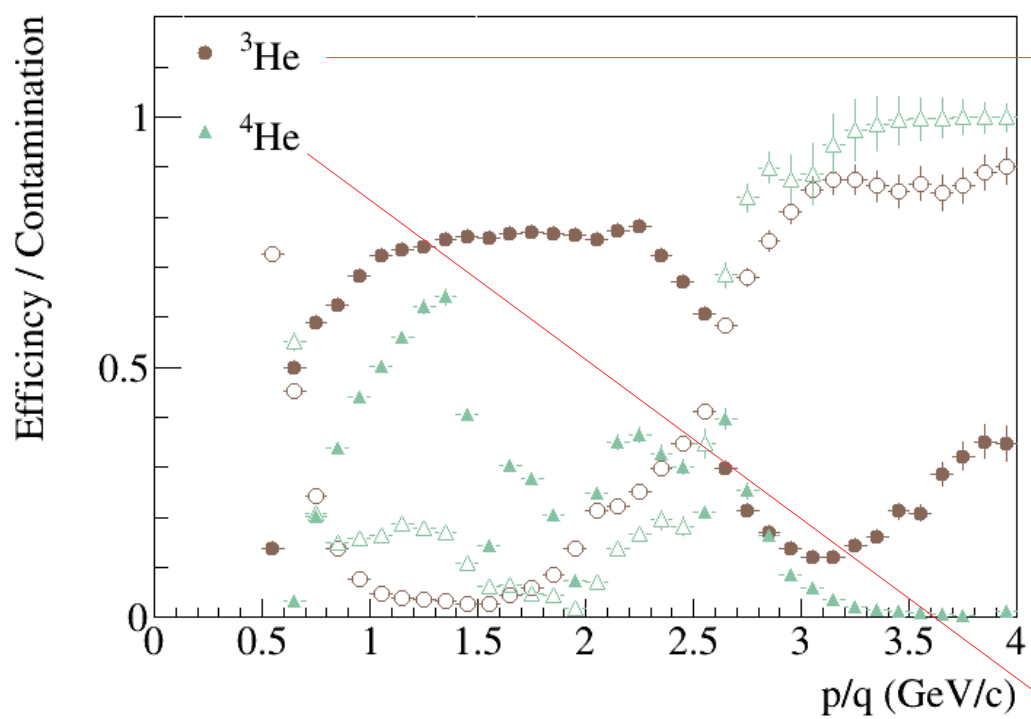
dE/dx + TOF









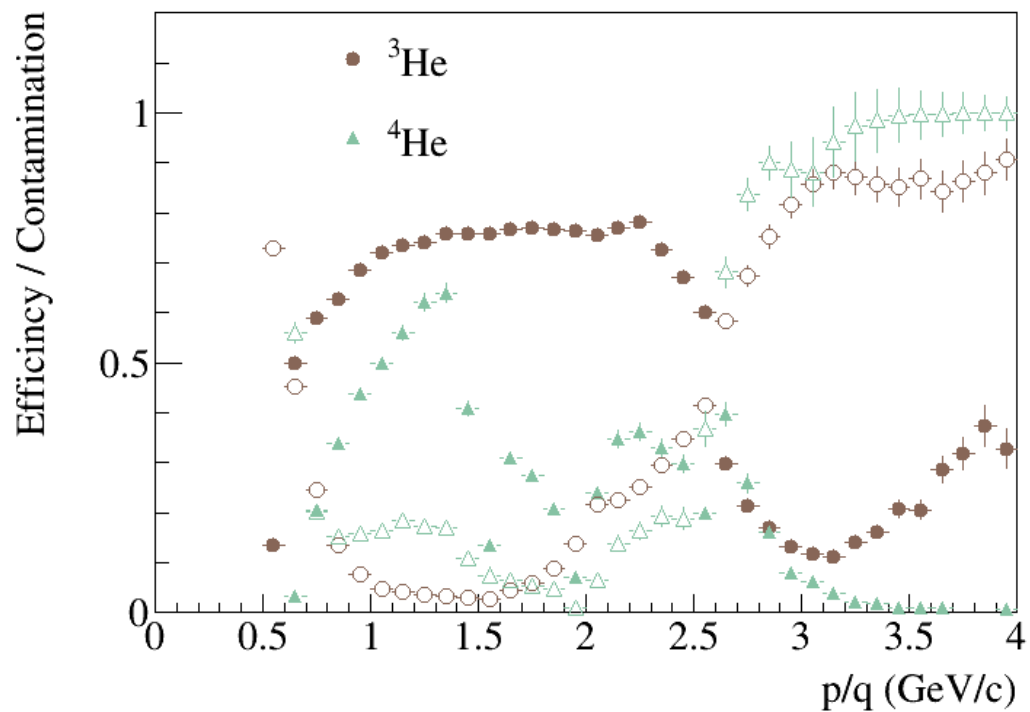
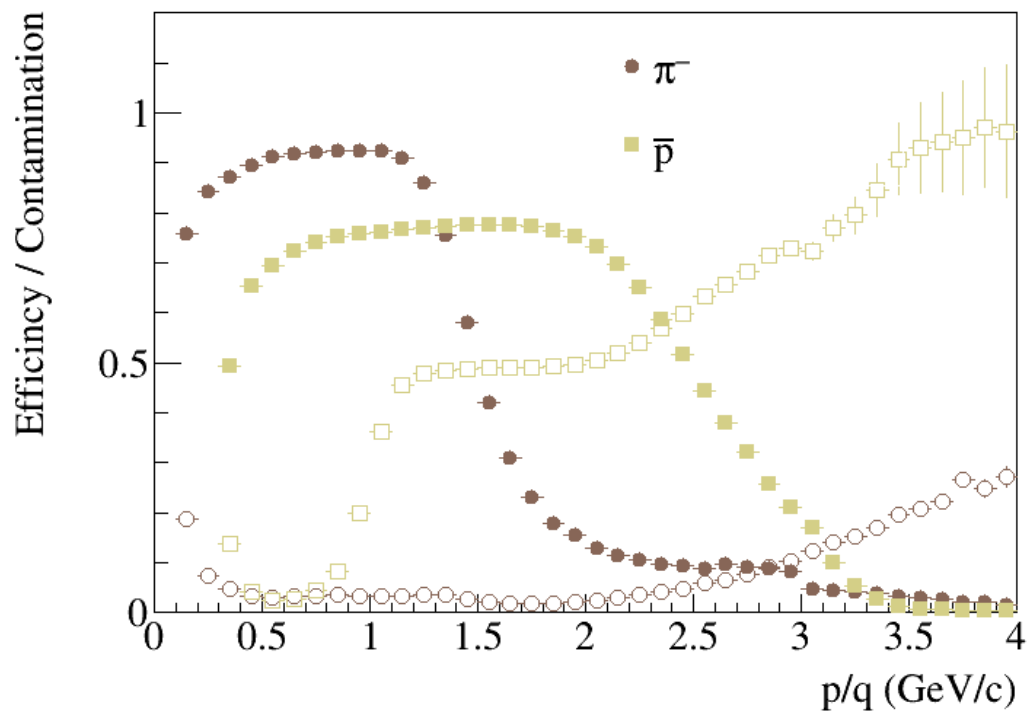
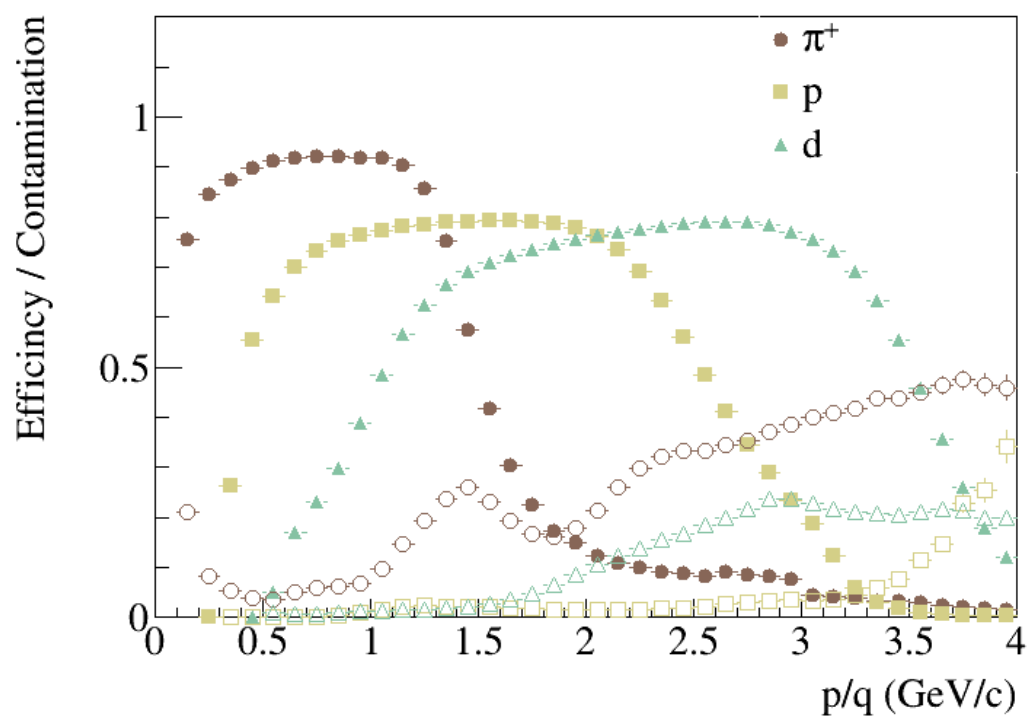


2<sup>nd</sup> PID configuration:

N-sigma method (ALICE)

±3-sigma non-zero probability region

( dE/dx + TOF ) + ( dE/dx )



3<sup>d</sup> PID configuration:

N-sigma method (ALICE)

$\pm 2$ -sigma non-zero probability region

dE/dx + TOF

