

# Minutes from the LNF workshop

- Work sharing: single analysis where presented
- Energy loss correction included in K<sup>+</sup>/K<sup>-</sup> code (Ale)
- PID refinement:
  - Checked consistency between GiBUU MC (gen0b & gen 1) and Data (Ale)
  - Checked consistency between Urqmd MC and Data (Chi)
  - Common PID TCutG defined and implemented in the analysis (Chi)

# dEdX distribution comparison between different hydra version (gen0b & gen1) and Data

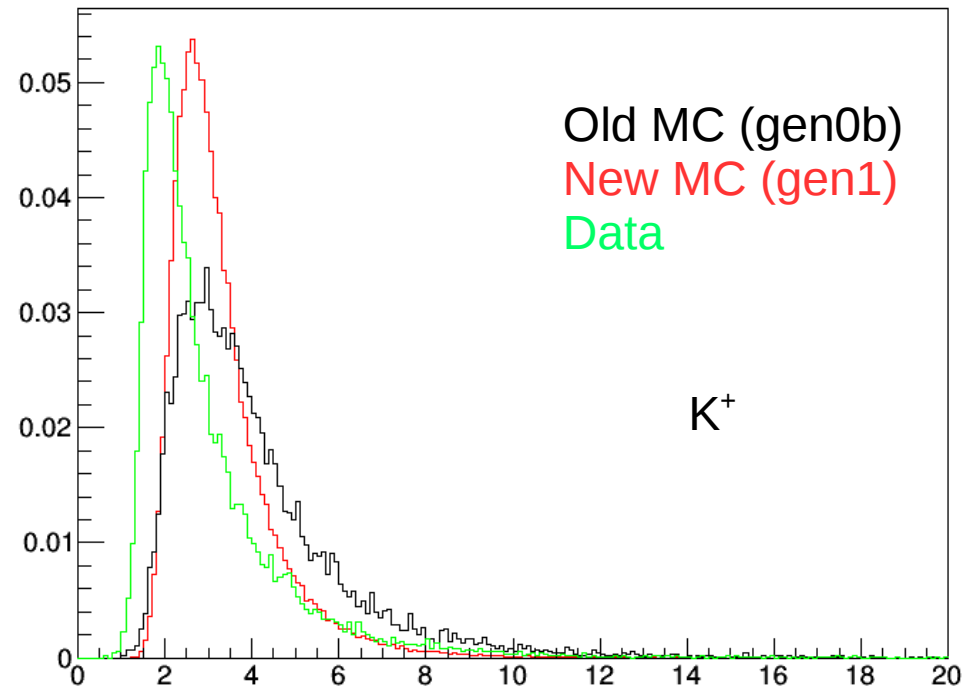
Particle selected through mass cuts:

$\pi$ :  $50 < m < 200 \text{ MeV}/c^2$

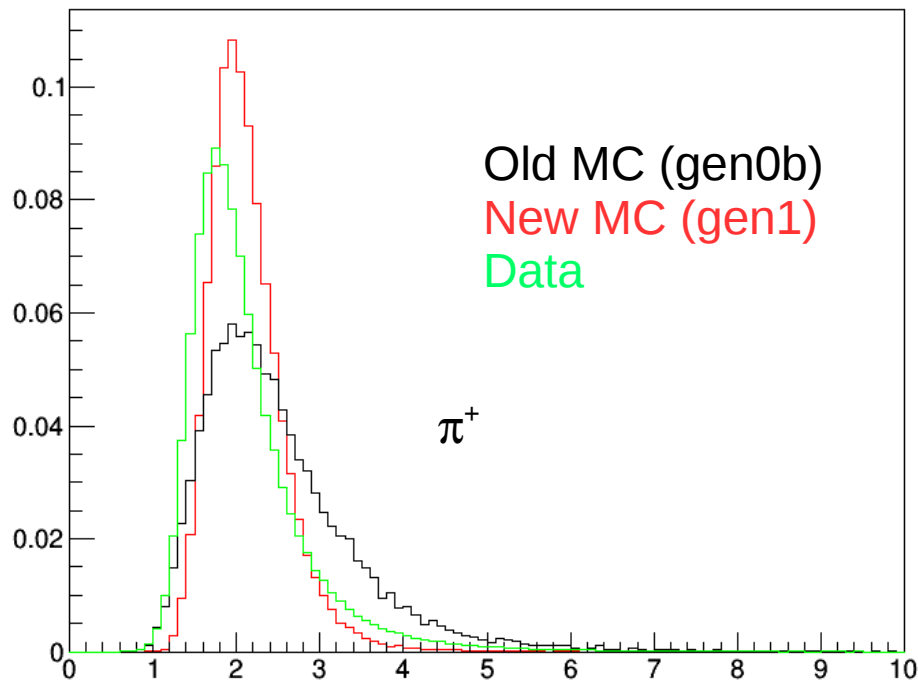
p:  $850 < m < 1050 \text{ MeV}/c^2$

K:  $450 < m < 550 \text{ MeV}/c^2$

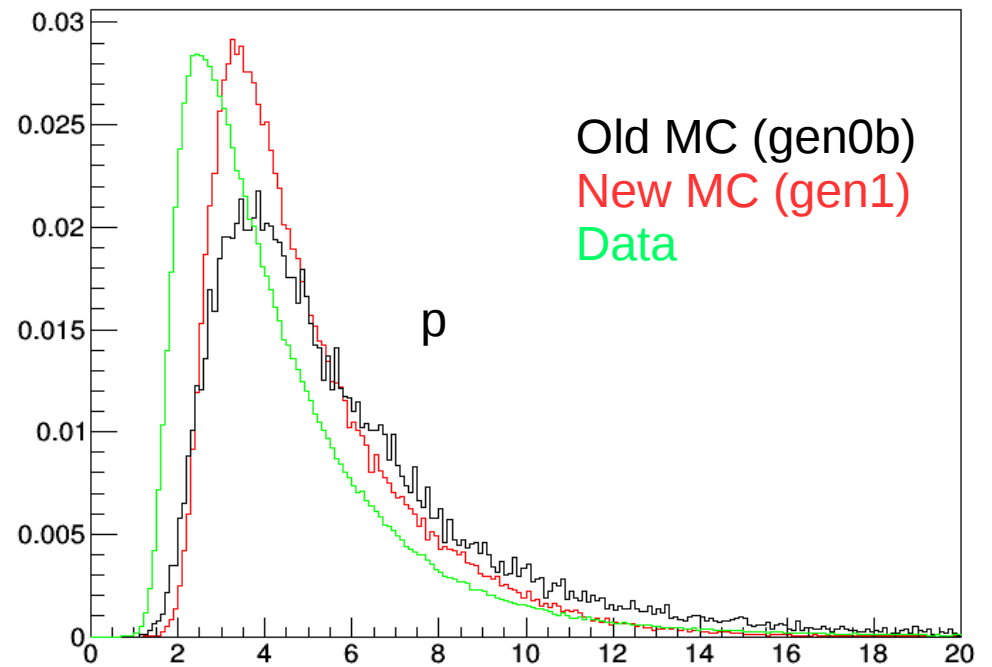
newkp



newpi



newpr



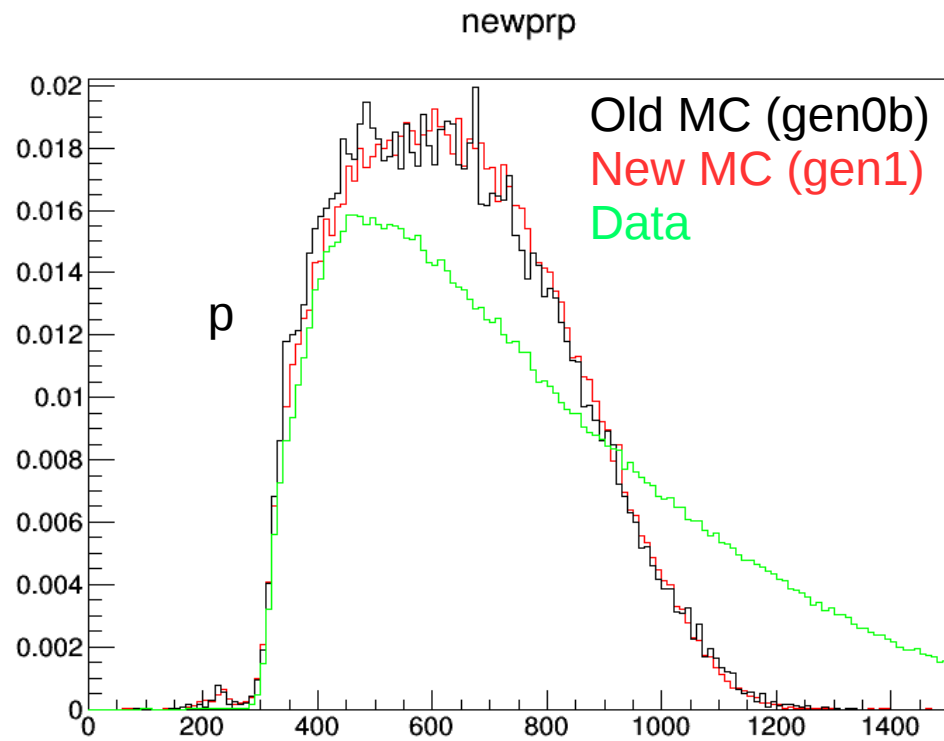
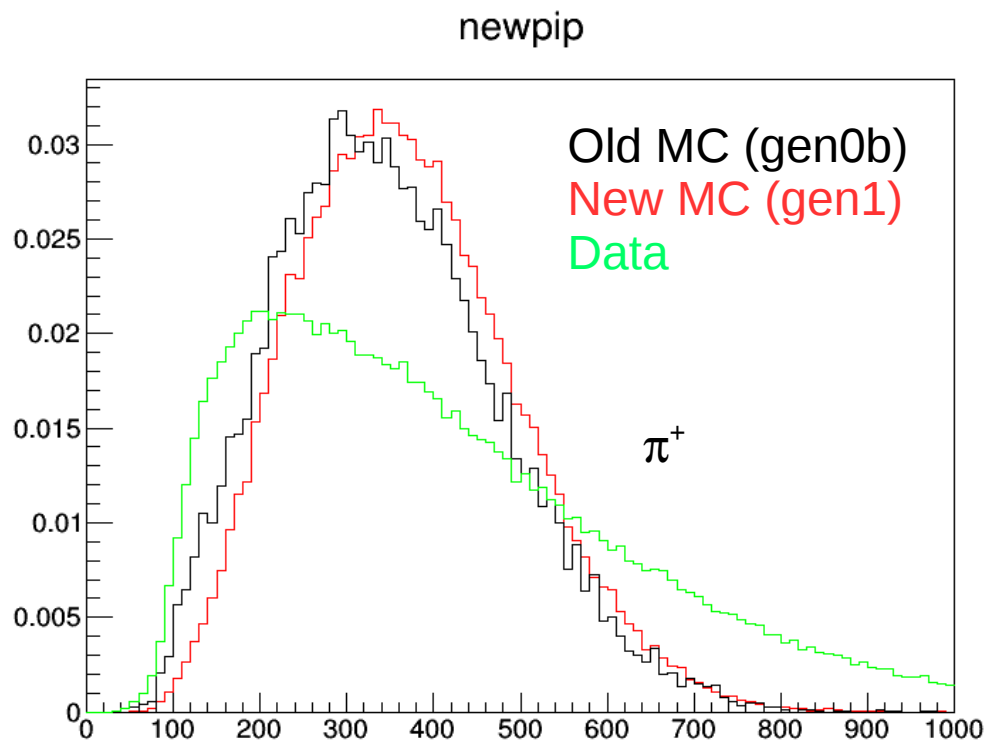
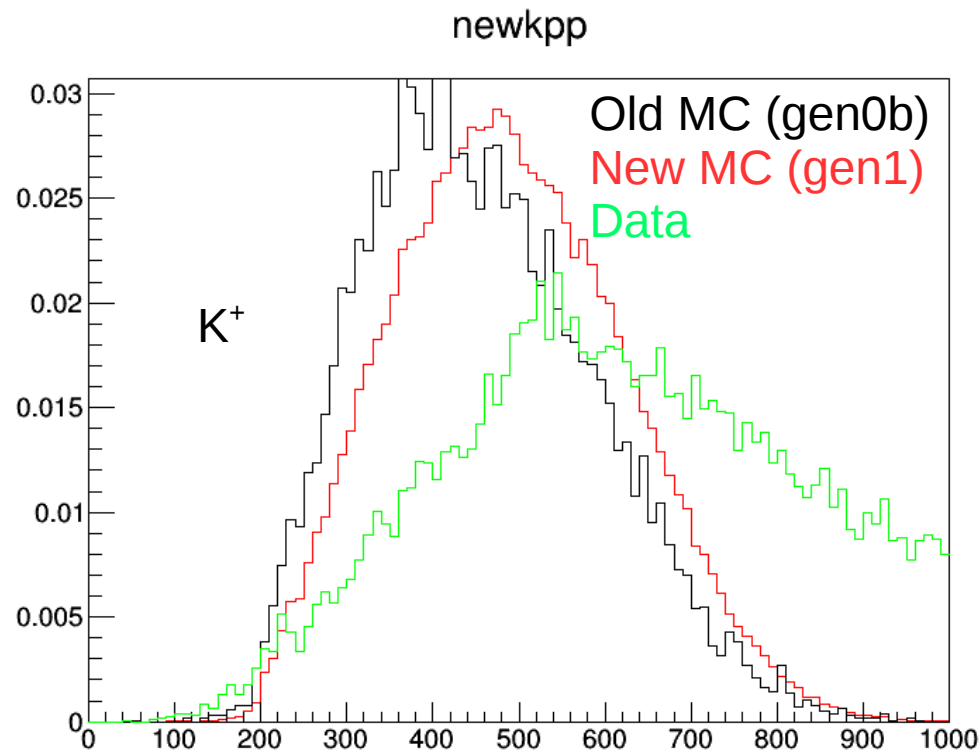
# Momentum distribution comparison between different hydra version (gen0b & gen1) and Data

Particle selected through mass cuts:

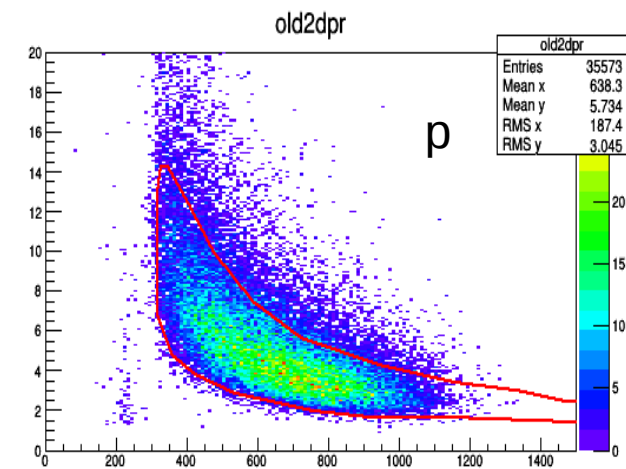
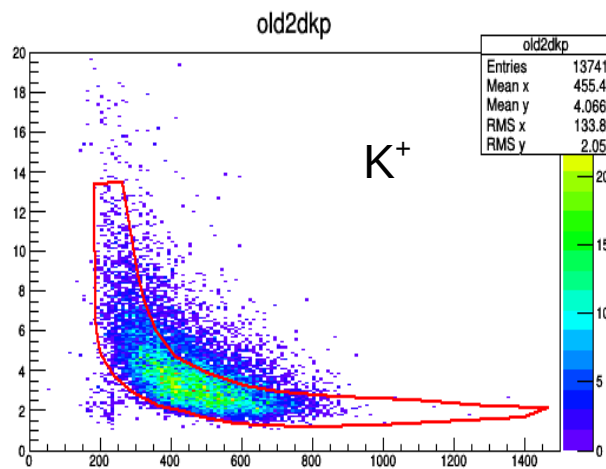
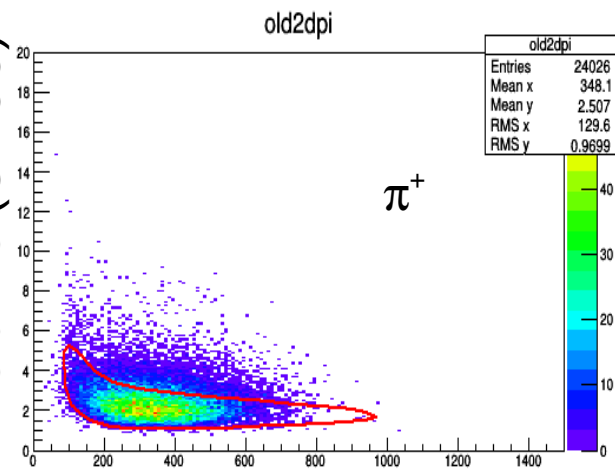
$\pi$ :  $50 < m < 200 \text{ MeV}/c^2$

p:  $850 < m < 1050 \text{ MeV}/c^2$

K:  $450 < m < 550 \text{ MeV}/c^2$

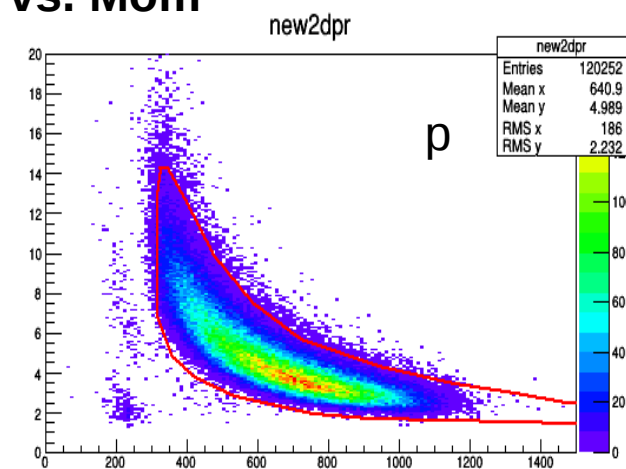
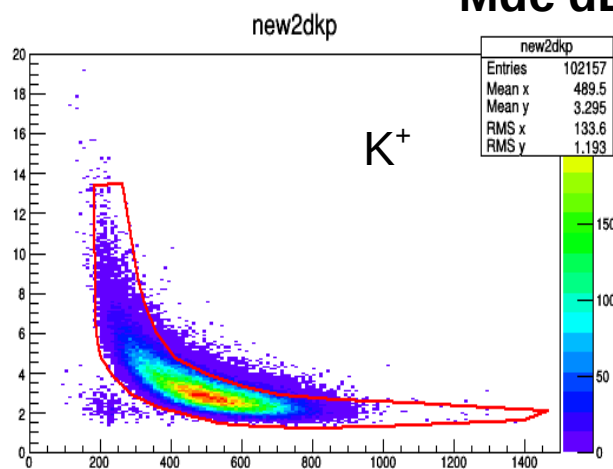
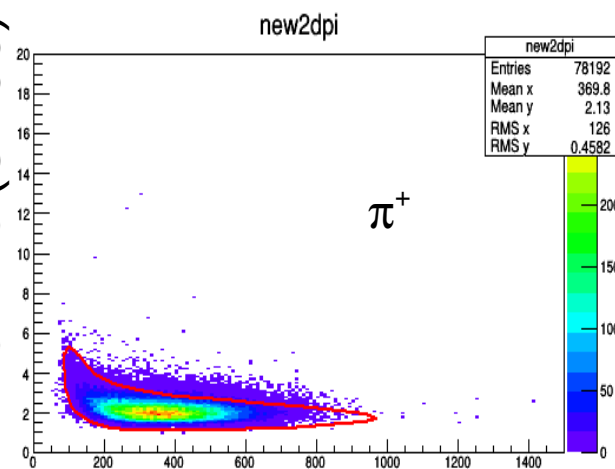


Old MC (GiBUU)

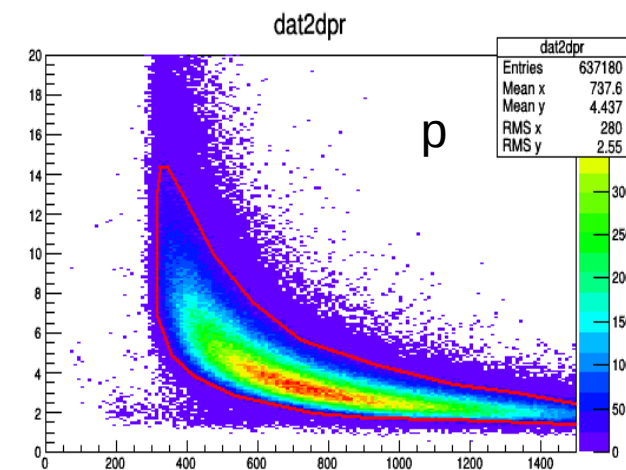
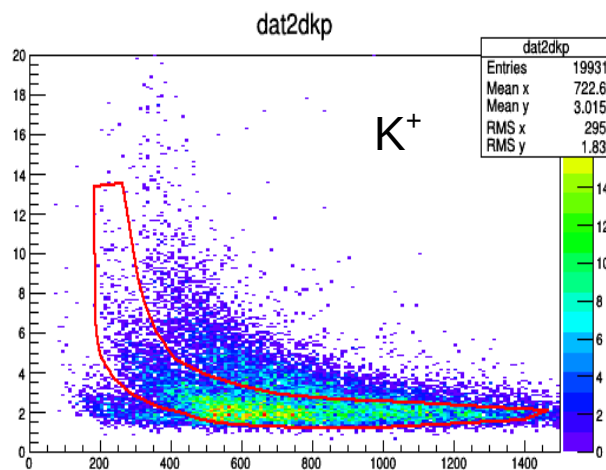
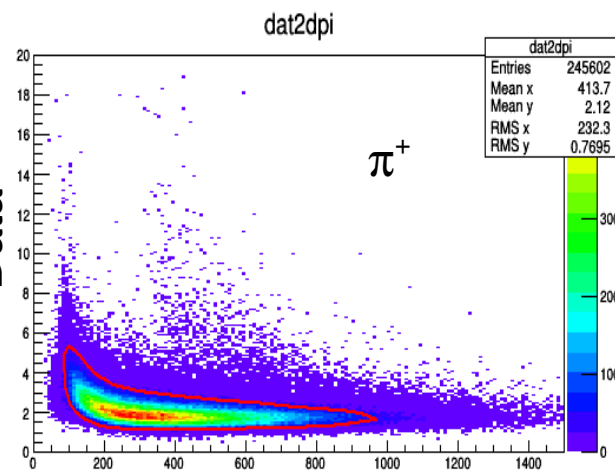


## Mdc dEdx vs. Mom

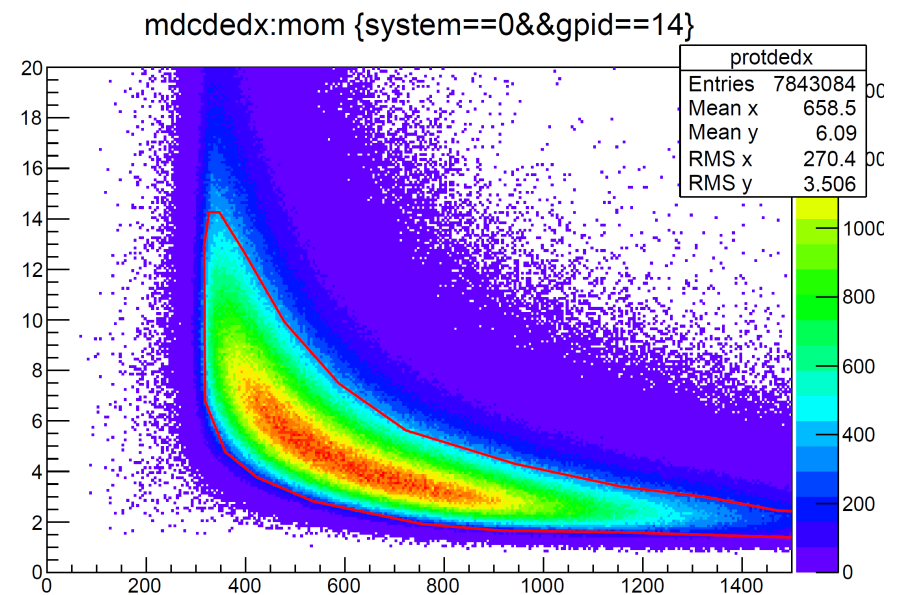
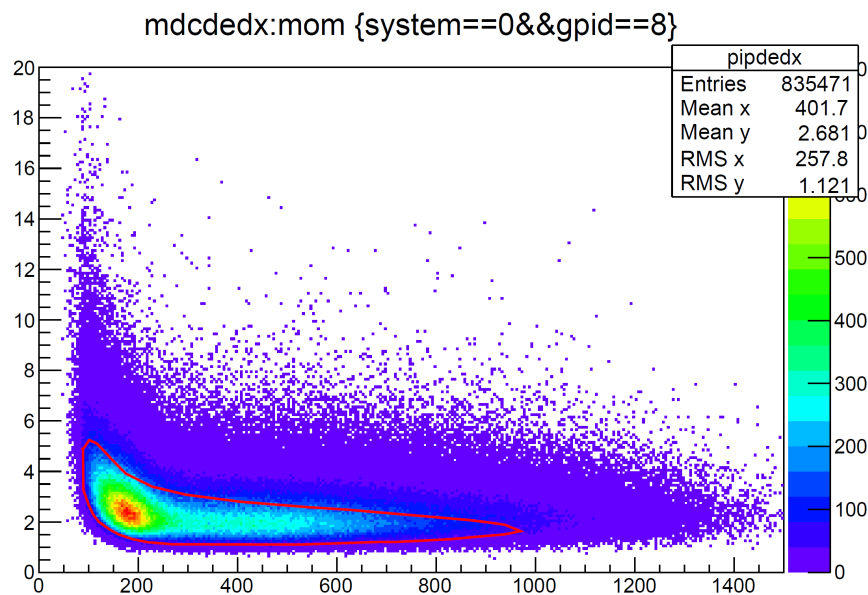
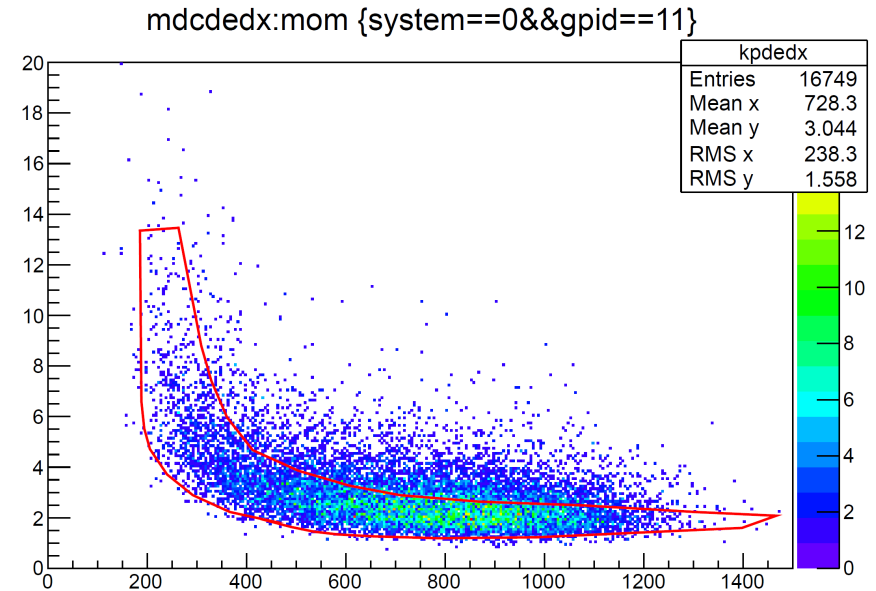
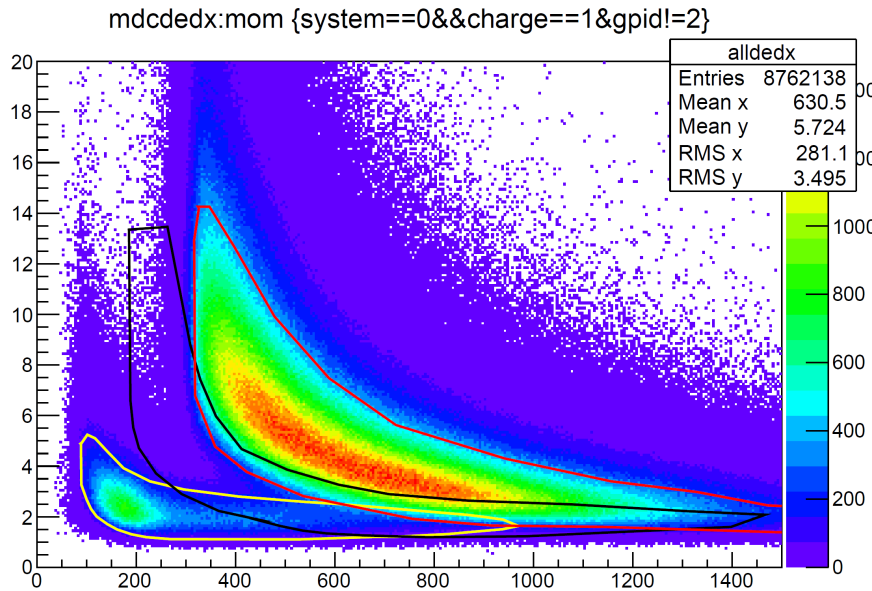
New MC (GiBUU)



Data

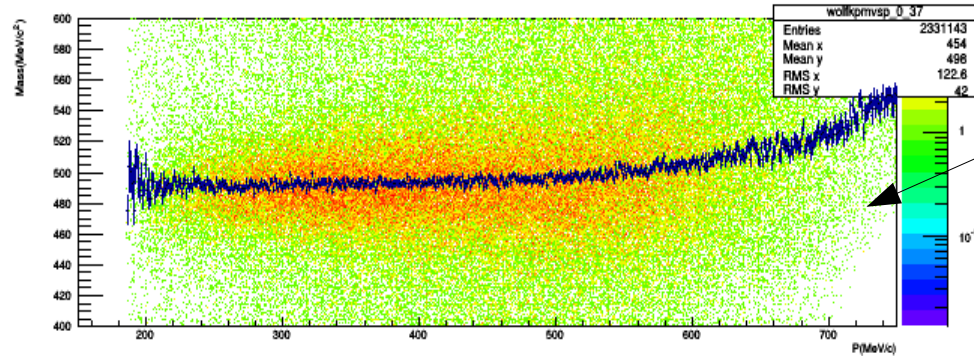


# MDC dEdx vs. Mom (UrQMD)

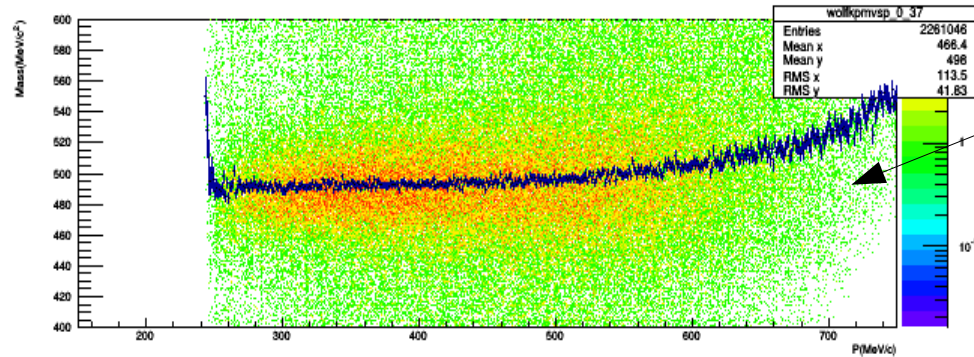


**UrQMD simulations show better agreement with data with respect to GiBUU simulations**

# K mass stability versus momentum (Data)

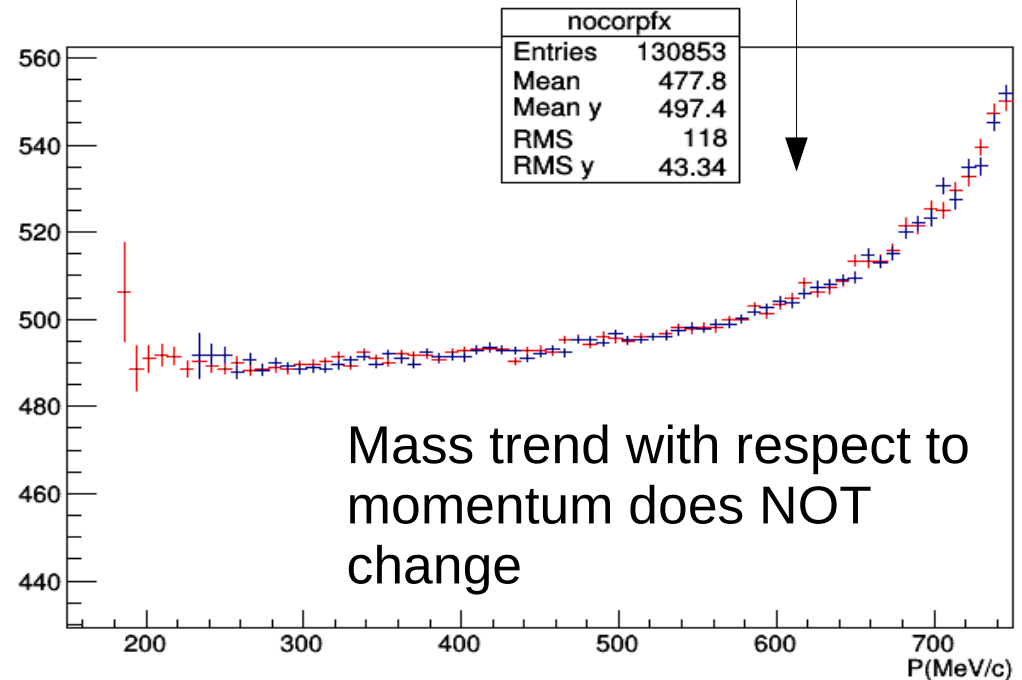
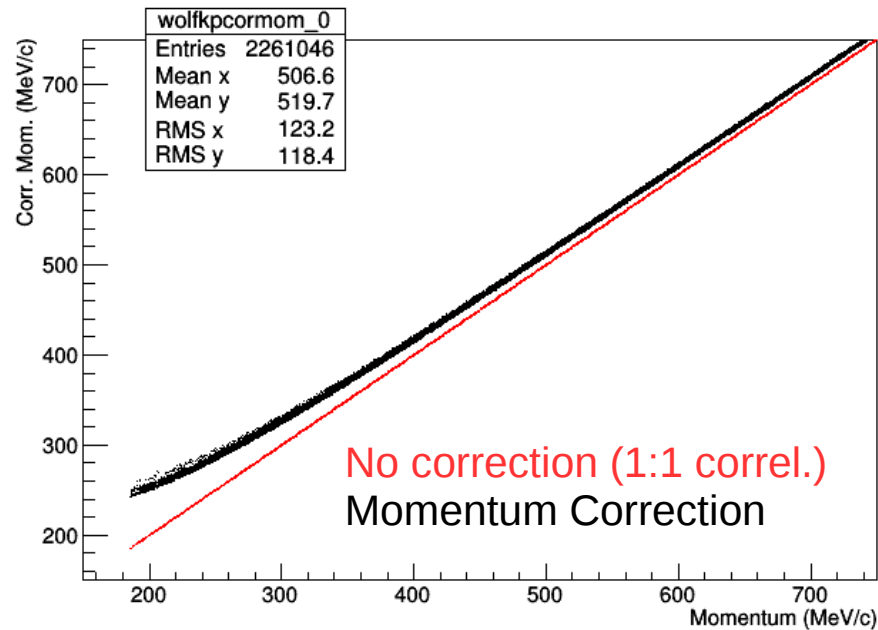


NO mom. Correction



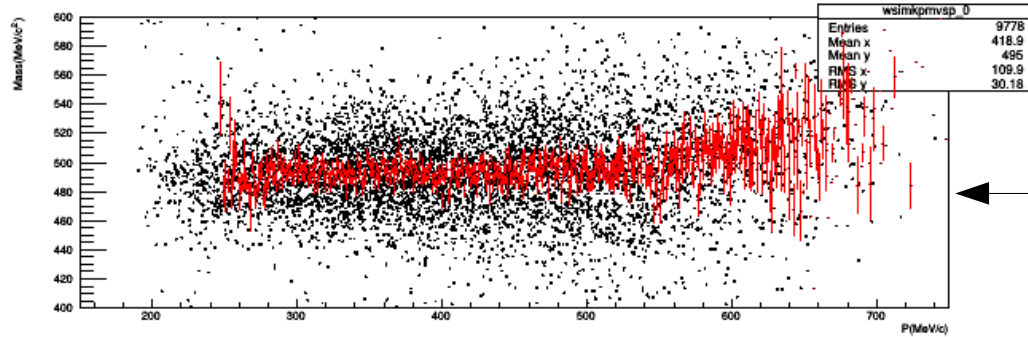
WITH mom. Correction

M vs P  
M vs Pcor

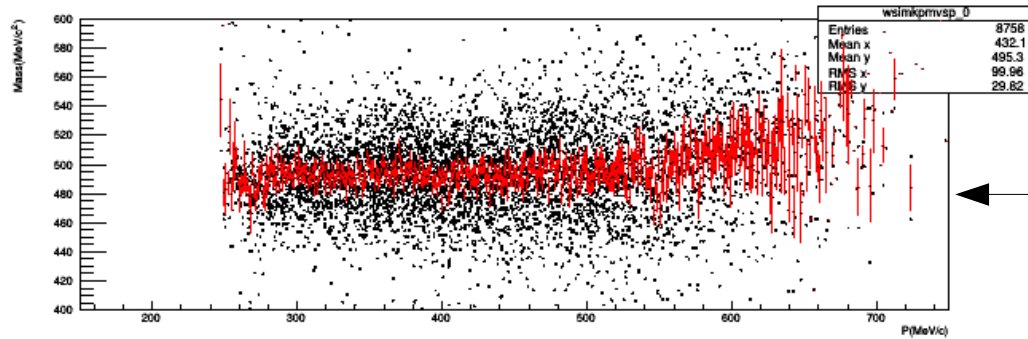




# K mass stability versus momentum (MC)

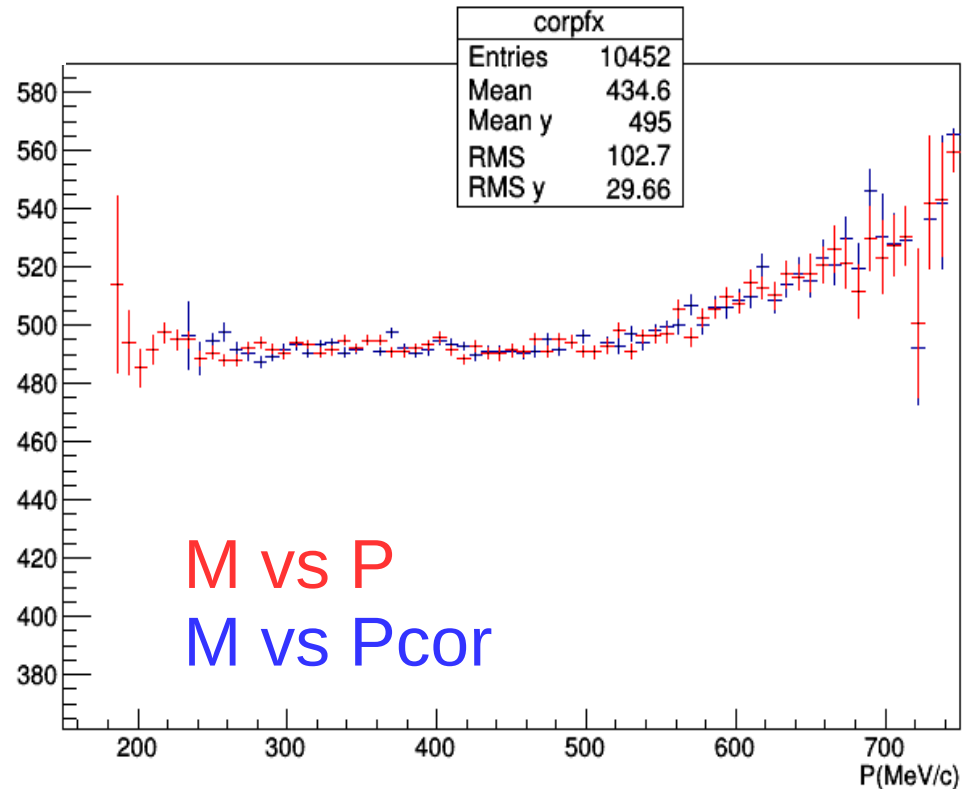


NO mom. Correction



WITH mom. Correction

Mass trend with respect to momentum does NOT change also for MC distributions



# Questions to ask in HADES Meeting

- After Eloss correction, should one recalculate beta and mass? If yes, how?
- How to correct for start trigger efficiency? Is it already included in simdst or does one has to scale the yields manually by the efficiency? What is the number?



# Task list - Alessandro

- New Fit (old method) with  $P_{\text{cor}}$  (new bins)
- New MC from UrQMD: gen1 generation
- New method 1: tail from pions and protons data
- New method 2: fix K mass and width from MC
- $K^+/K^-$  ratio
- W/C ratio (Start efficiency needed?)
- Pion analysis?

# Task list - Chii

- K0S: Eloss study with better cuts on vdx and PV to select really K0S decayed in target
- Phi:
  - Total and differential (p-th) yields in pi+C and pi+W
  - Produce full simulation chain with simulation including stable phis
  - Correction of yields

# Task list – Joana & Steffen

- Joana: new dEdx PID cuts with sigma selection method
- Steffen: Tool for project management (timetable)