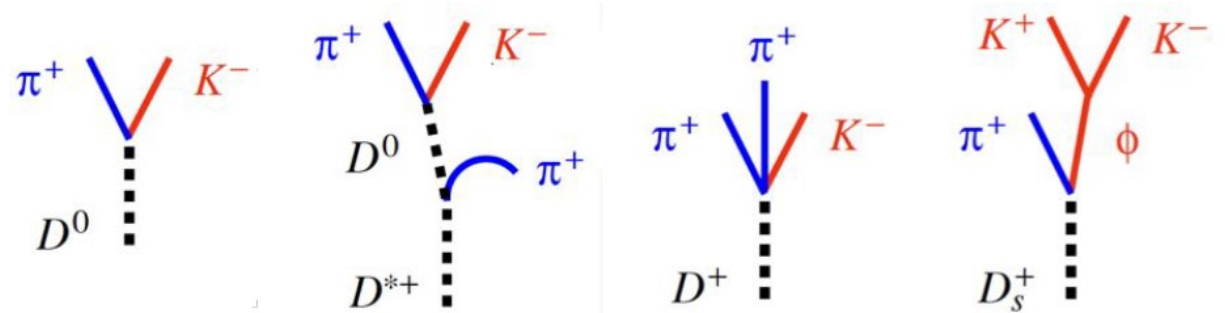
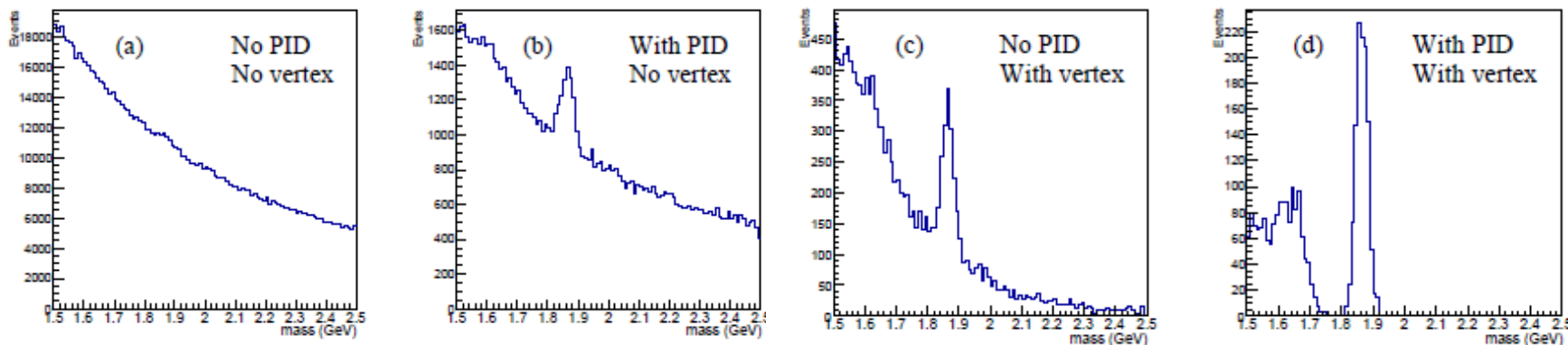


# Open Charm Reconstruction

- $D^0 \leftrightarrow 123 \mu m$
- $D^\pm \leftrightarrow 312 \mu m$
- $\Lambda_c \leftrightarrow 60 \mu m$



- Early (fast sim) impact studies for PID and vertex cuts on  $D^0 \rightarrow K + \pi$  reconstruction (Pythia6,  $Q^2 > 10 \text{ GeV}^2$  and  $x_B > 0.05$ ):

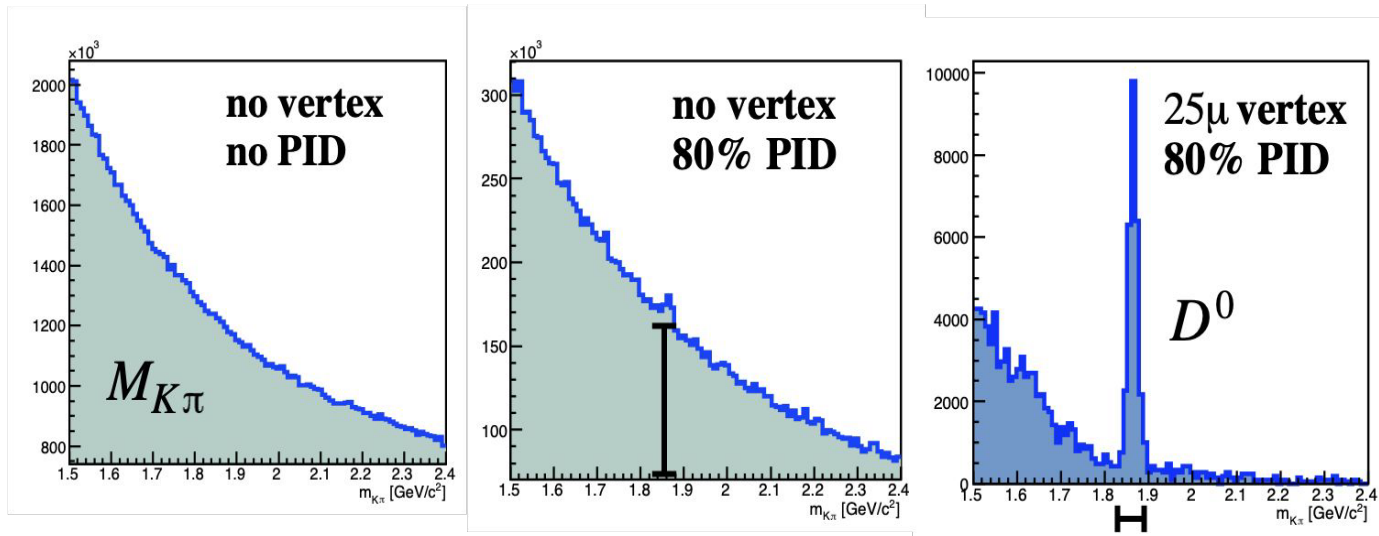


(vertex cut was applied at  $100 \mu m$ )

# Open Charm Reconstruction

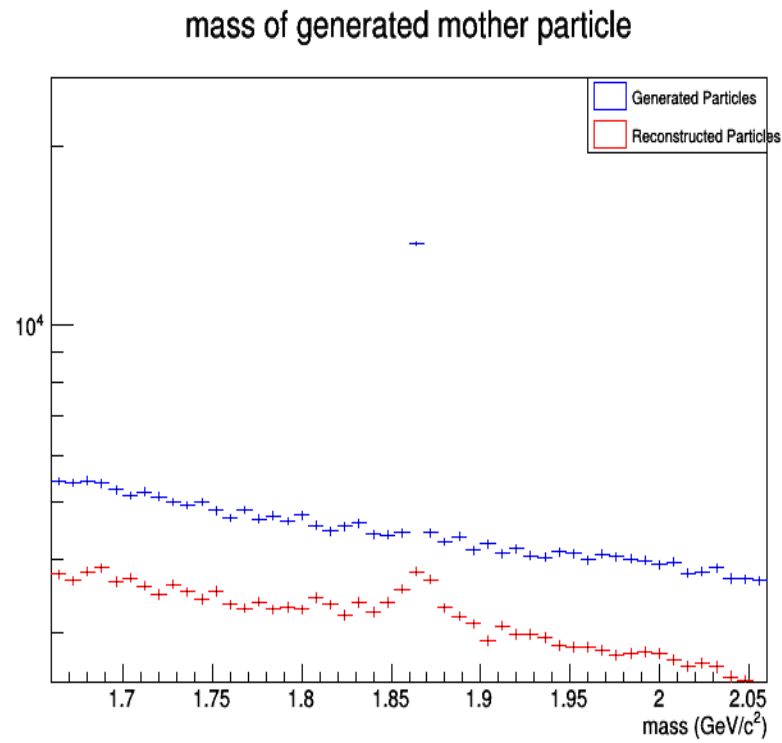
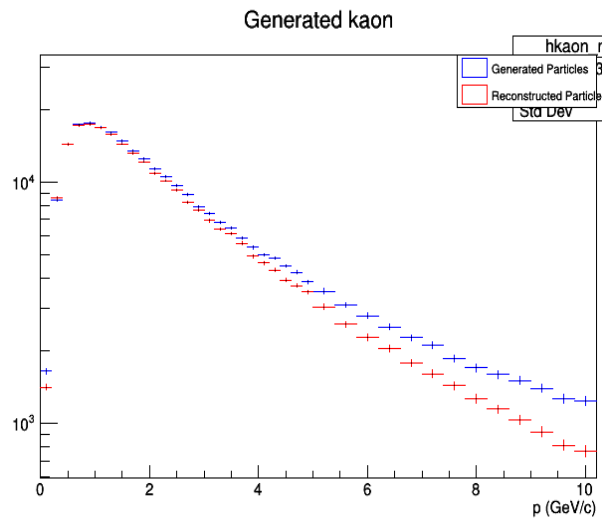
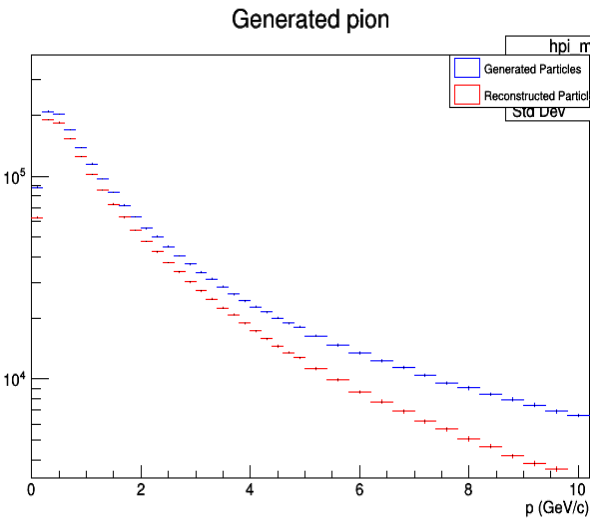
- Last collaboration meeting (Wenqing Fan, 1/11,2023)

$D^0 \rightarrow K + \pi$ , fast sim (smearing), referencing the same  $JPC$ S:



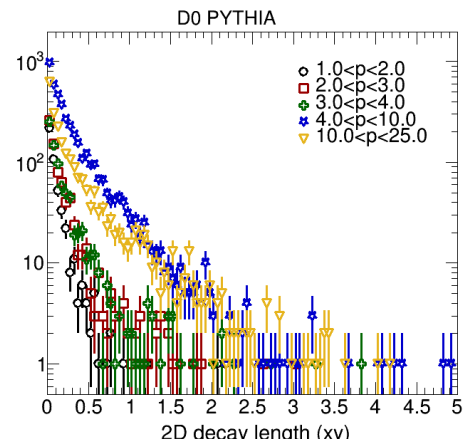
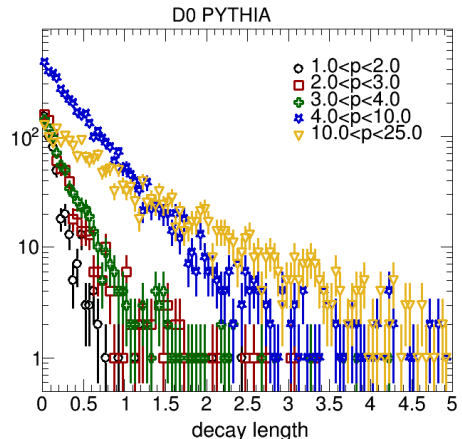
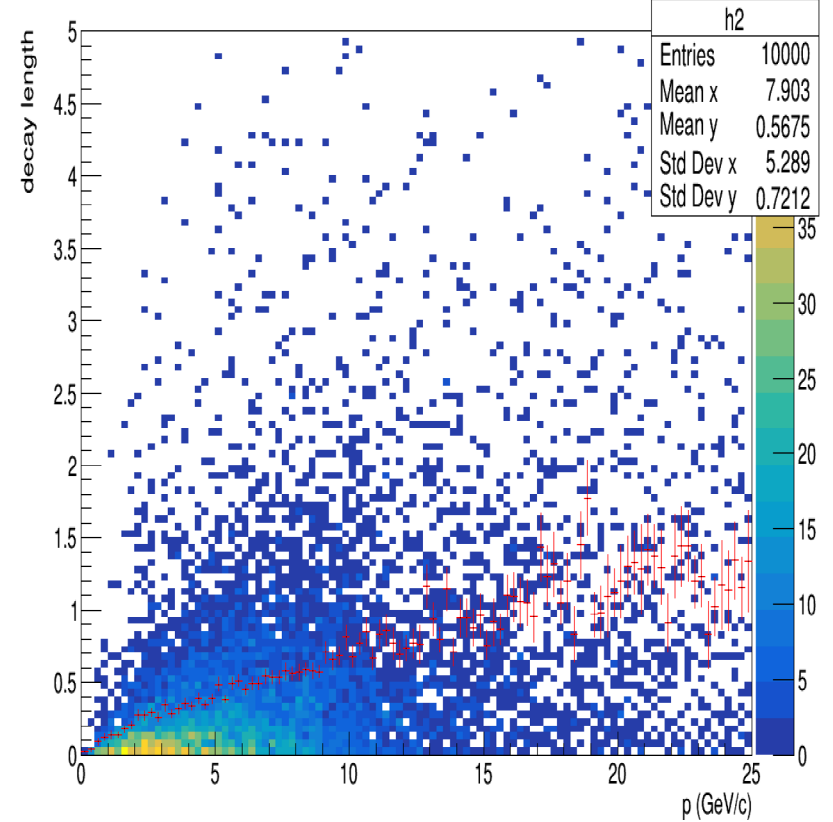
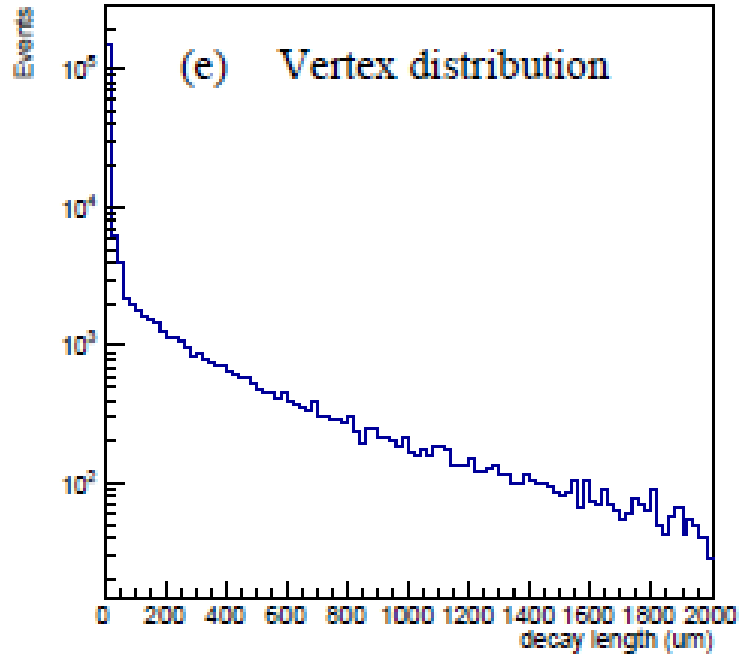
# Open Charm Reconstruction

- Where are we now:
  - S/B is too bad to start tuning on standard production
  - hepMC filtered sample is created; no official MC yet; private version ran by Brian
  - First look at eicRecon with ideal PID, no vertex



# Open Charm Reconstruction

- Decay kinematics:



$D^0$  decay in the sample from *JPCS* 770 (2016) 1, 012042