Fast Simulation@EicC

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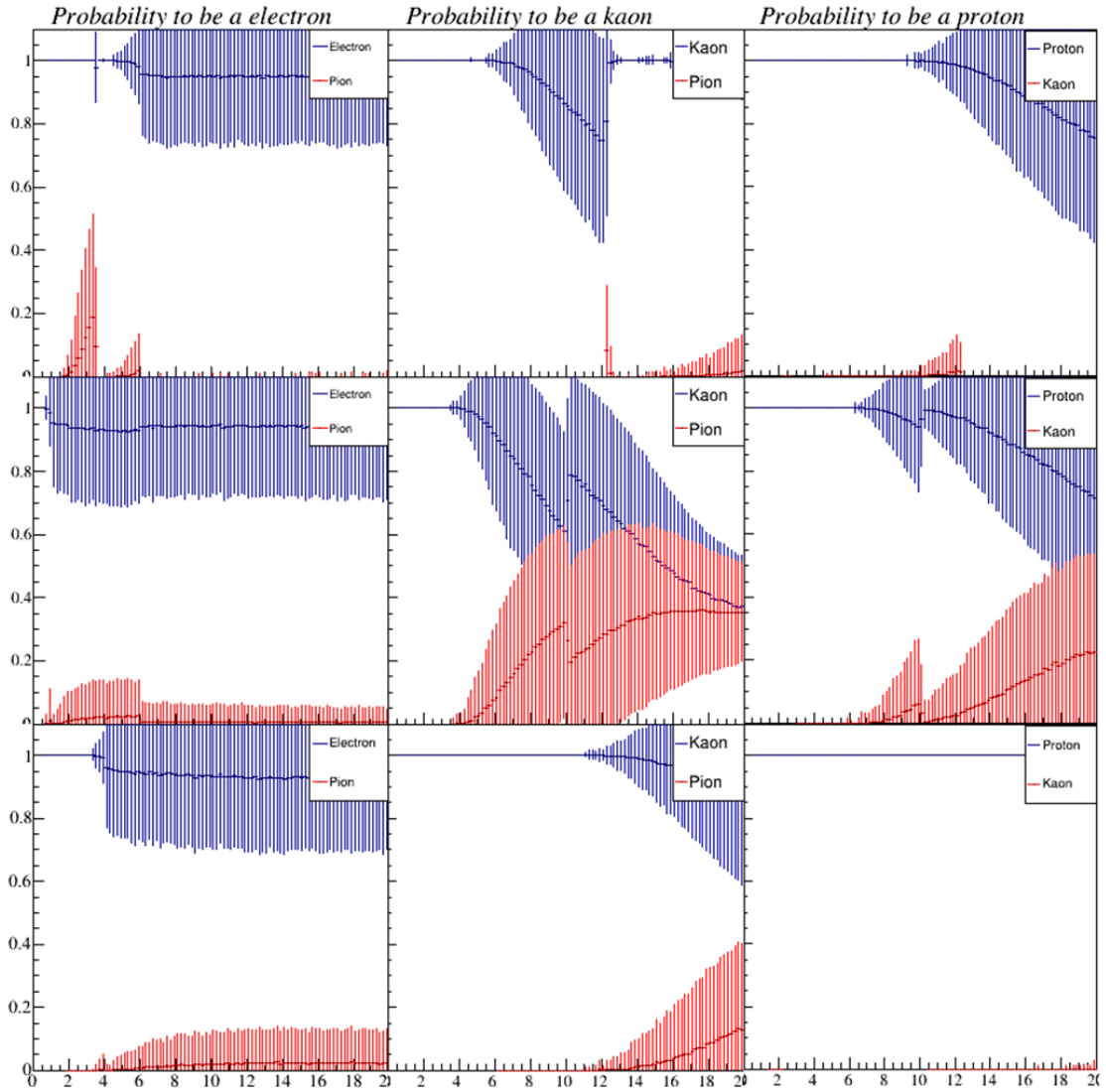
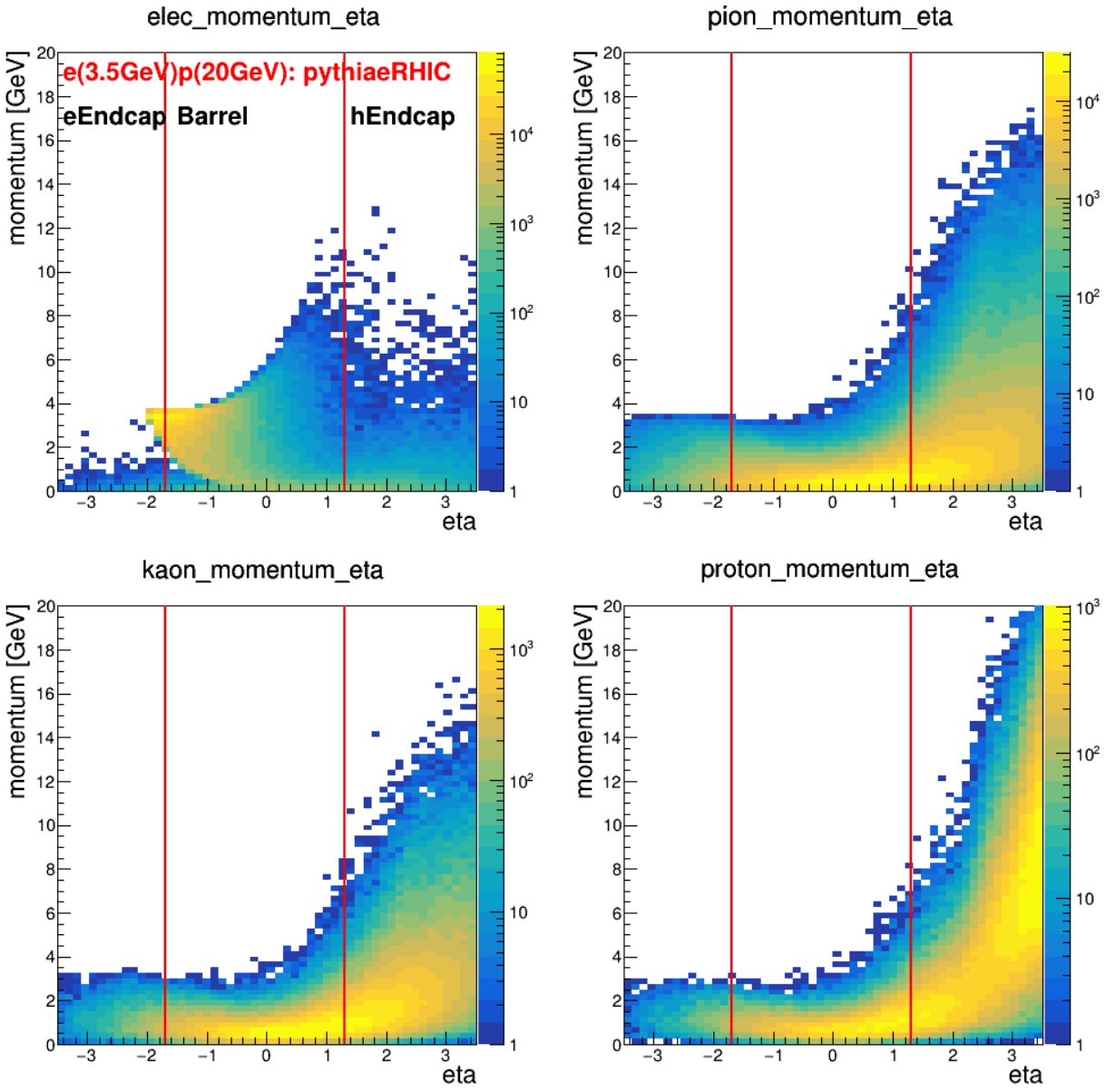
Previous PID Reaction Simulation



1. eID (electron identification)
- EMC applied: well identified everywhere

2. Hadron Identification
- Low-momentum: TOF applied
- High-momentum: Cherenkov detectors applied
  - Forward (dRICH): aerogel and air
  - Barrel (hpDIRC): synthetic fused silica
  - Backward (mRICH): aerogel
  - SiO_2: low momentum threshold but lower resolution
  - C_2F_6: high momentum threshold but higher resolution

Simulation Setup



- PID Detector Geometry
  - Backward: $-3.5 < \eta < -1.7$
  - Barrel: $-1.7 < \eta < 1.3$
  - Forward: $1.3 < \eta < 3.5$

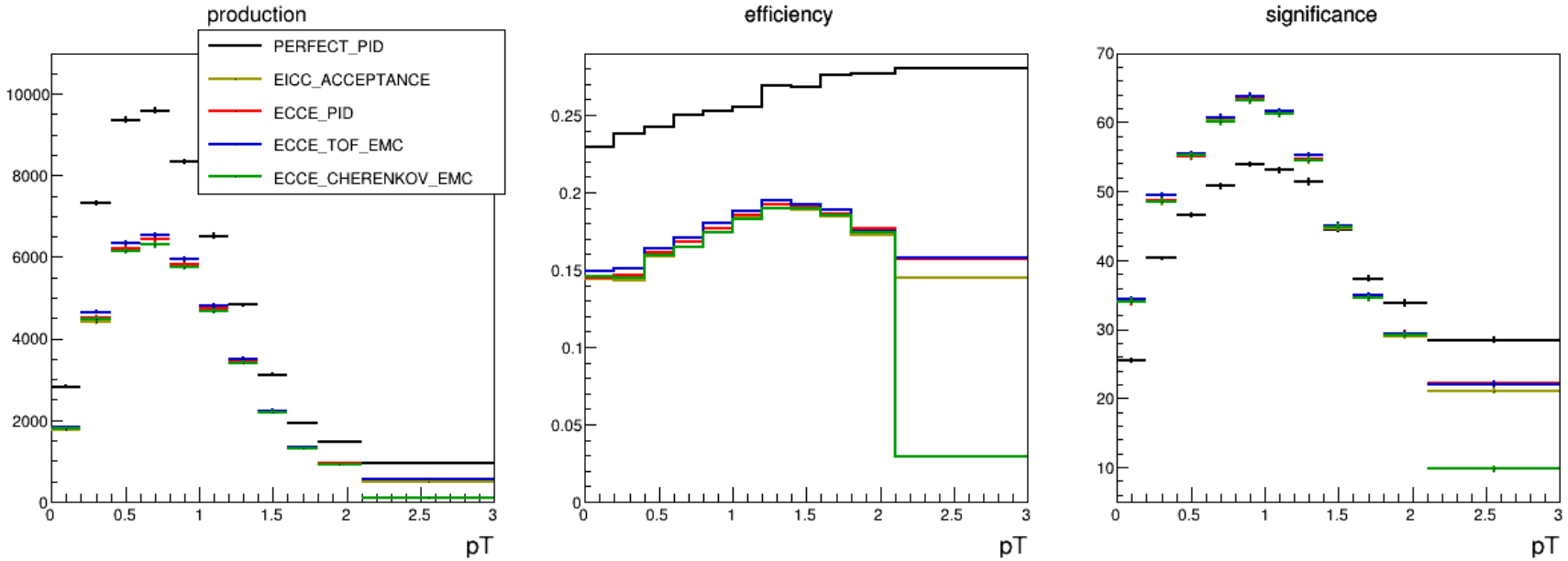
- PID Acceptance

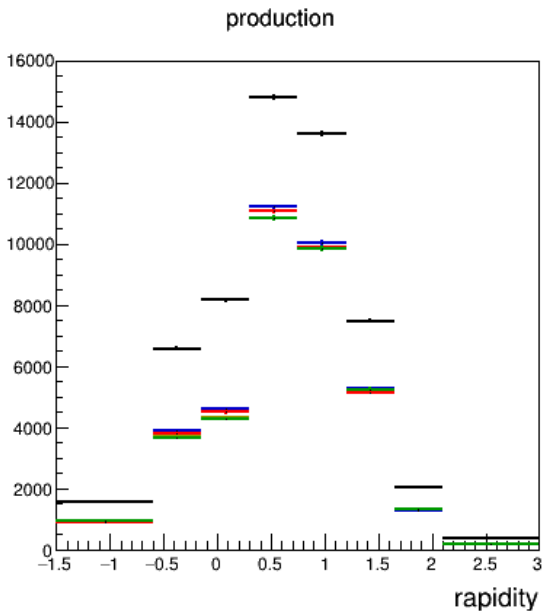
	e	π	k	p
eEndcap	0-20	0-4	0-4	0-4
Barrel	0-20	0-4	0-4	0-4
Forward	0-20	0-17	0-15	0-20

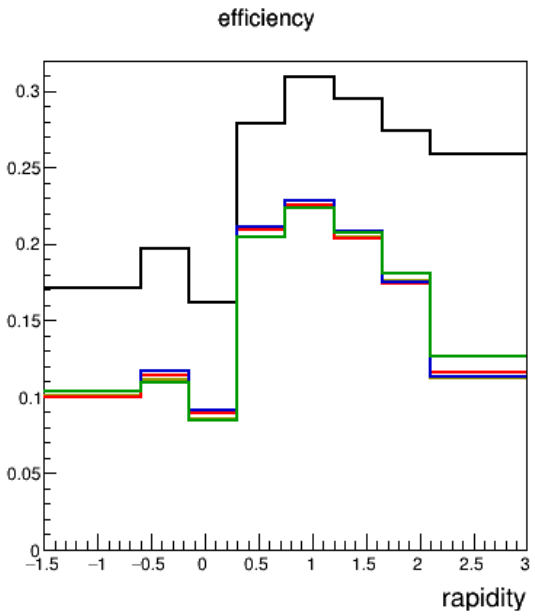
Momentum: GeV/c

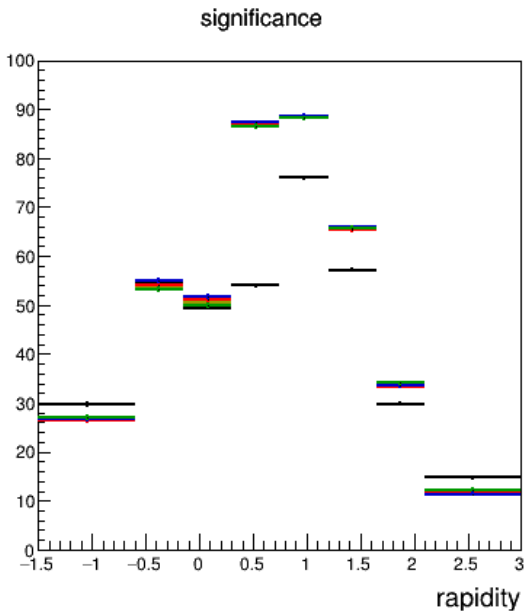
- Tracking Detectors & Vertex Detectors
  - Latest resolutions applied:
    - EicC_Mvd_DP_v0 (gitee)
  - A low momentum cut applied:
    - p > 0.05 GeV/c

Some Results









D^0: ep(3.5GeVx20GeV)
4.0324 fb^{-1}

BACKUP

eA Generators@SNSC

- Installed in singularity container
  - cd /beegfs/group/eicc/zhusj
  - singularity shell -B cvmfs:/cvmfs -B /beegfs/group/eicc/zhusj:/beegfs/group/eicc/zhusj cvmfs/eic.opensciencegrid.org/singularity/rhic_sl7_ext.simg
  - -B file in the storage:file in the container

BeAGLE

- In singularity container

source /cvmfs/configuration/BeAGLE_setup.sh

mkdir your_work_area

cd /beegfs/home/zhusj/BeAGLE_test/SteerFiles

cp eD_3.5x20_NoRadCorr.inp nuclear.bin S3ALL003 your_work_area

cd your_work_area && $BEAGLESYS/BeAGLE < eD_3.5x20_NoRadCorr.inp

root –l << eof

gSystem->Load("libeicsmear")

BuildTree("eD_3.5x20_Q2min_1.txt")

eof

User's Guide: BeAGLE · The EIC Software Group Website

Latest version 1.01.04

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BeAGLE Version 1.01.04
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