

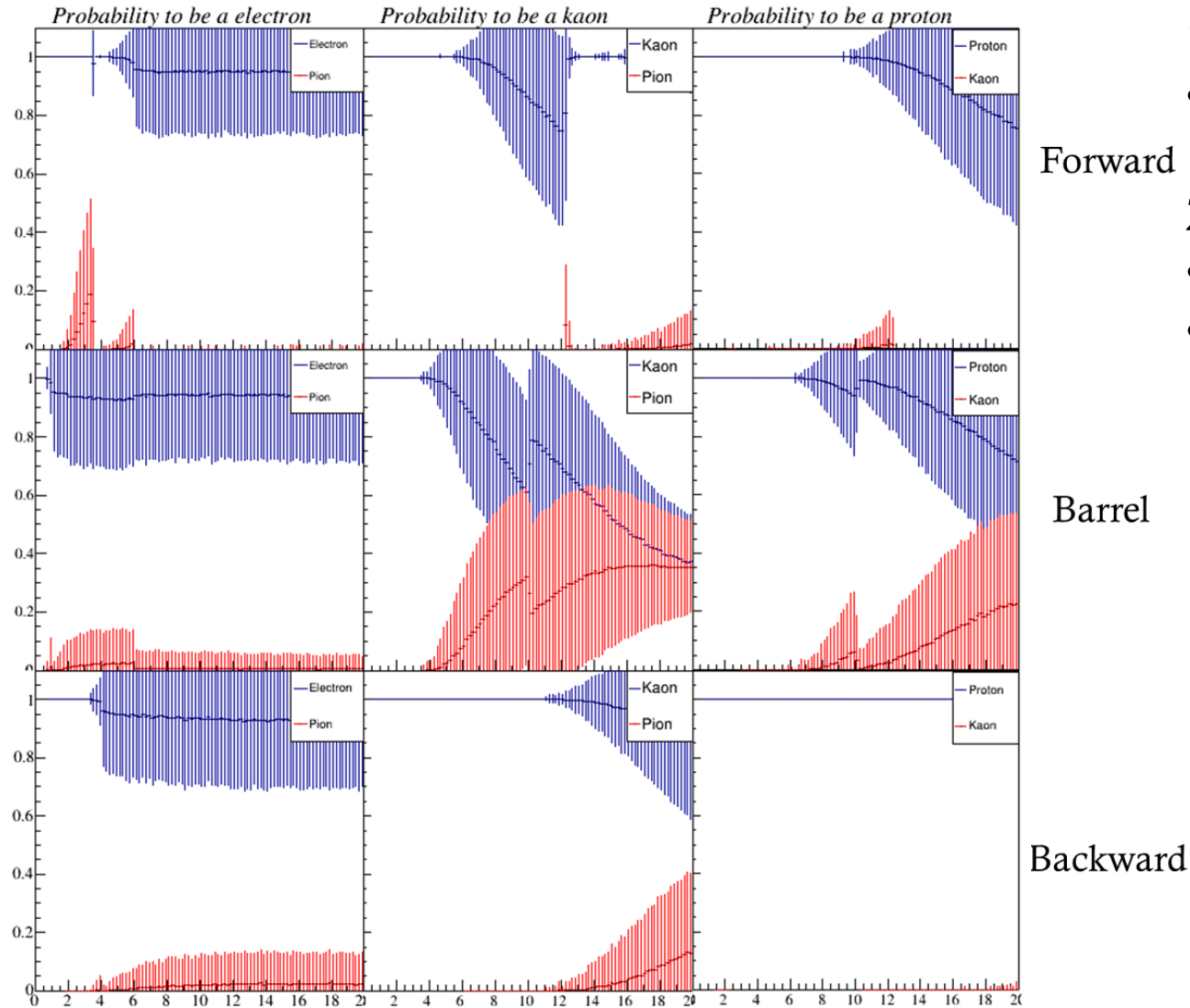


Fast Simulation@EicC

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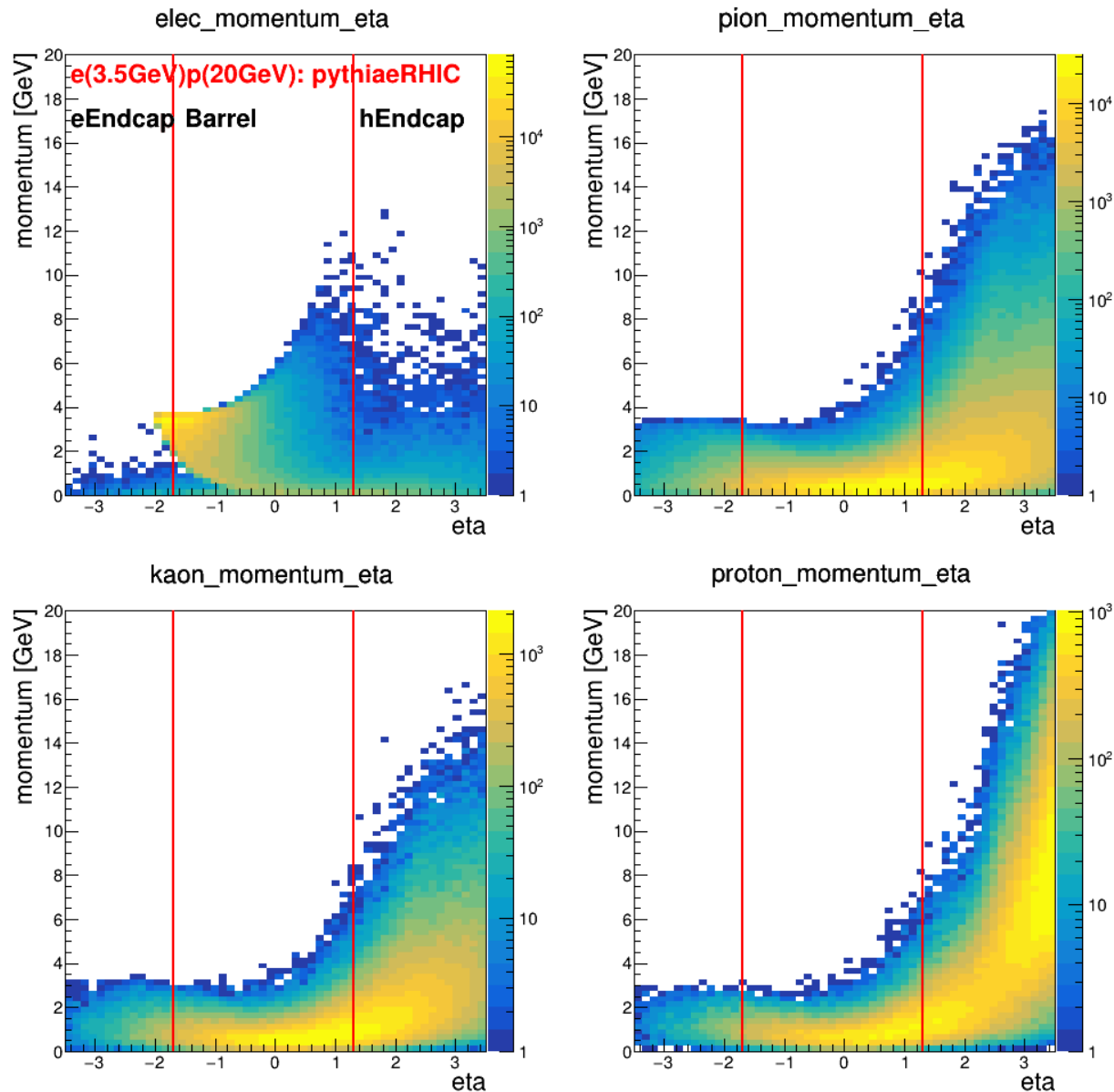
6th June, 2022

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

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")
```

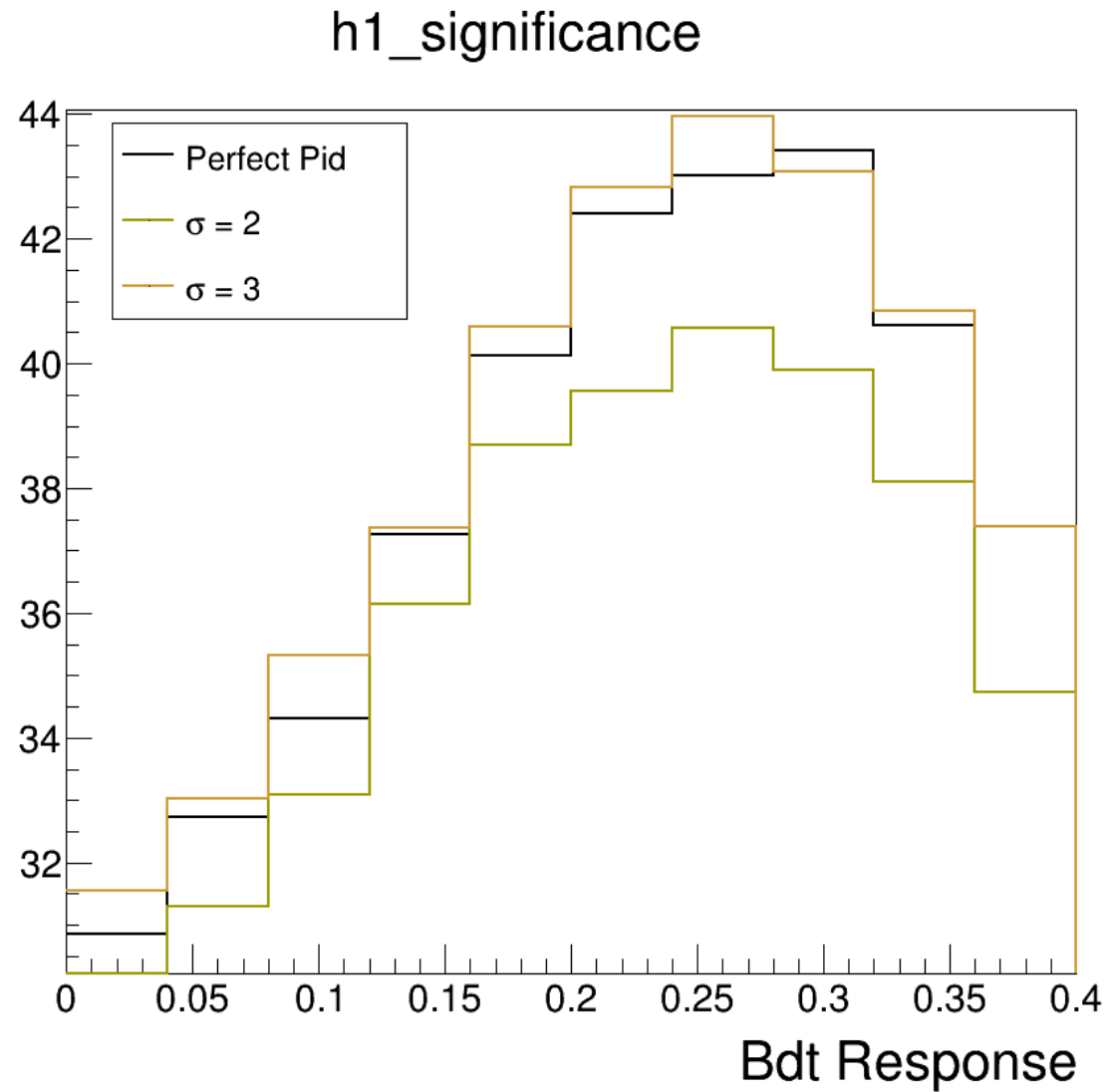
```
eof
```

[User's Guide: BeAGLE · The EIC Software Group Website](#)

Latest version 1.01.04

BeAGLE Version 1.01.04

Some Results



Some Results

