

# Data Quality Checks for RHRS PID Detectors

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# Reminder: What to Check

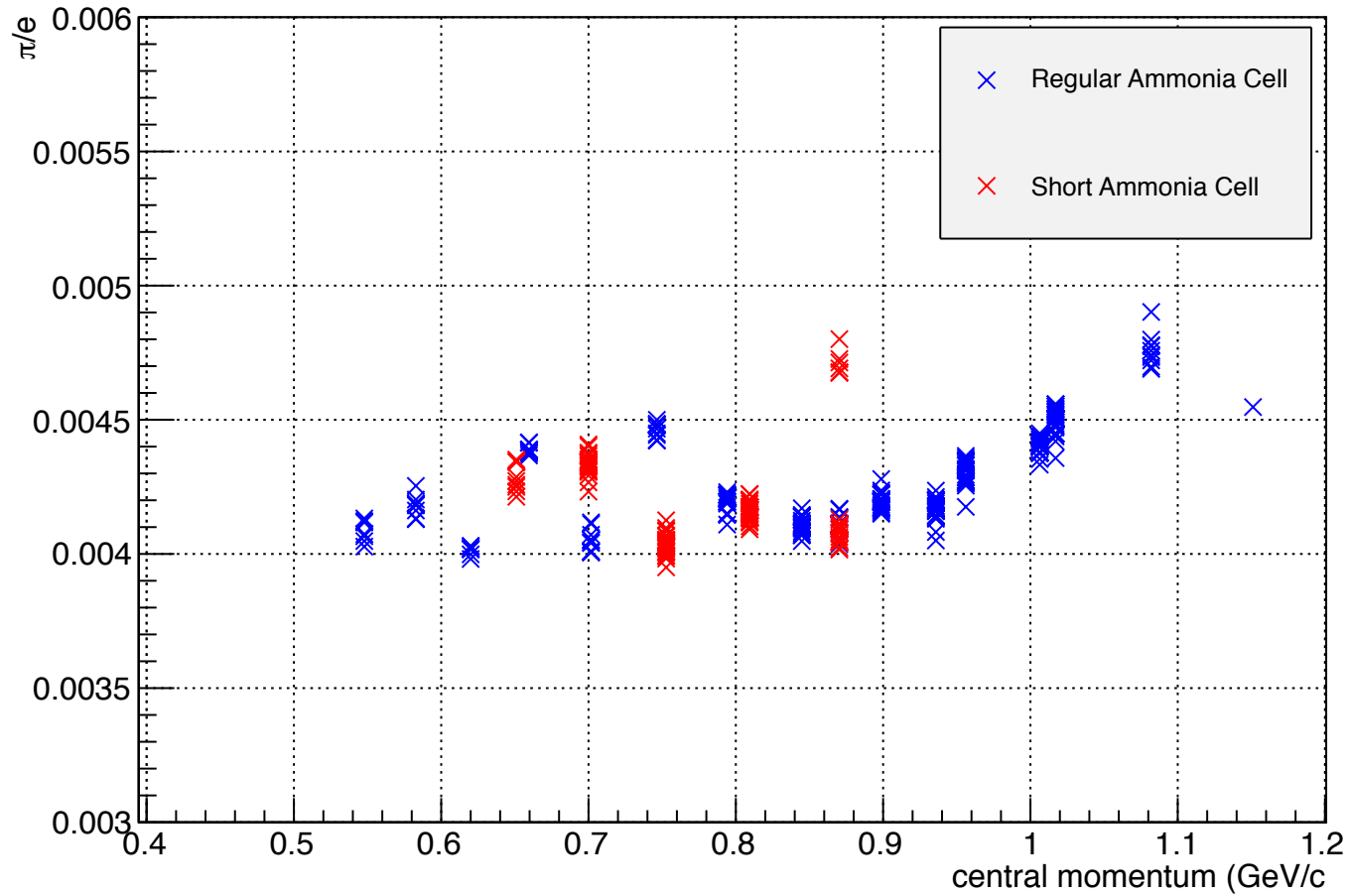
- Cherenkov
  - single photoelectron peak location
  - main peak location
  - detector efficiency
  - cut efficiency
- Preshower/Shower
  - mean of E/p distribution
  - detector efficiency
  - cut efficiency
- Pion Contamination

# The Breakdown

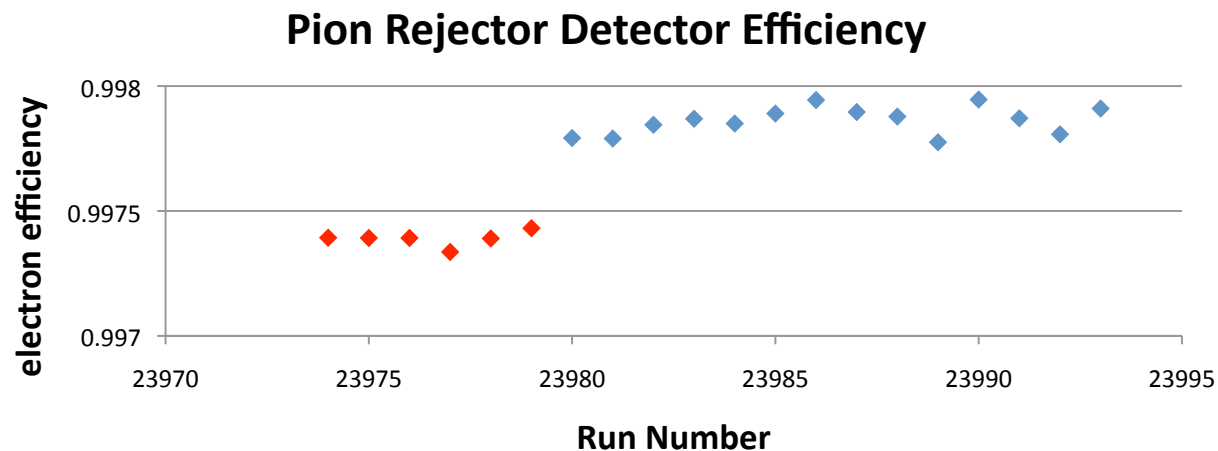
- 46 runs found to have “issues”
  - 23 runs with low statistics (~1M events or less)
  - 6 runs with unstable septum
  - 17 runs with varying issues
- Tweaked the PID cuts for 5 sets of runs

# E = 1.1 GeV, 2.5T, Transverse

RHRS  $\pi/e$  Ratio for 1.1 GeV, 2.5T, 90 deg

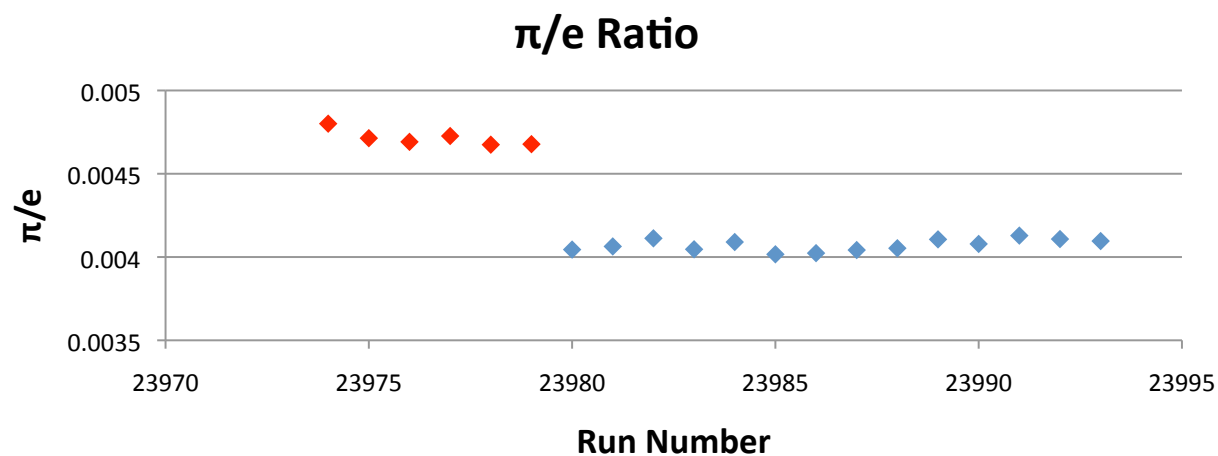


# E = 1.1 GeV, 2.5T, Transverse, p0 = 0.870 GeV/c (Short Cell Runs)



Runs 23974 – 23993  
were taken with short  
ammonia cell

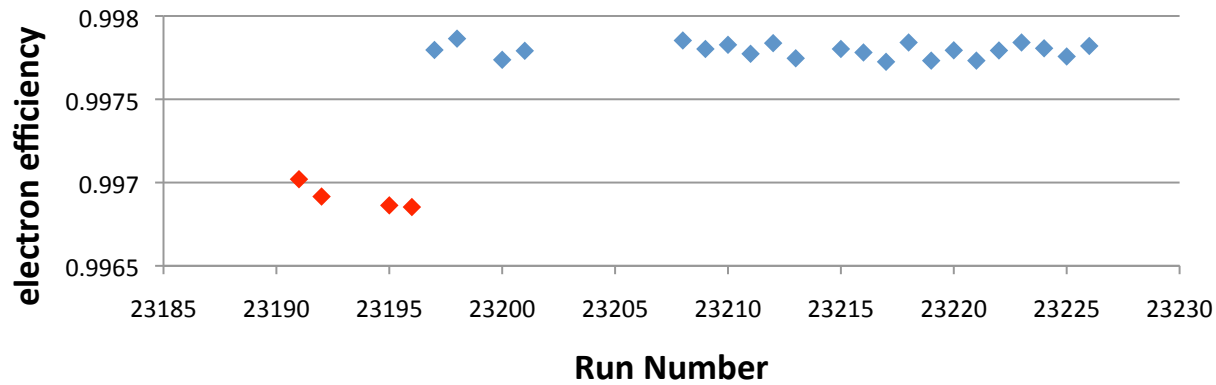
Runs 23974 – 23979  
show a drop in  
detector/cut efficiency



Corresponding  
LHRS runs also  
flagged with  
similar issues!

E = 1.7 GeV, 2.5T, Transverse, p0 = 1.589 GeV/c

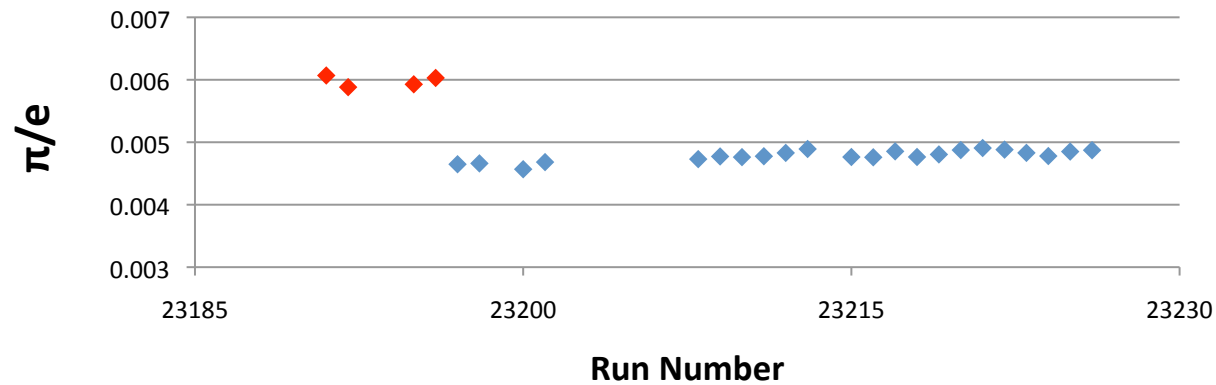
### Pion Rejector Detector Efficiency



Runs 23191 – 23226

Runs 23191 – 23196  
show a drop in  
detector/cut efficiency

### $\pi/e$ Ratio



## To Do:

- Compile this into a document
- Any suggestions from this meeting?