

# BigBite Analysis

## 4-Pass Live Times and BigBite $e^+/e^-$ Ratios

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# Outline

- 1 BigBite  $e^+/e^-$  Ratios
- 2 5-Pass Data Quality Update

# 4-Pass T2 Live Times

Omit 5 low live time runs

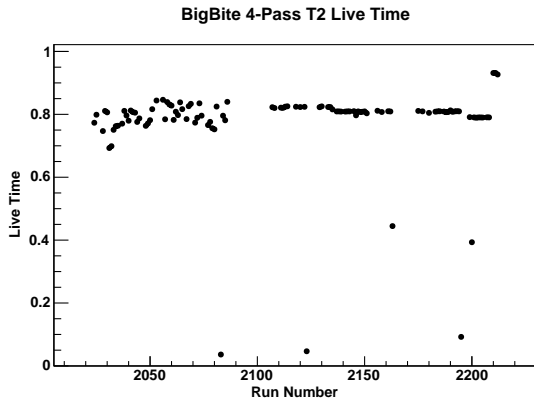


Figure: 4-Pass Live Times as a function of run number. Runs 2199-2212 are positive polarity runs. Runs 2210-2212 have prescale of 2 all other runs have prescale of 1.

# Forming Particle Yields

- Yield defined as:

$$Y = \frac{NPS}{LTQ}$$

- N = number of electrons or positrons
- PS = pre-scale factor
- LT = T2 trigger live time
- Q = total charge on target

# Particle Yields

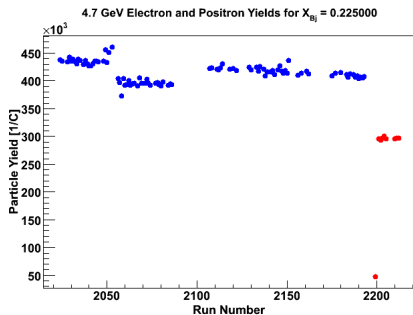


Figure: Particle yields in  $x=0.225$  bin. Blue are for electrons and red markers denote positrons.

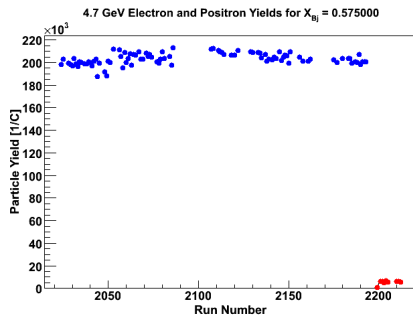
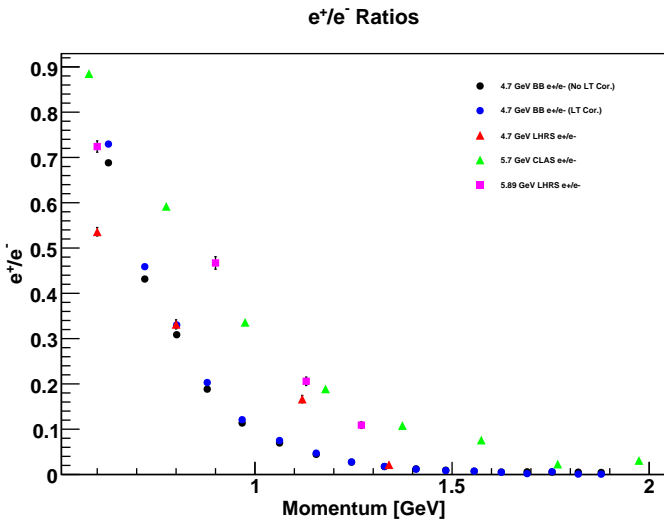


Figure: Particle yields in  $x=0.575$  bin. Blue are for electrons and red markers denote positrons.

# Forming $e^+/e^-$ Ratios

- Computed weighted average of electron and positron yields in each  $x$  bin
- Computed ratio of weighted average positron to electron yields
- Plotted the ratio vs mean momentum value in corresponding  $x$  bin to compare to LHRS

$e^+/e^-$  RatiosFigure: Ratios of  $e^+/e^-$  from BigBite LHRS and CLAS

# 5-Pass Data Quality Update

- Finished updating the DB for Energy calibration and MWDC
- Will send Brad the DB changes
- Finalizing 5-pass cuts:
  - Checking Čerenkov TDC peaks
  - Checking Pre-Shower Sum TDC peaks



# What's Next

- Finish finalizing 5-pass Cuts
  - Čerenkov TDCs
  - Pre-shower sum TDCs
  - E/p
- Get a rough draft of Hall A progress report out some time next week

# Bin 3 Yields

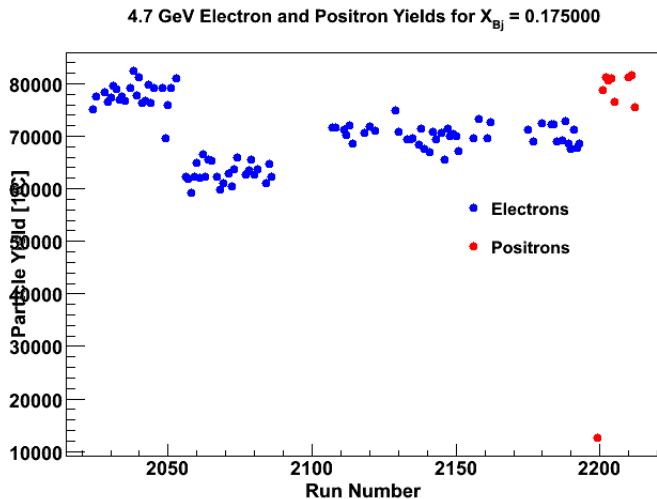


Figure: Particle yields in  $x=0.175$  bin. Blue are for electrons and red markers denote positrons.