

# LHRS Analysis for $d_2^n$

$e^+/e^-$  Ratio Update

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# Outline

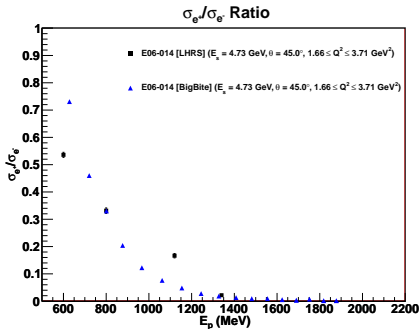
- 1  $e^+/e^-$  Ratio Update
  - Comparison to BigBite
  - Comparison to CLAS
- 2 Summary

# A Bug in the Code

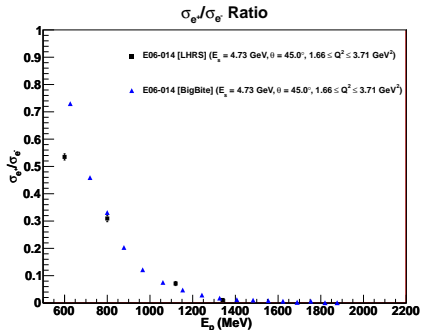
- Last time, it was shown that the  $e^+/e^-$  ratio from the LHRS disagreed considerably with BigBite for a given  $E_p$  bin
- Checking the runs and the code, it was found that there was a **bug** in the cross section code: the prescale vector was not being reset properly for each run set (which are divided up by  $E_p$  bin)

# Updated $e^+/e^-$ Ratios: Comparison to BigBite Before and After

Before

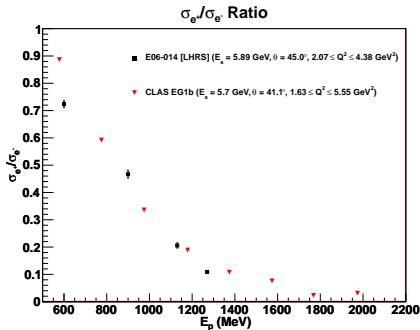


After

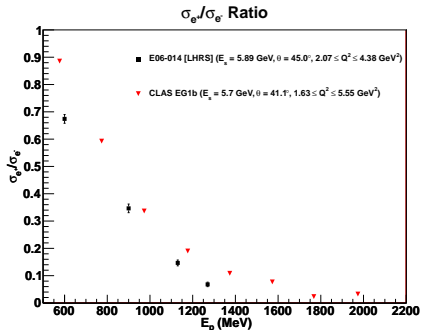


# Updated $e^+/e^-$ Ratios: Comparison to CLAS EG1b Before and After

Before



After



# Summary

- $e^+/e^-$  ratio
  - After fixing the bug in the cross section code, LHRS and BigBite agree quite well for the  $e^+/e^-$  ratio at 4-pass
  - Still decent agreement with CLAS EG1b

# What's Next?

- Radiative Corrections
  - Investigating the interpolation method used in radcor in the unfolding procedure
- Cross Sections
  - $e^+$  modeling: Wismer code
  - Systematic errors on LT and VDC