LHRS Analysis for d_2^n

Positive Polarity Data: Event Selection

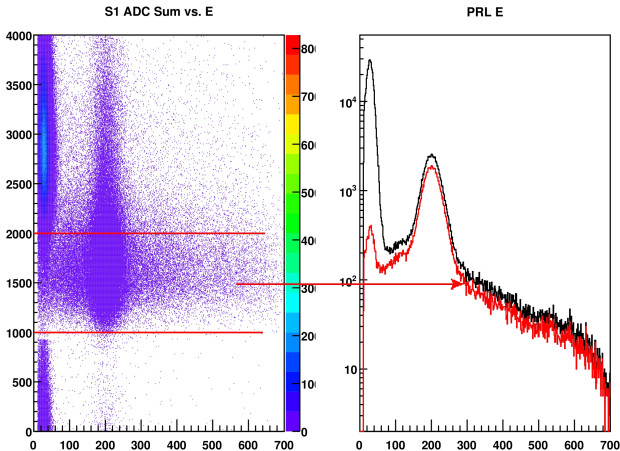D. Flay

9/13/12

Outline

Scintillator ADC vs. E Plots for PID

- Protons and deuterons contaminate the π^+ sample when calculating π^+ cross sections
- Could we use the scintillator ADCs vs. E to help with PID?

Summary

- π^+ Event Selection
  - We can identify events from the scintillator vs. E plot, but we don't gain much by using it

What's Next?

- Cross Sections
  - We know the ^{3}He QE tail to $\sim 3\%$, and the error incurred on the radiated cross section is $\leq 0.5\%$
  - Finalize systematic errors
    - Fit Errors: Fits are used for background subtraction when we don't have the data
- Simulations
  - Geant4 BigBite
    - Energy calibration
    - BB.optics.bendx, BB.optics.bendy variables & pole piece cut
- Matt and I have made good progress on the BigBite Čerenkov paper for publication
- Note: I will be in Mainz from Sept. 16–Oct. 2 (shifts at MAMI)