Long overdue explanation why my radiative width jumped ~ 4% higher

Work done while w/ PrimEx and Umass Amherst

Eric Clinton

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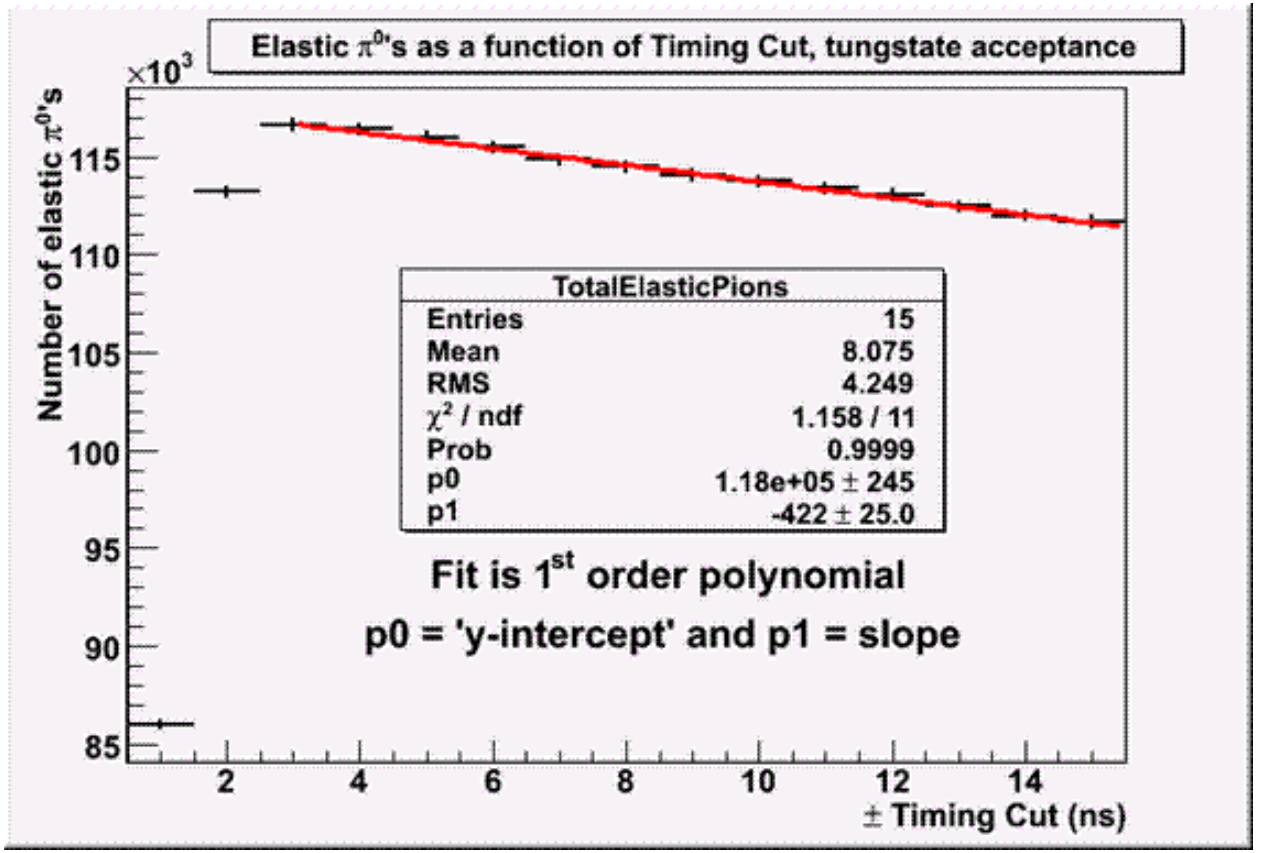
Duke University

Reason number 1--Timing accidental correction

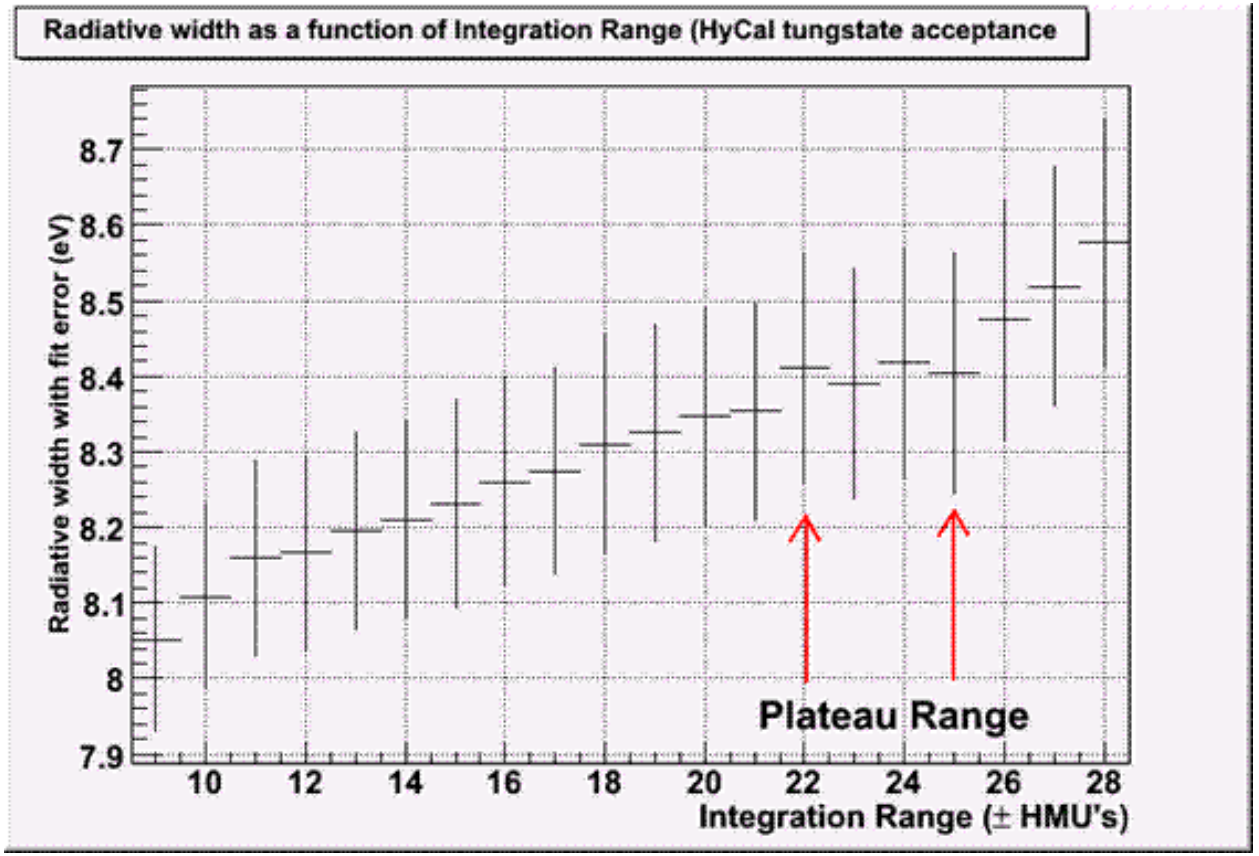
I noticed a significant slope vice a plateau. Solution, fit the slope and extrapolate a correction factor.

This is Figure 5.13 from my PhD.



Reason 2—The (weak) plateau in the radiative width was not at 15 HMU's, but farther away.

Figure 5.17 in my PhD



Discussion

- These two effects were about 2% apiece, accounting for the +4% shift.
  - These are the only significant differences in my pion yield and rad. width extraction between my July 19, 2007 collaboration meeting presentation and my PhD.
- Caveat: Elastic pion yields where extracted using Least squares method for fitting.
  - Minimizing Log Likelihood is the proper method
  - Least square under estimates the total area with low statistics – see http://root.cern.ch/root/roottalk/roottalk02/1393.html
    - Result: overestimation of elastic pion yield after background subtraction
  - Radiative width should go down with likelihood fitting method
  - For those interested, the submitted version of my PhD is at
    - http://www.jlab.org/~eclinton/random_analysis/PhDworking/Clinton_PhD.pdf