PID Performance Summary

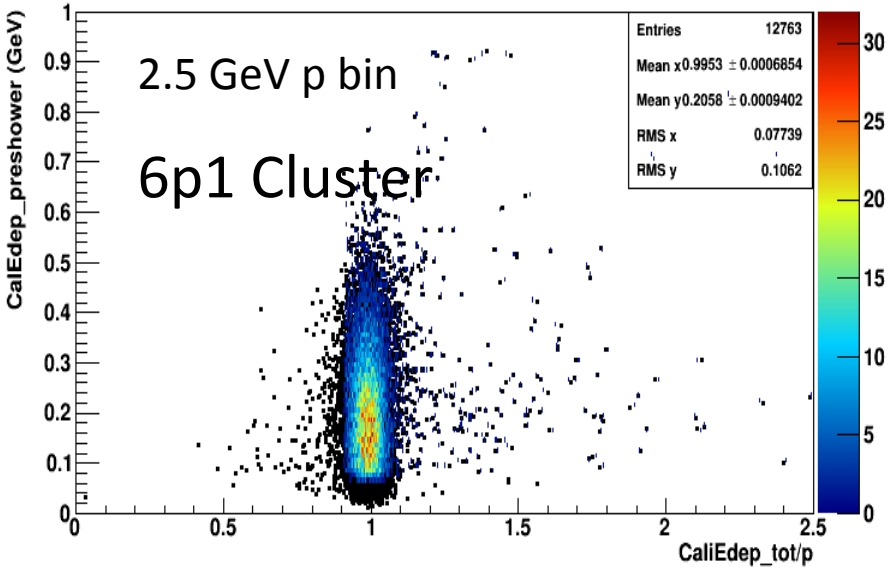
- Without background contribution, PID performance (e/π^- separation) from both FAEC and LAEC are consistent with PcDR results (Jing's results) (by ignoring the edge effect)

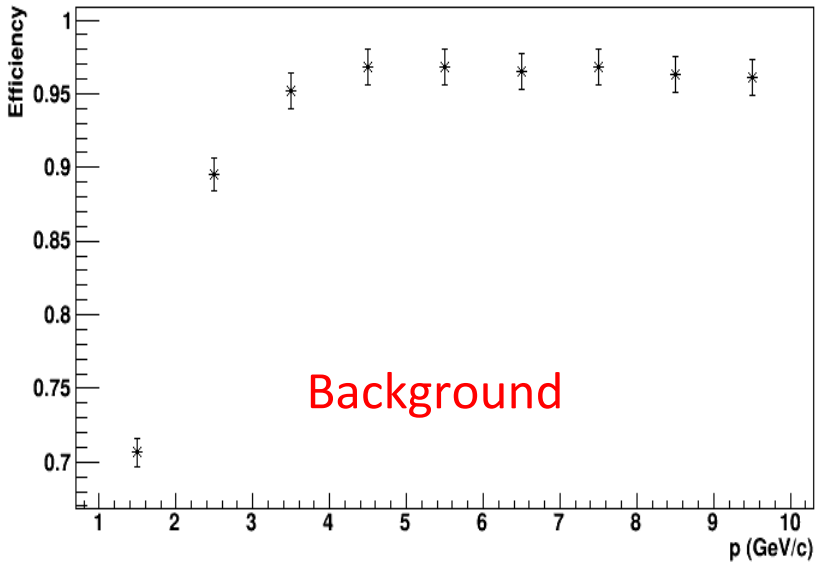
- With background contribution, PID performance from both FAEC and LAEC are worse than PcDR results.
  - >50:1 π- rejection at 95% e efficiency for p>2GeV/C (FAEC)
  - 22:1 π- rejection at 70% e efficiency for 1<p<2 GeV/C (FAEC)
  - >50:1 π- rejection at 96% e efficiency for p>4GeV/C and 85%-90% for 2GeV<p<4GeV (LAEC $\theta[18^o,22^o]$)

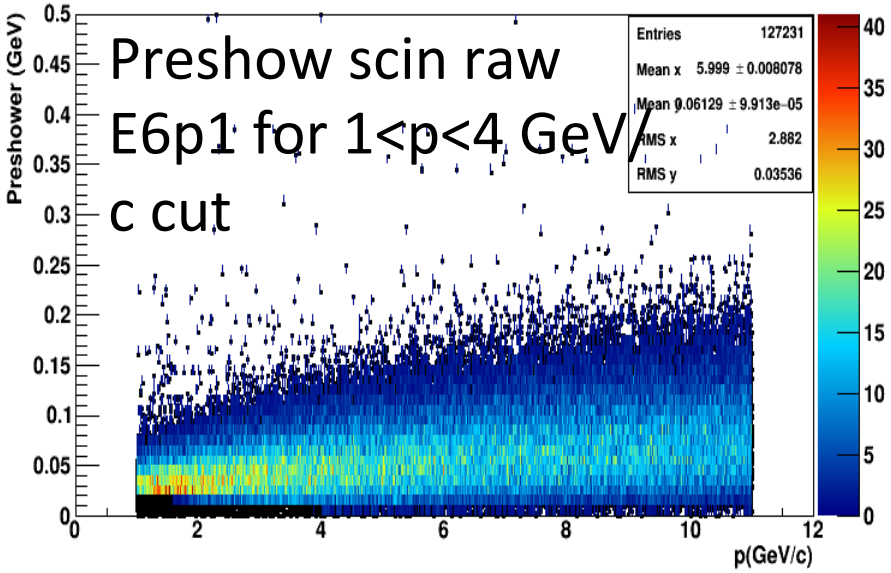
- By including the edge effect, the PID performance will be 10%-15% worse than that without the edge effect.

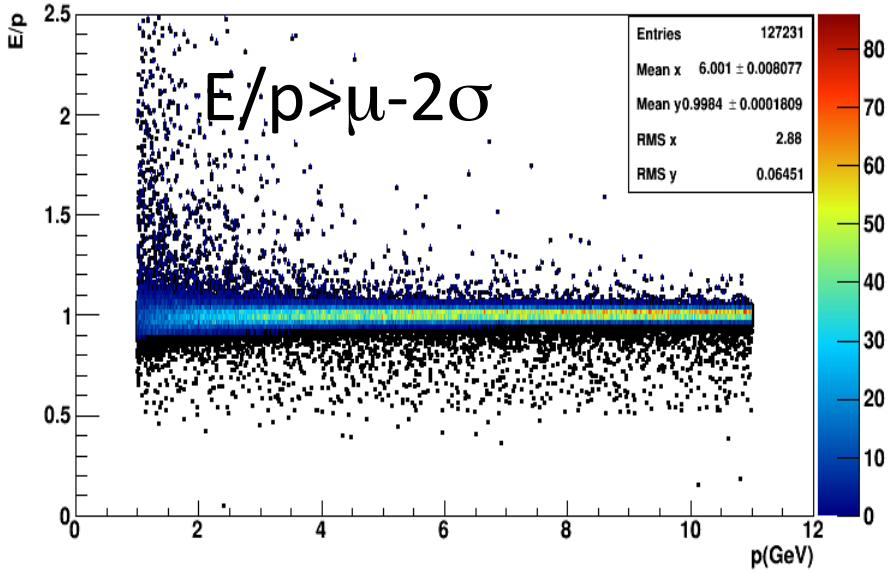
0-11 GeV e- beam, θe [7.5°,14.85°] Energy Calibration SIDIS FAEC Configuration

Prelead: 2.0X0



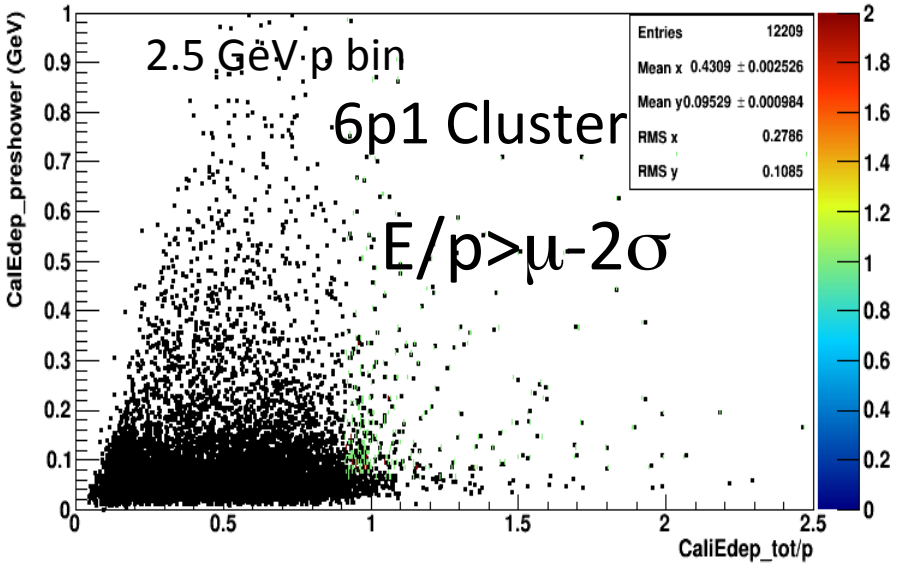


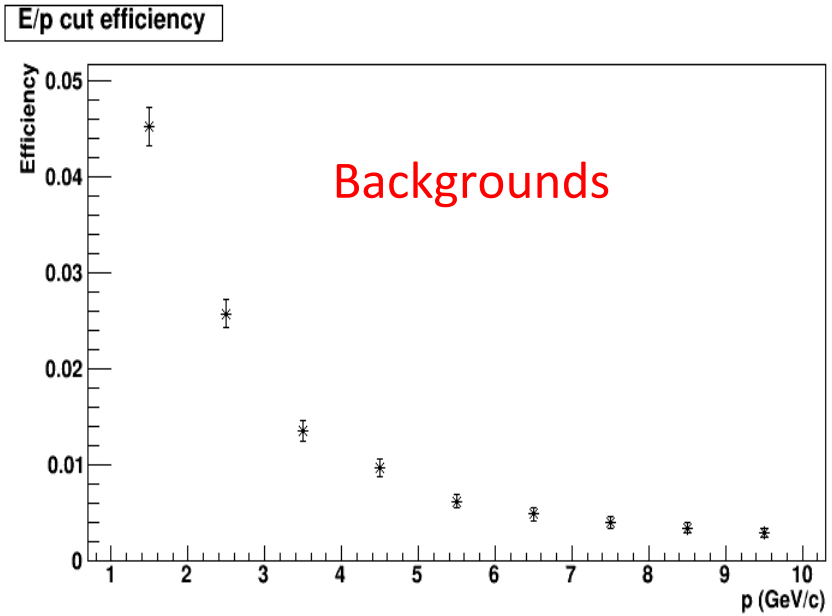


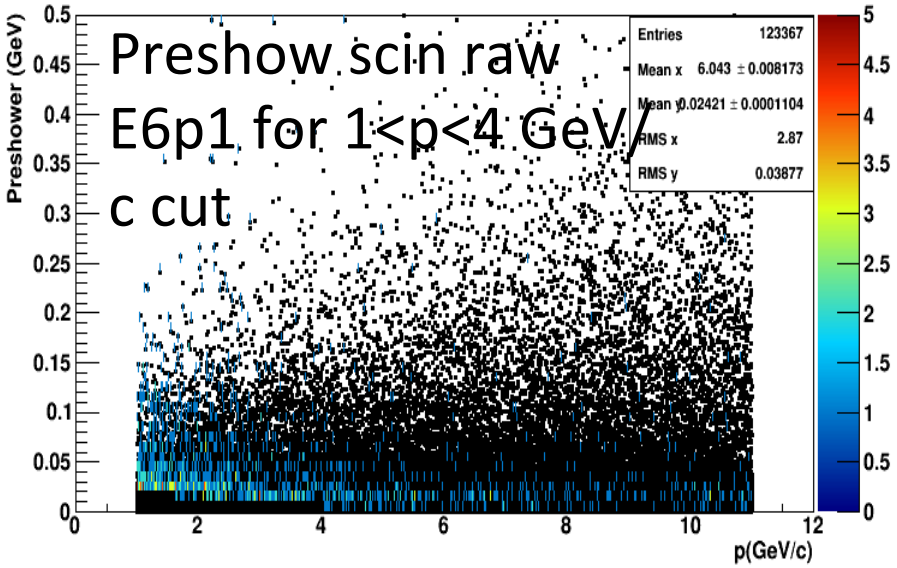


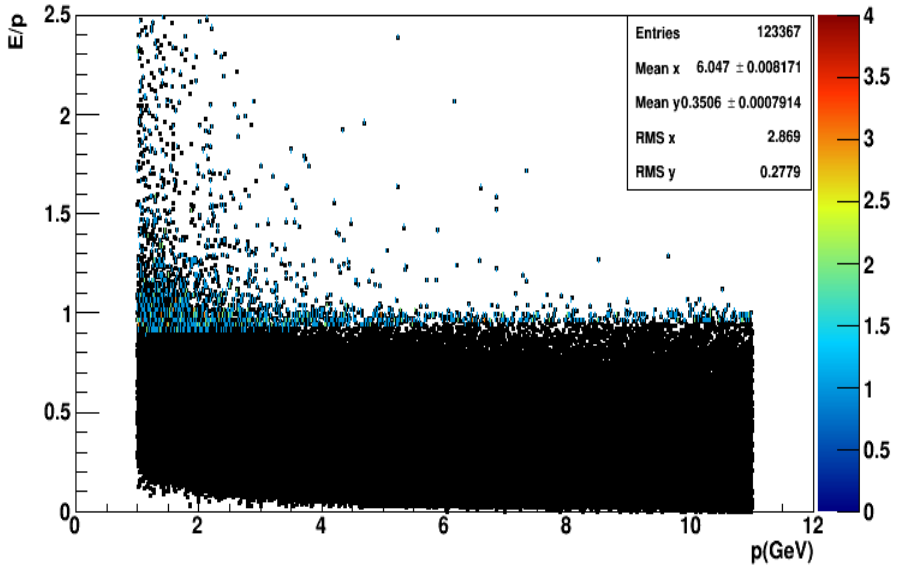
0-11 GeV π- beam, θe [7.5°,14.85°] Energy Calibration SIDIS FAEC configuration

Prelead: 2.0X0



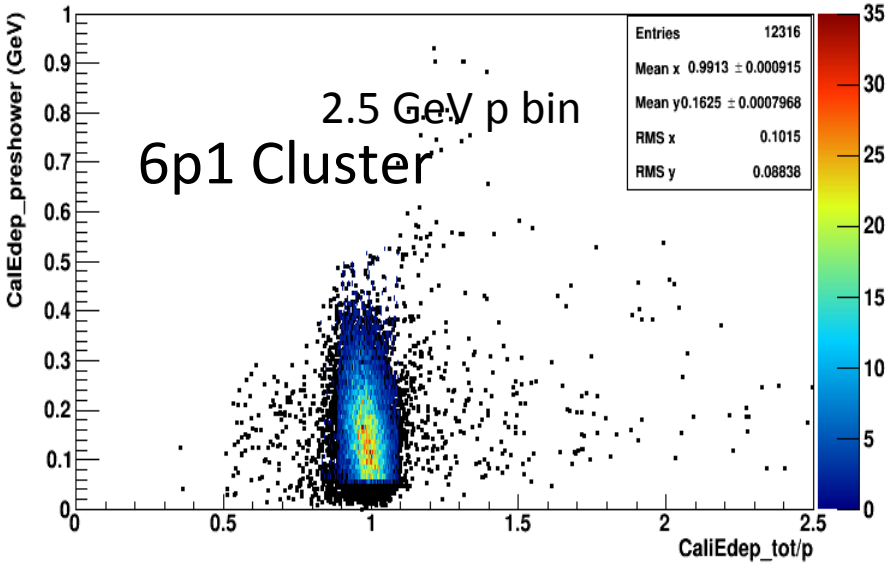


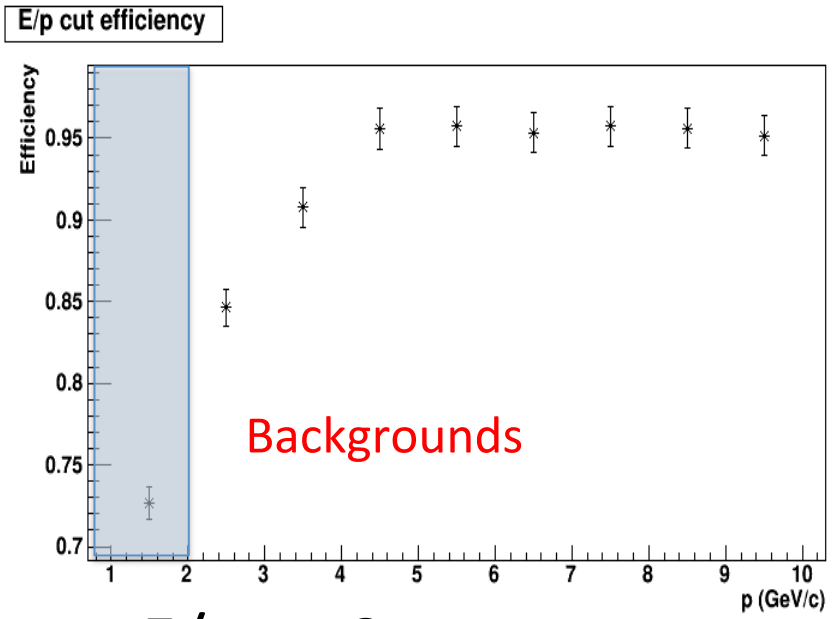




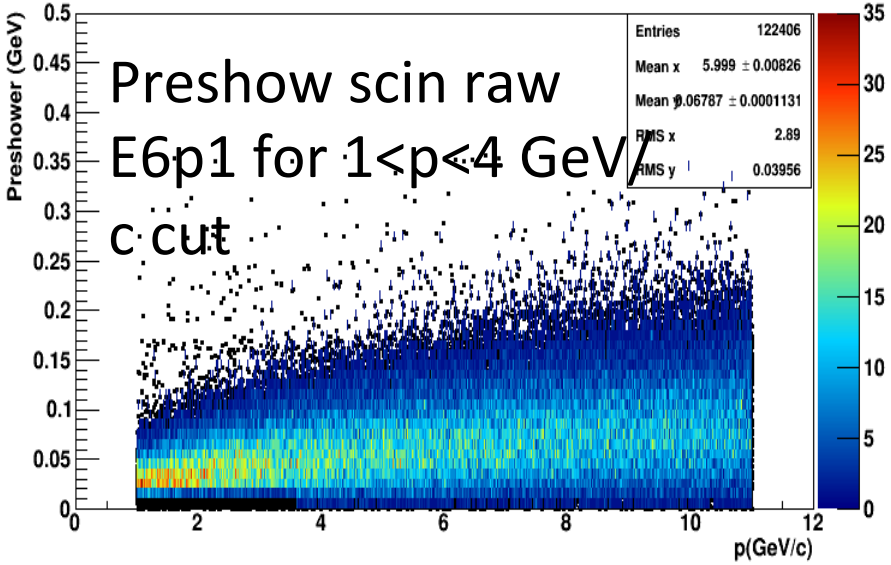
0-11 GeV e- beam, θe [18°, 22°] Energy Calibration SIDIS LAEC Configuration

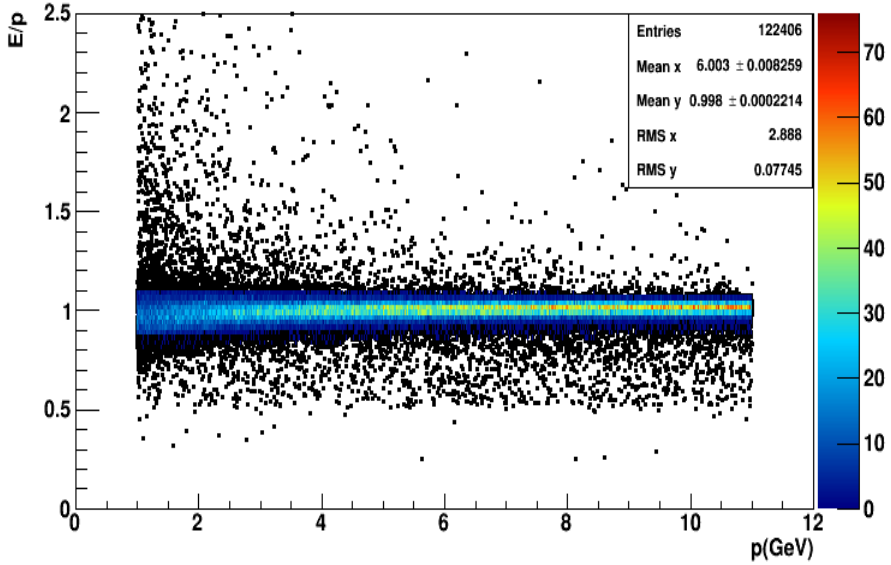
Prelead: 2.0X0





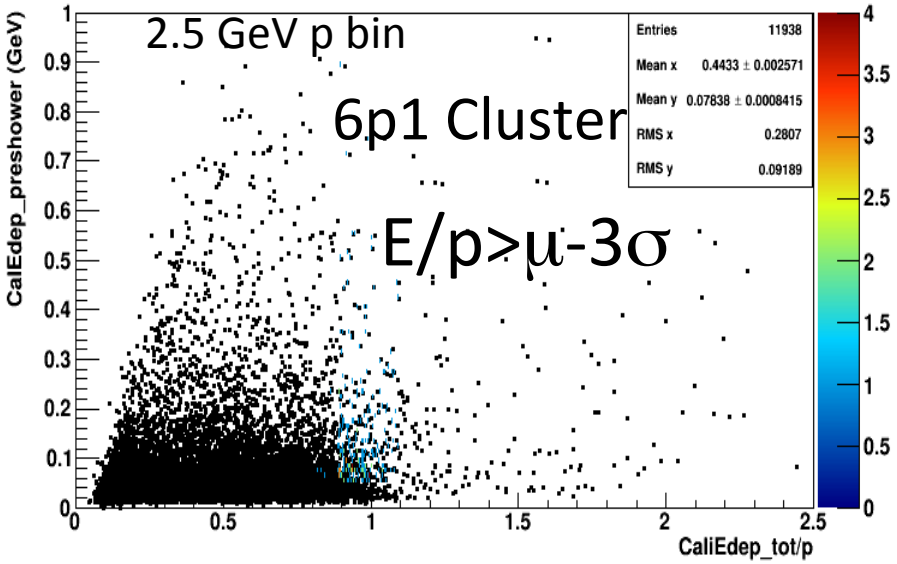
E/p>μ-3σ

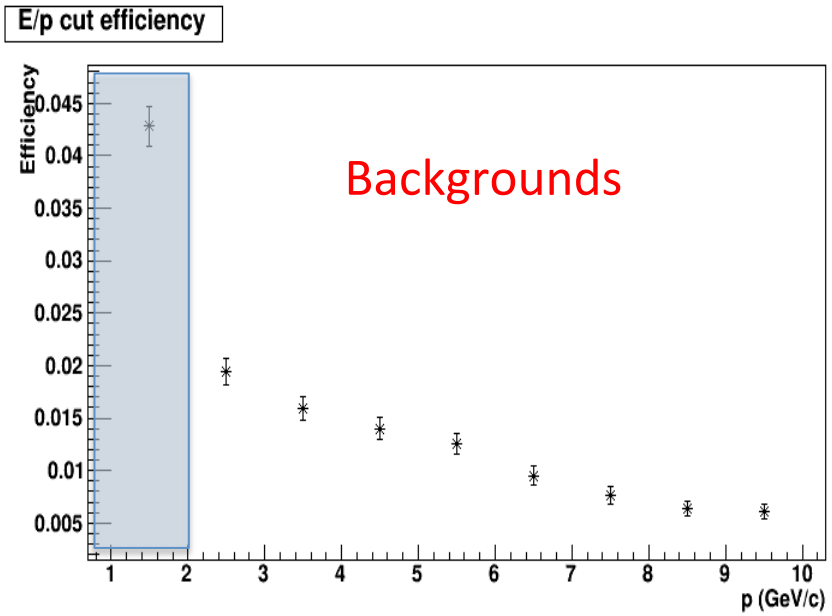


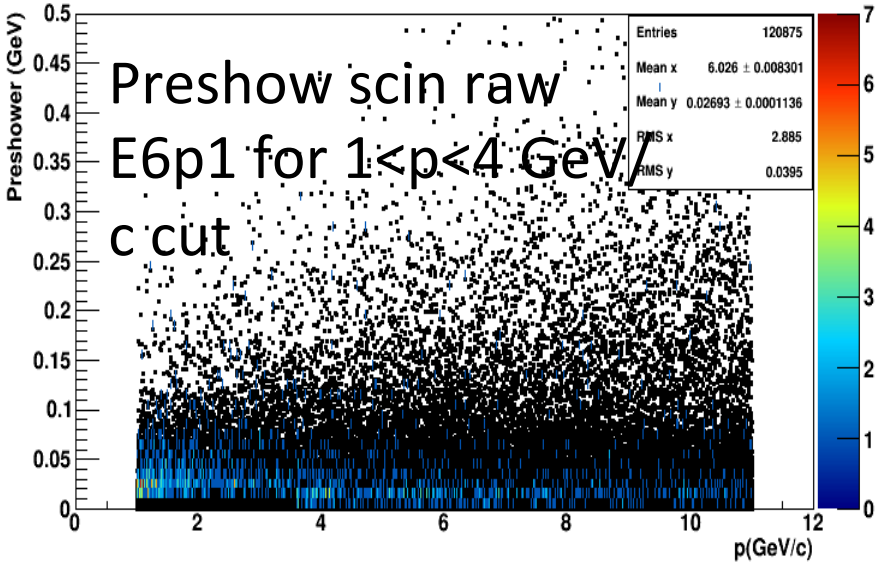


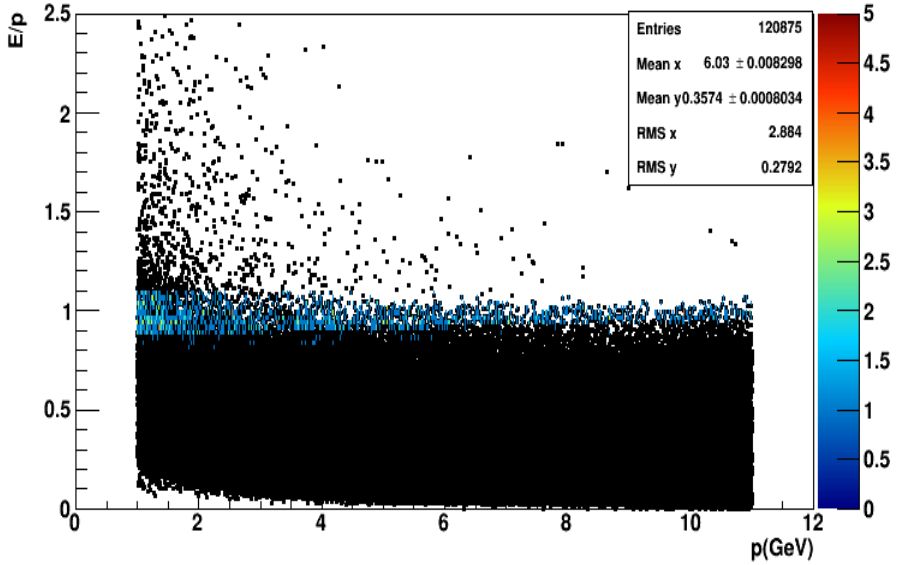
0-11 GeV π- beam, θe [18°,22°] Energy Calibration SIDIS LAEC configuration

Prelead: 2.0X0



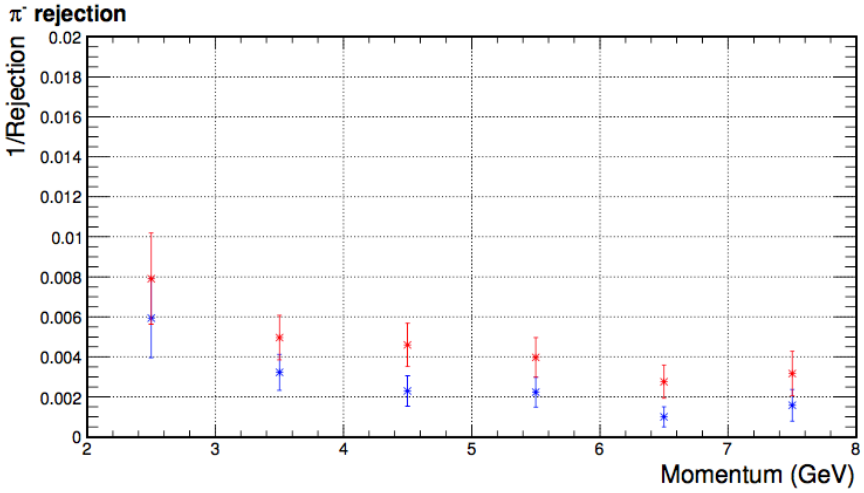


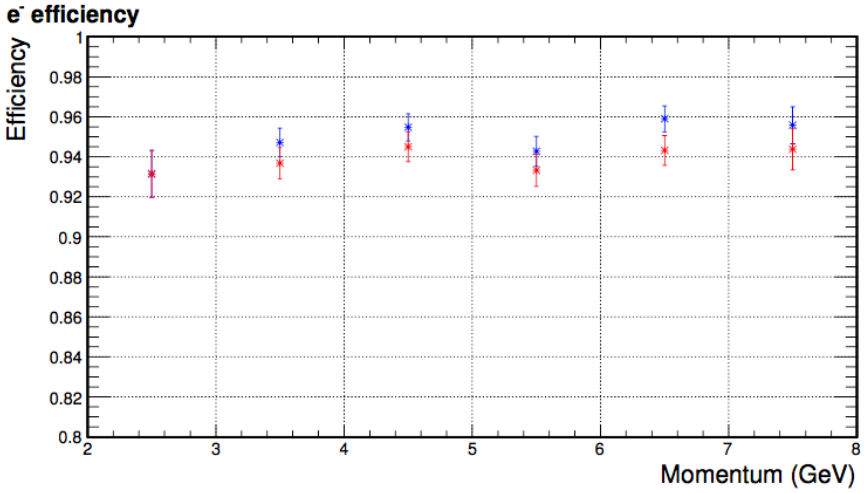




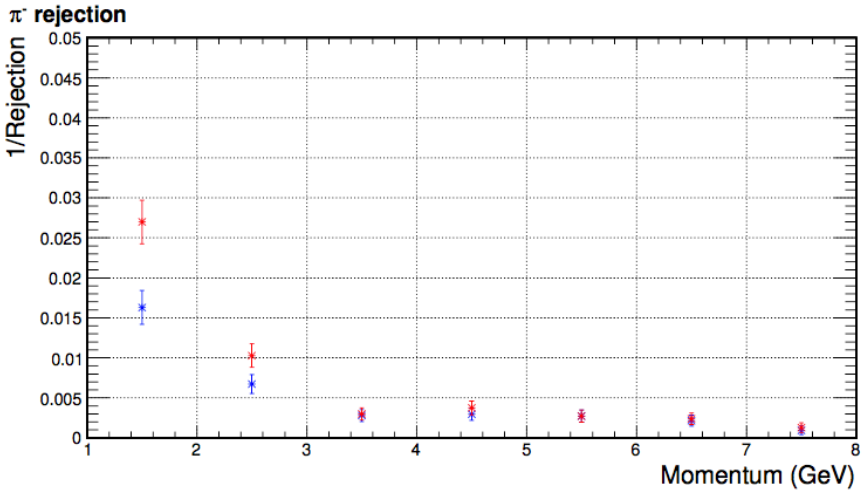
Back up

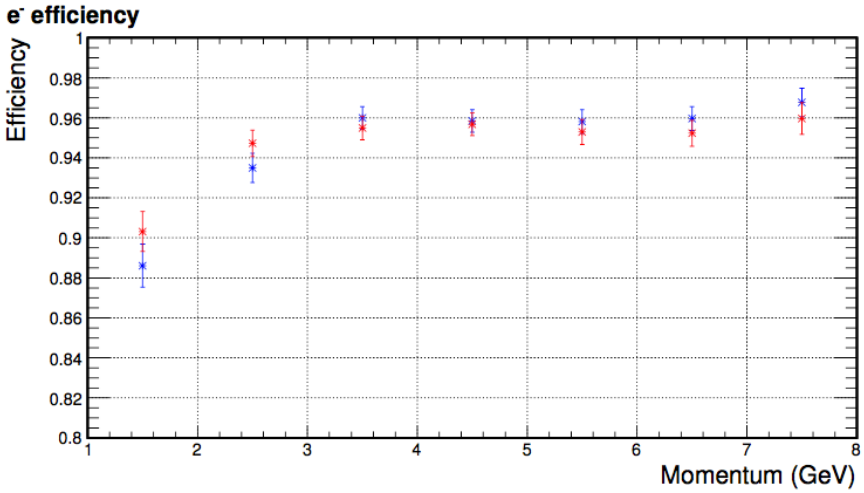
PcDR results





(a) SIDIS large-angle calorimeter

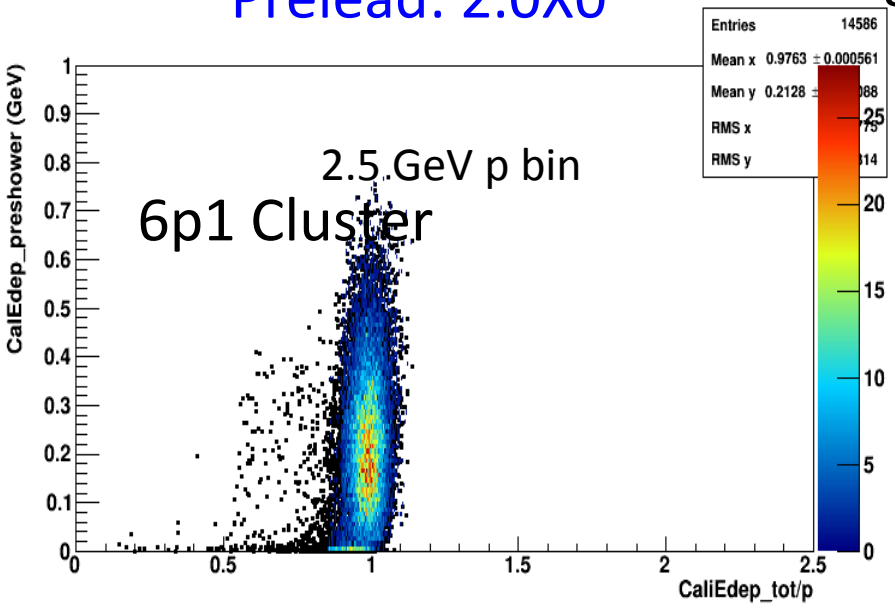




(b) SIDIS forward calorimeter

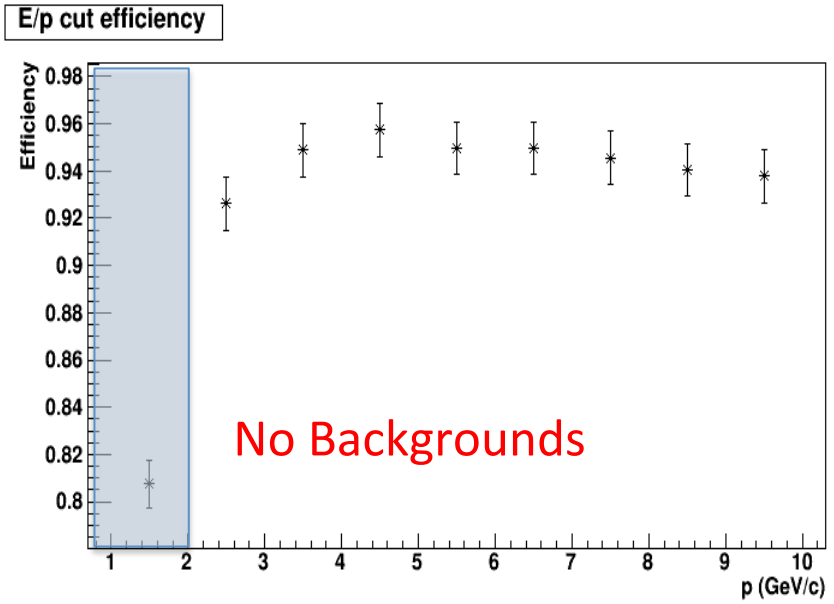
0-11 GeV e- beam, θe [17°, 22°] Energy Calibration SIDIS LAEC Configuration

Prelead: 2.0X0



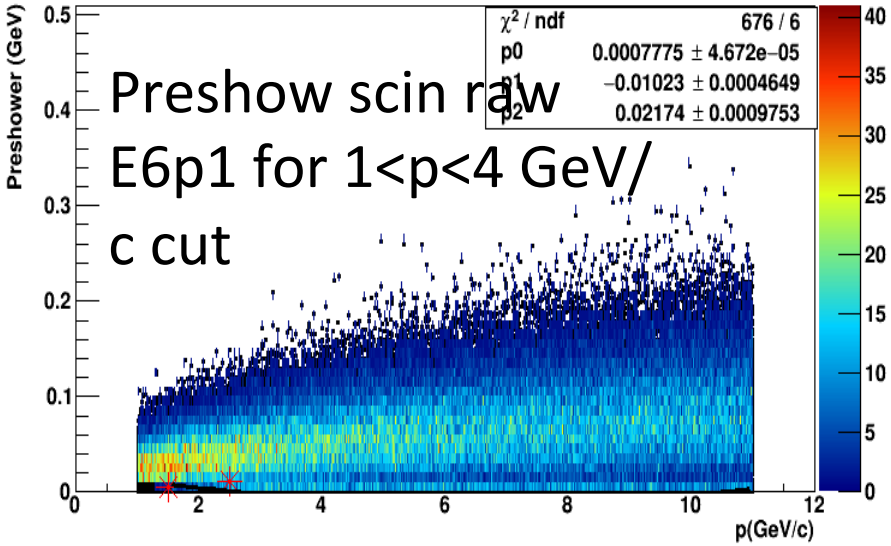
2.5 GeV p bin

6p1 Cluster



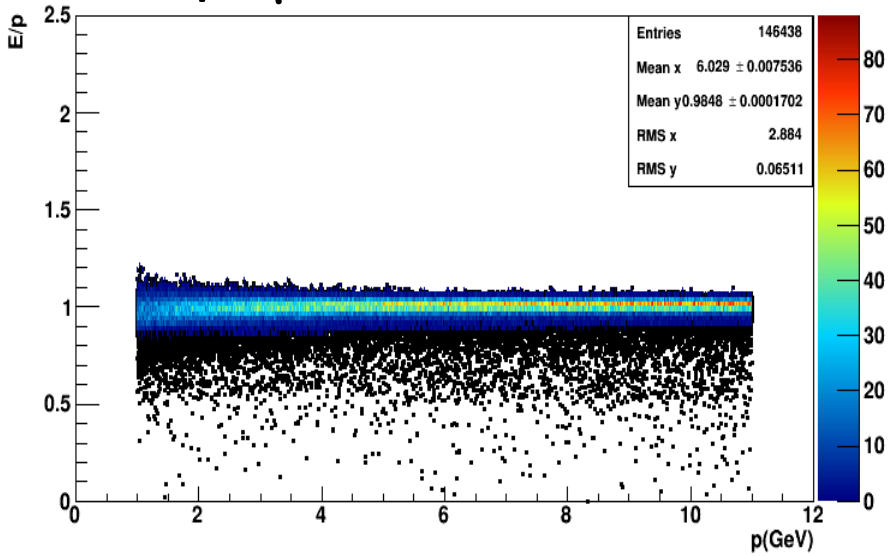
No Backgrounds

E/p>μ-3σ



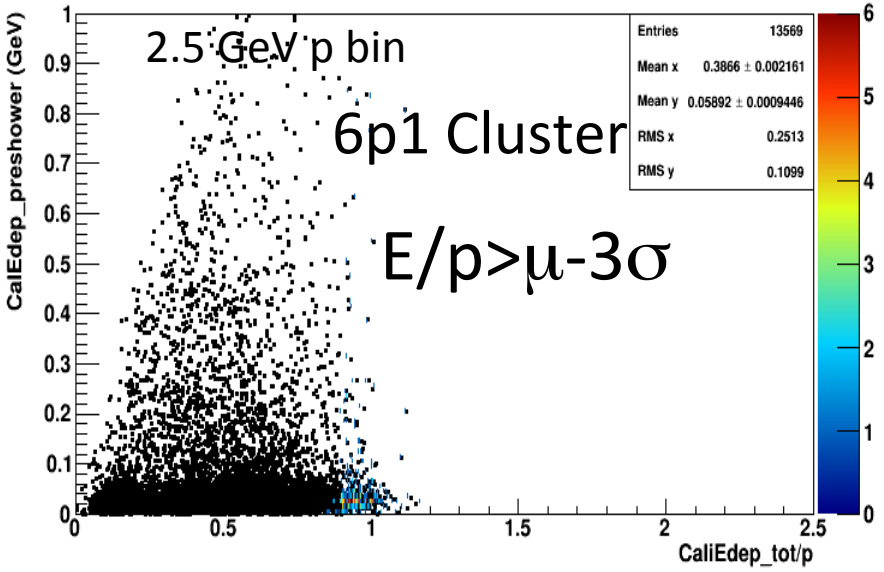
Preshow scin raw

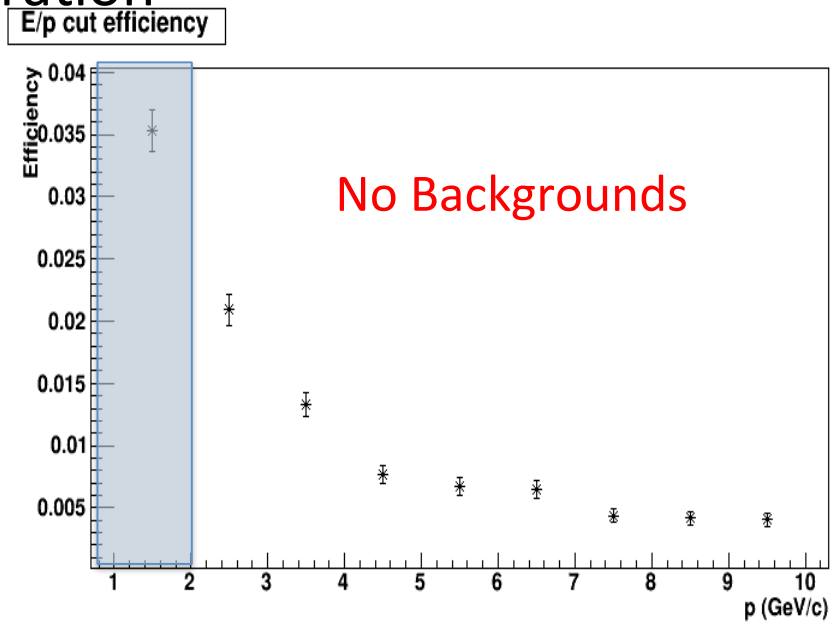
E6p1 for 1<p<4 GeV/c cut

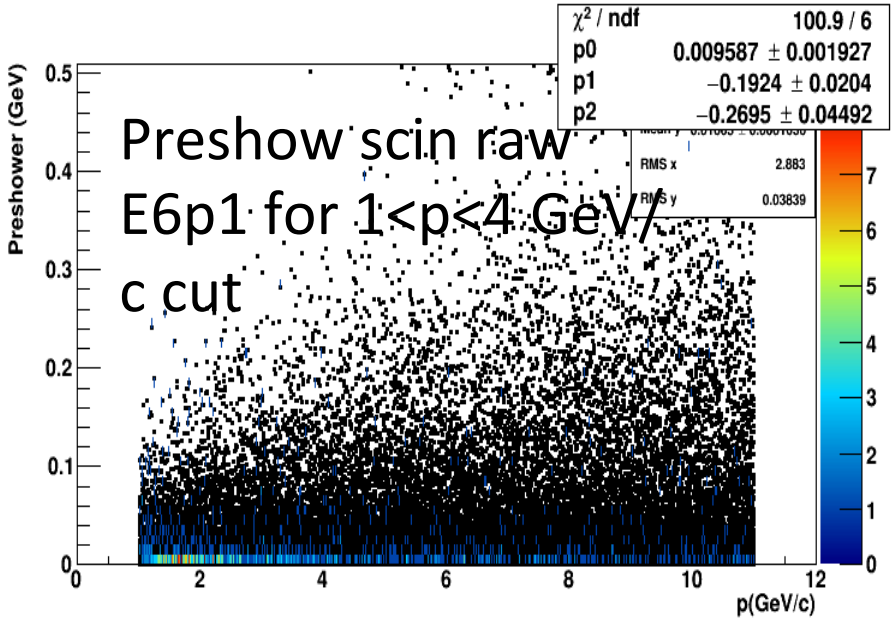


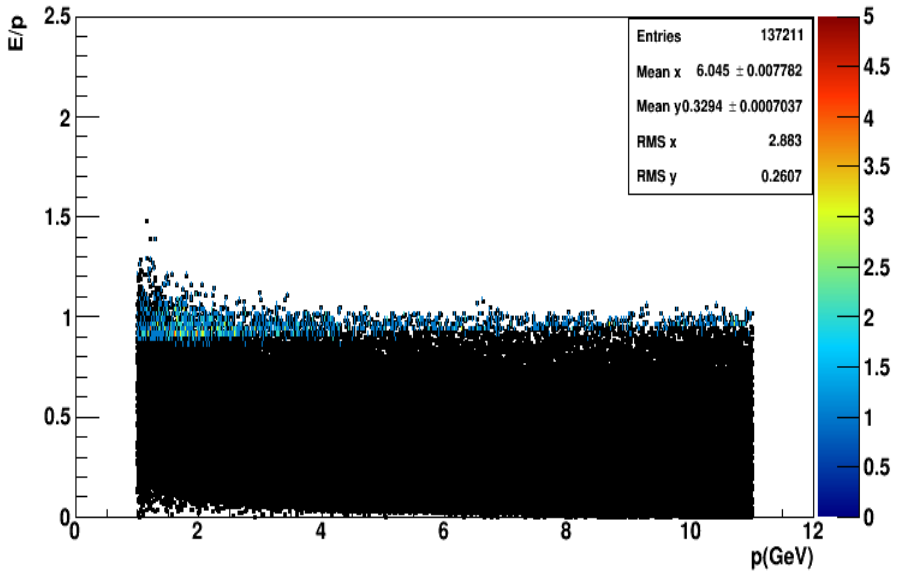
0-11 GeV π- beam, θe [17°,22°] Energy Calibration SIDIS LAEC configuration

Prelead: 2.0X0



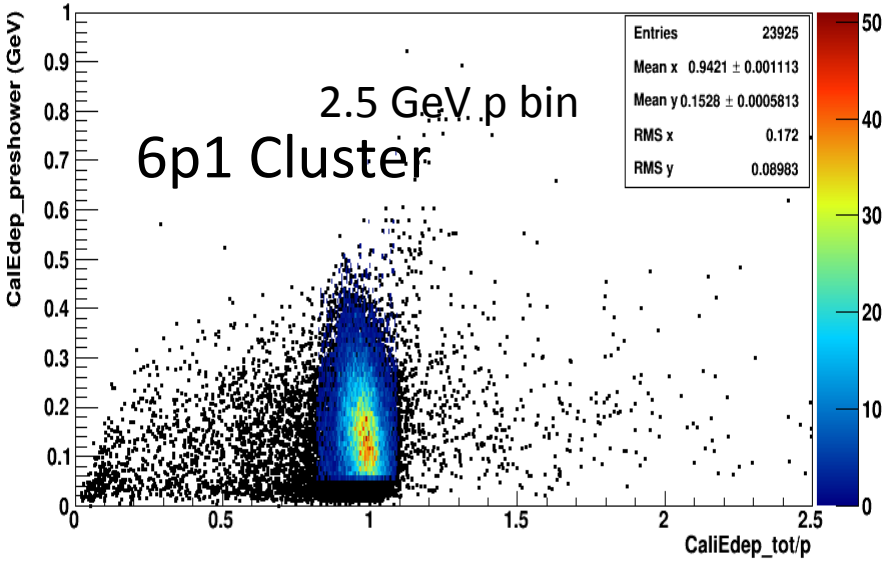


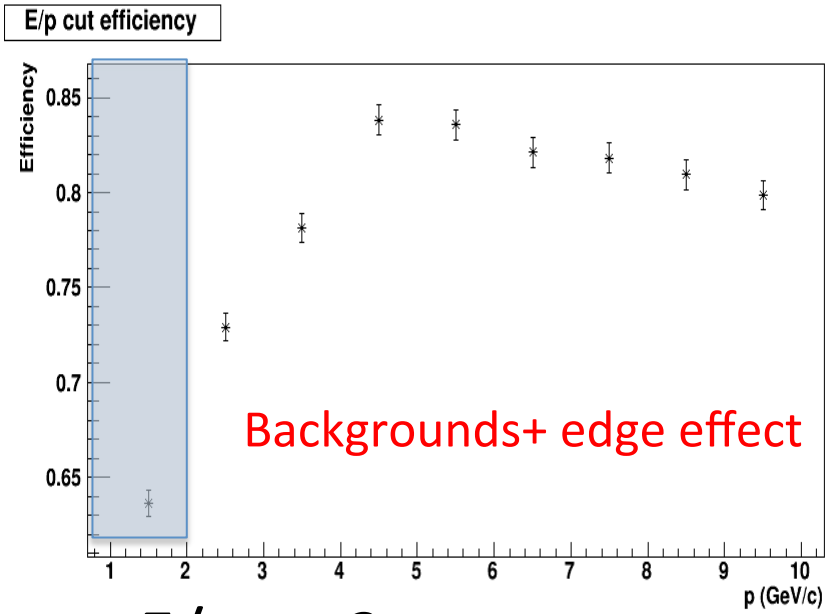




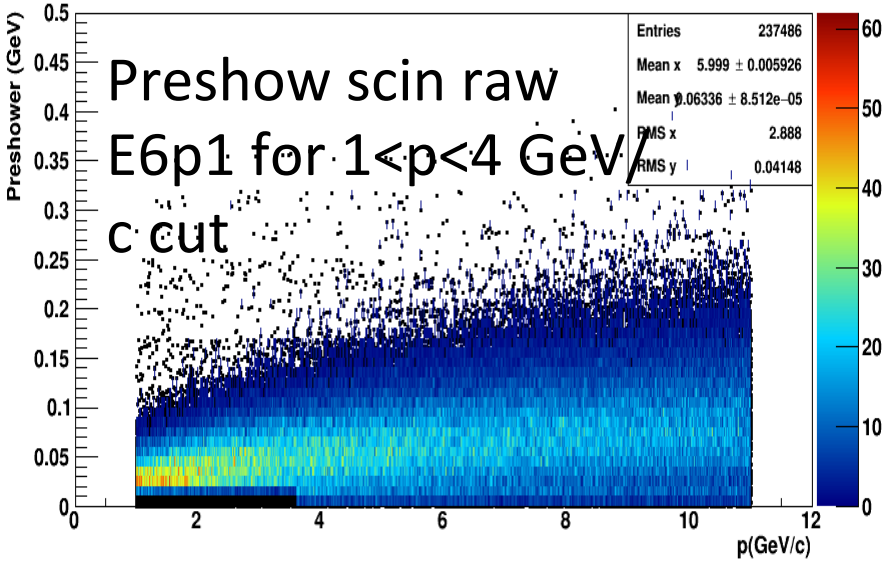
0-11 GeV e- beam, θe [16.3°, 24°] Energy Calibration SIDIS LAEC Configuration

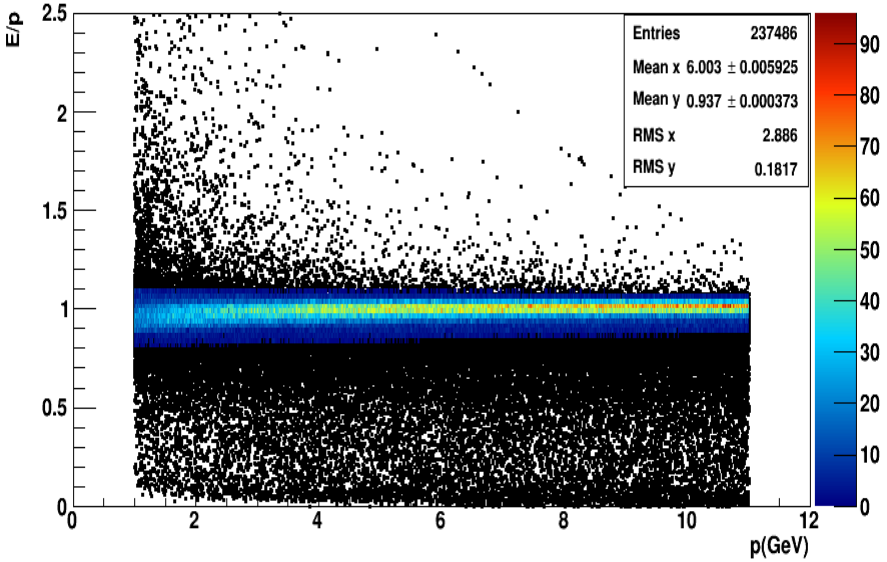
Prelead: 2.0X0





E/p>μ-3σ





0-11 GeV π- beam, θe [16.3°,24°] Energy Calibration SIDIS LAEC configuration

Prelead: 2.0X0