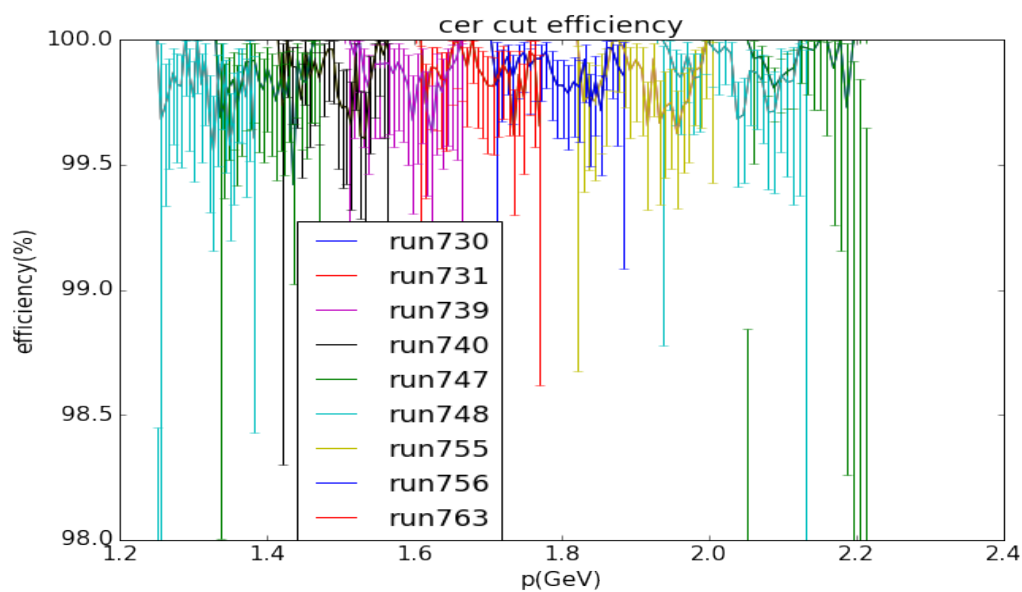
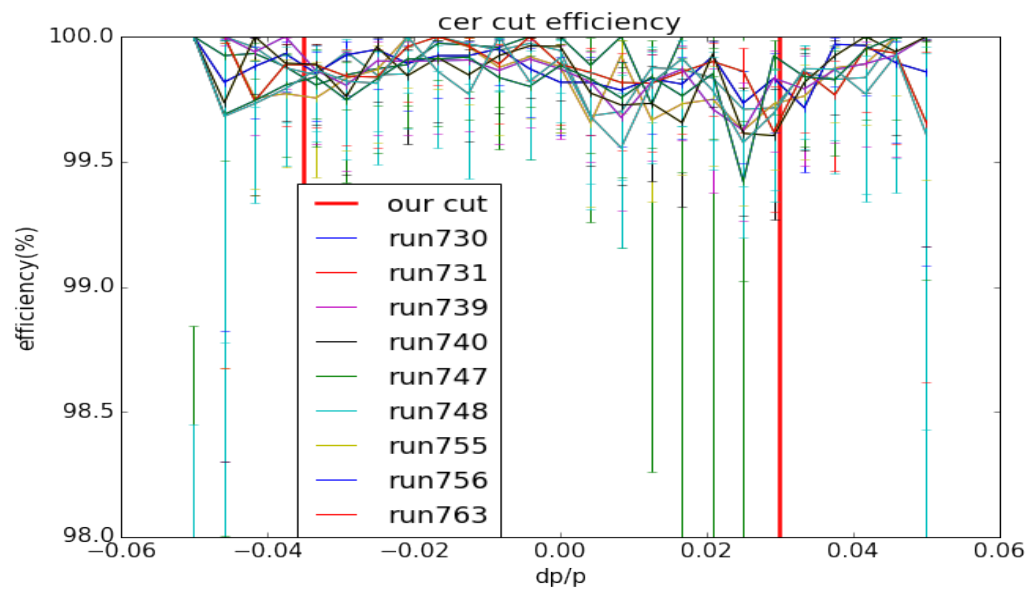
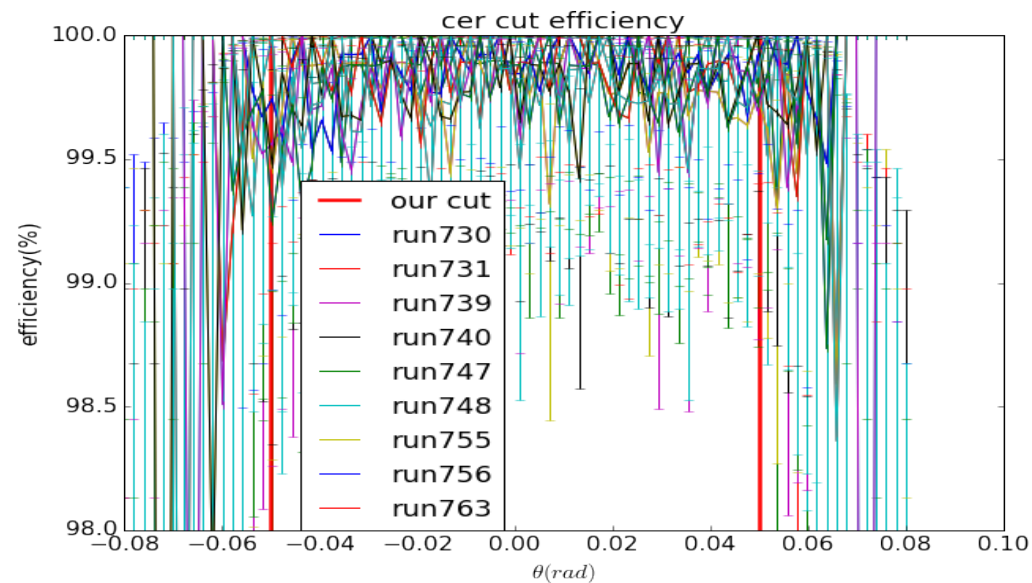
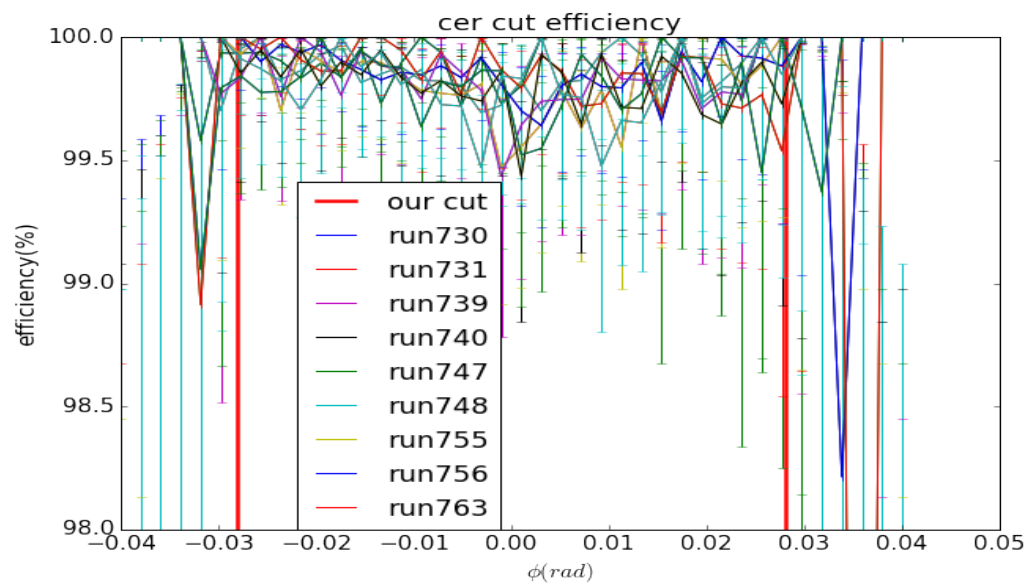


# Ar Meeting

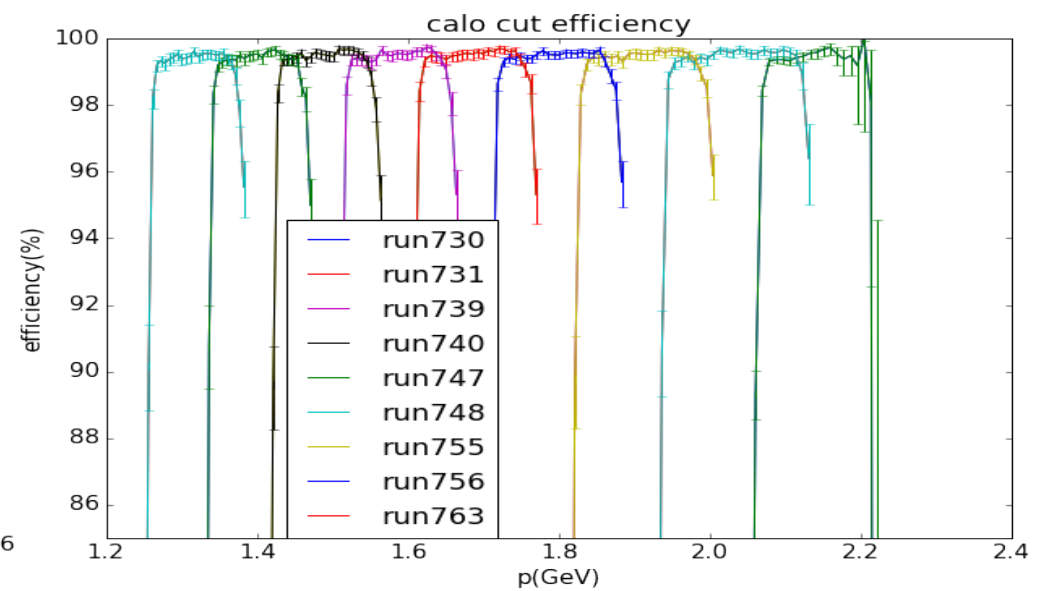
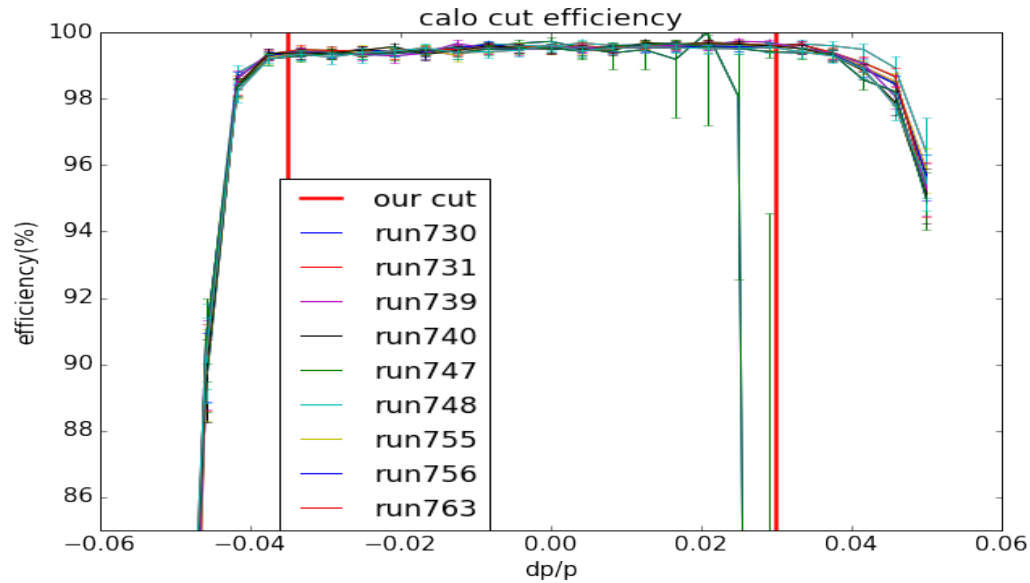
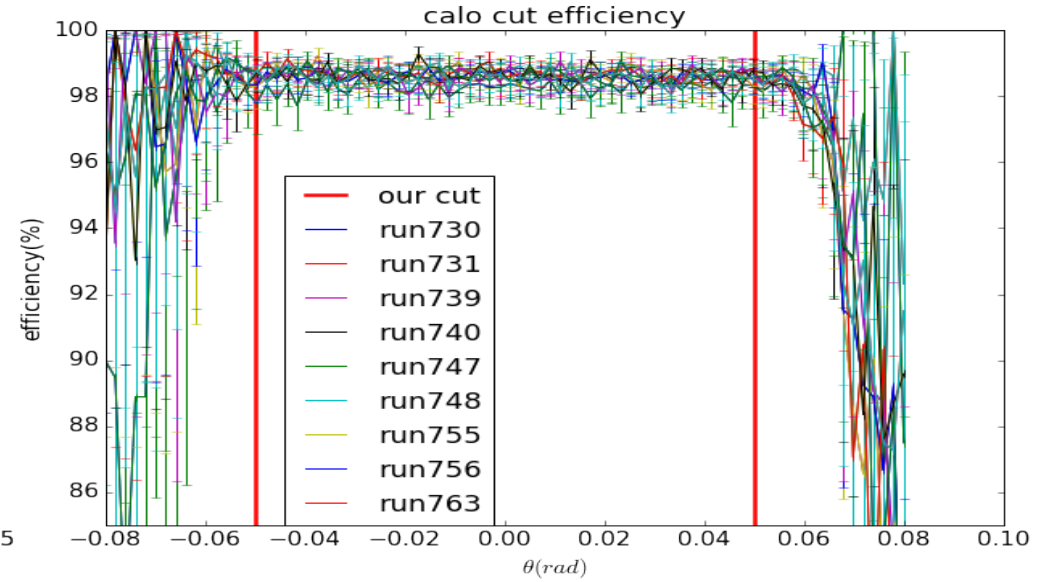
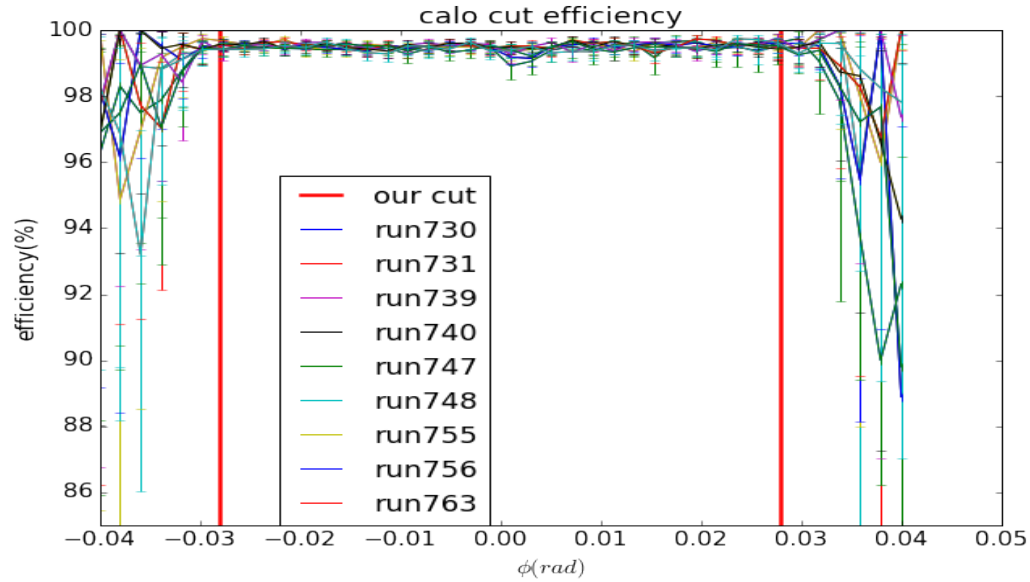
Hongxia Dai

Jul 13, 2017

# Cerenkov cut efficiency

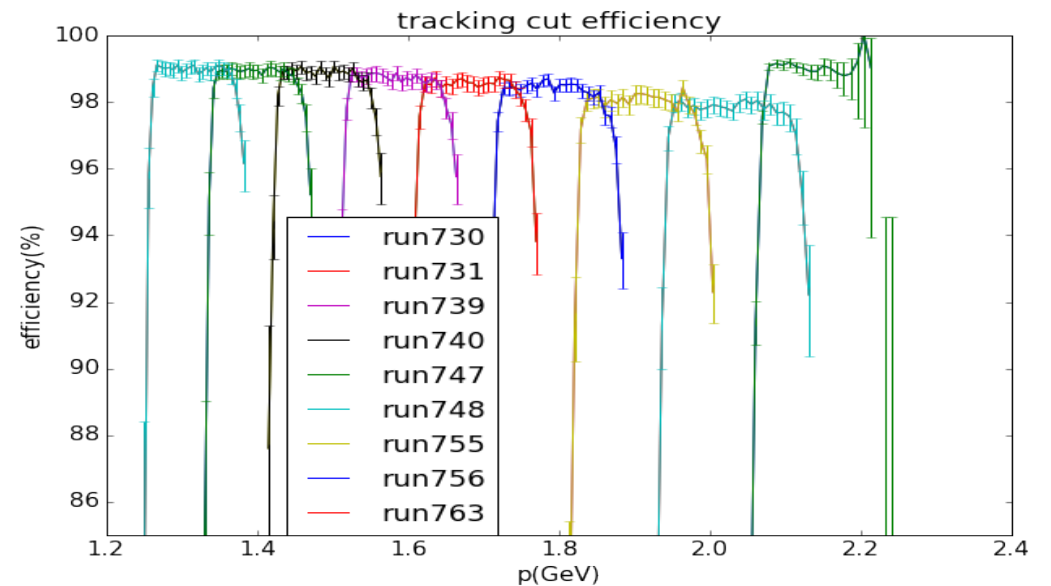
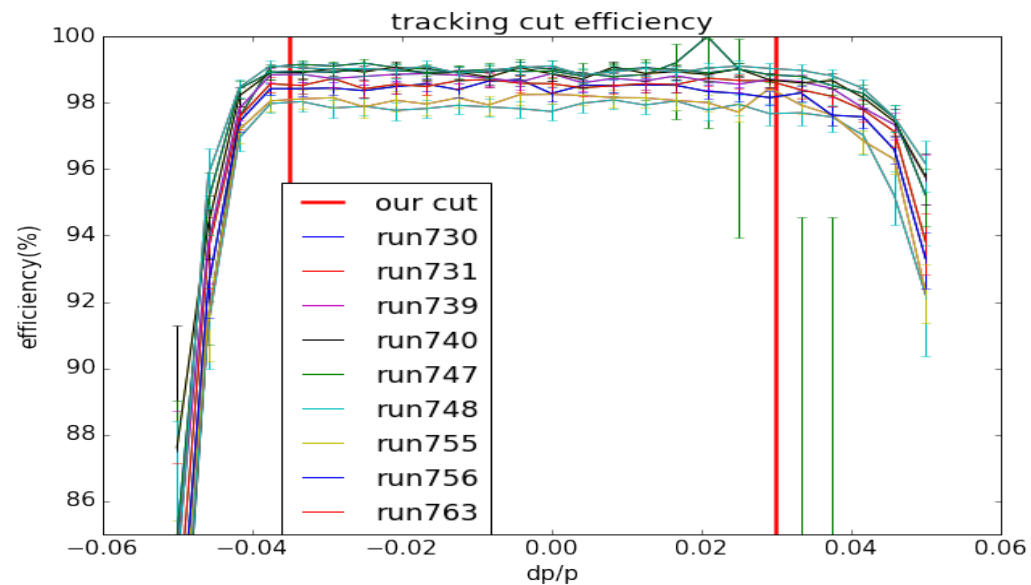
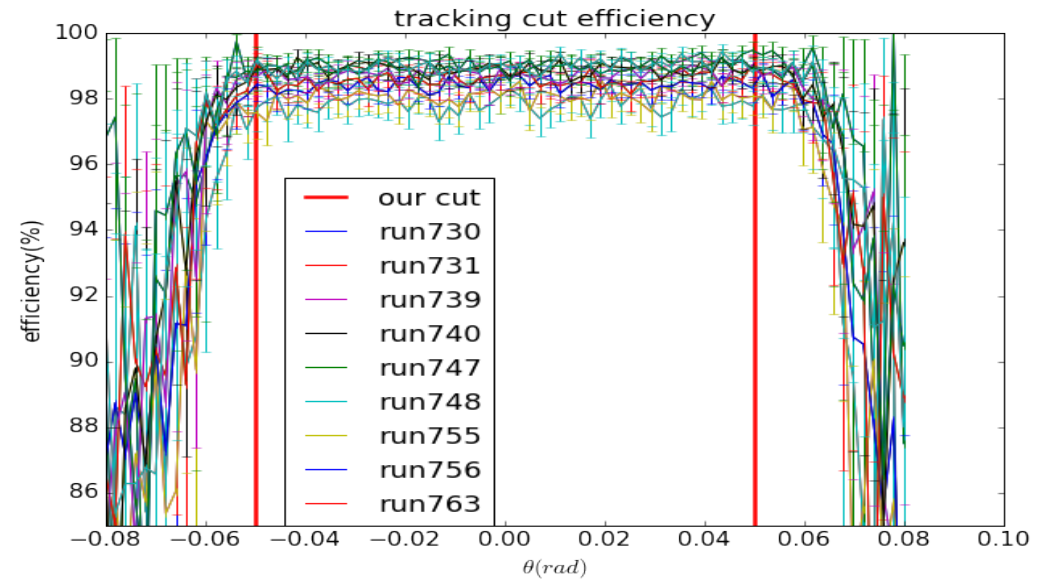
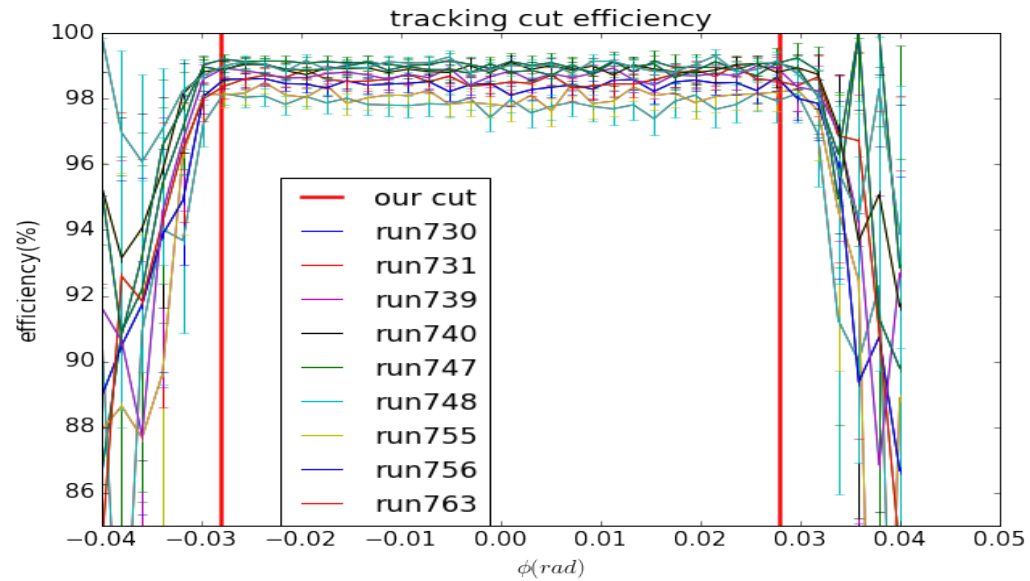


# Calorimeter cut efficiency



Error calculation: Wilson score interval [https://en.wikipedia.org/wiki/Binomial\\_proportion\\_confidence\\_interval](https://en.wikipedia.org/wiki/Binomial_proportion_confidence_interval)

# Tracking Efficiency



# One-track efficiency between[phi\_1,phi\_2]

- Make cuts to select electron sample

- Trigger cut: DR.evtypebits>>3&1

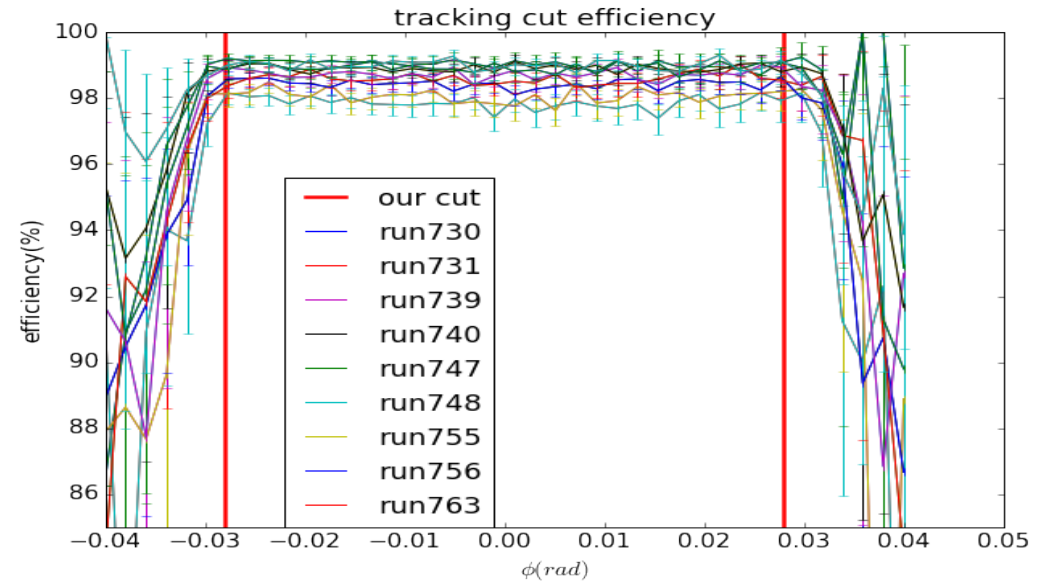
- Acceptance cuts:

- $\text{abs}(L.\text{tr.tg\_th}) < 0.05$
- $L.\text{tr.tg\_dp} > -0.035 \ \&\& \ L.\text{tr.tg\_dp} < 0.03$
- $L.\text{tr.tg\_ph} > \text{phi}_1 \ \&\& \ L.\text{tr.tg\_ph} < \text{phi}_2$

- PID cuts:

- $L.\text{cer.asum\_c} > 500 \ \&\& \ E/p > 0.8$

- $$eff = \frac{\# \text{ single track events}}{\# \text{ sample events}}$$

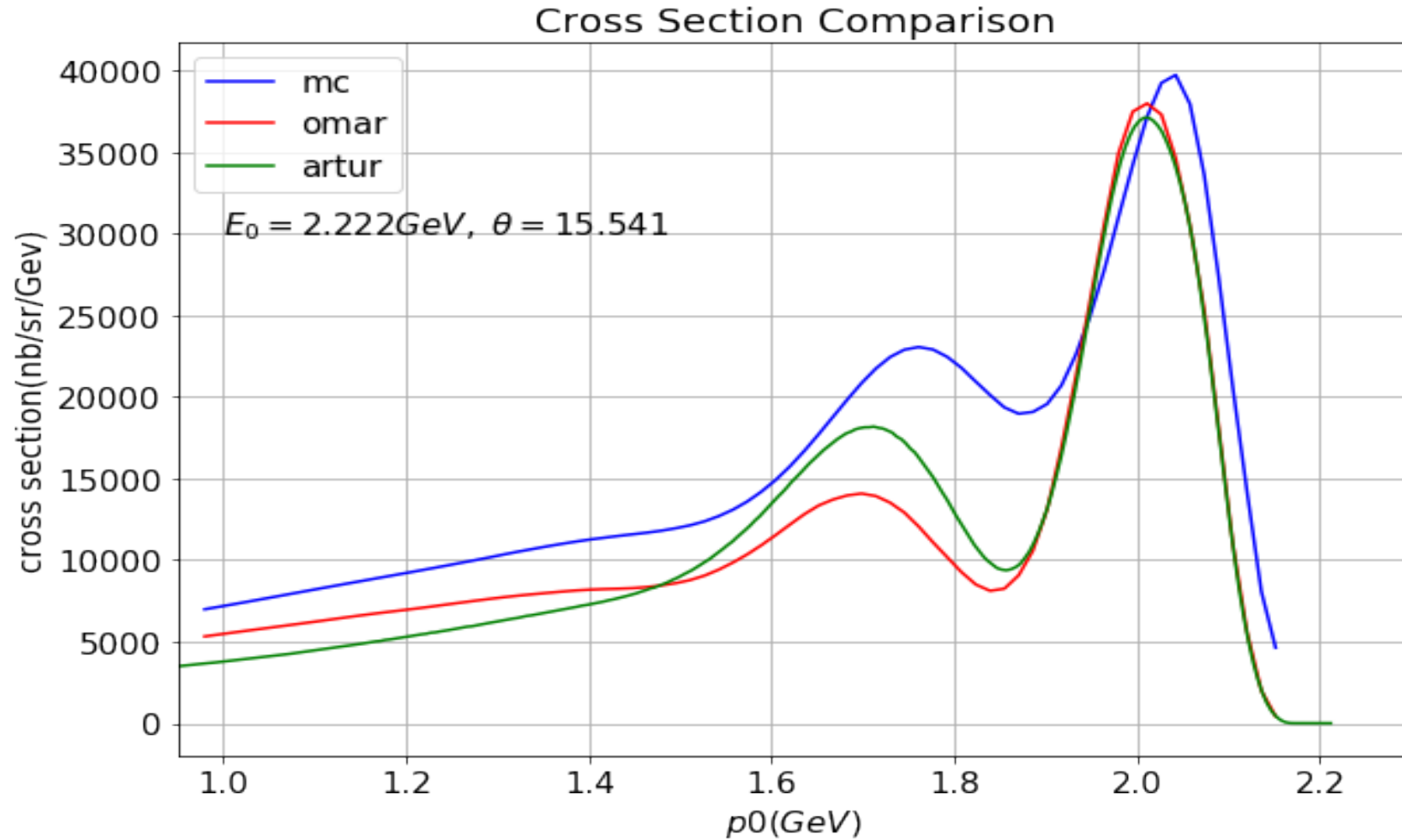


# VDC detector efficiency(without acceptance cuts)

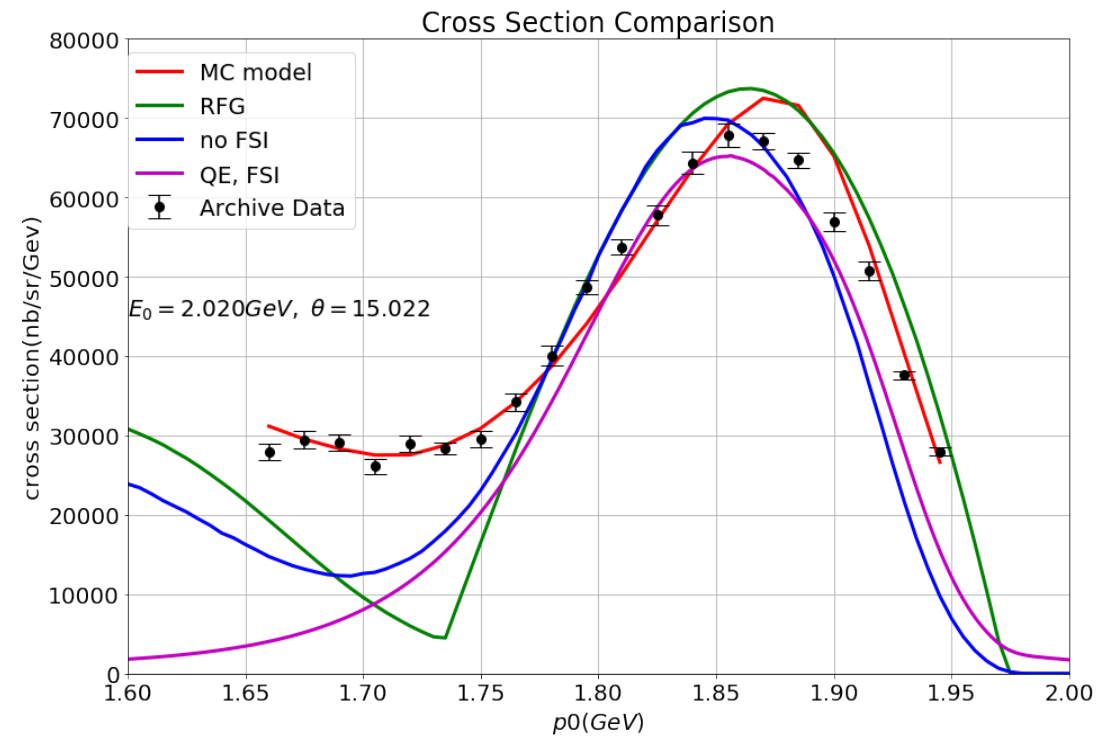
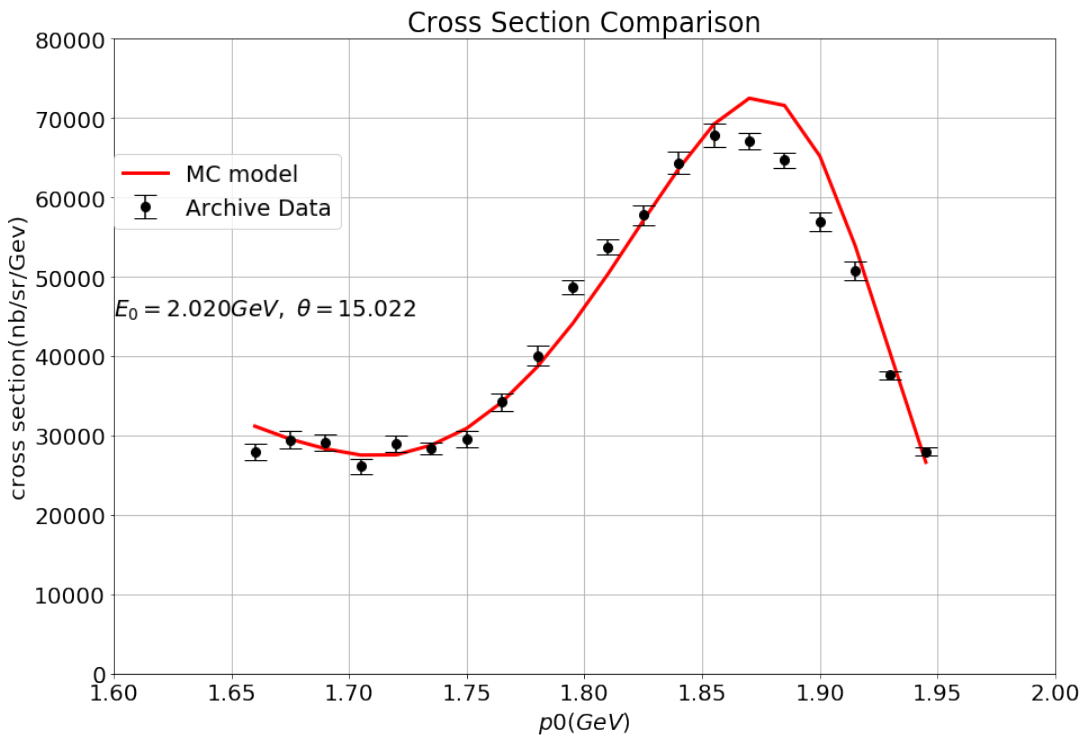
- Make cuts to select electron sample
  - Trigger cut: DR.evtypebits>>3&1
  - PID cuts:
    - L.cer.asum\_c>500 && E/p>0.8
- $eff1 = \frac{\# \text{ non-zero track events}}{\# \text{ sample events}}$  (=100% for all 9 delta scan runs)
- $eff2 = \frac{\# \text{ single track events}}{\# \text{ sample events}}$

Run#	730	731	739	740	747	748	755	756	763
Eff2(%)	97.52	98.00	97.89	98.21	98.36	98.48	98.63	98.69	98.79

# Cross Section Models 2222@15.541



# 2020@15

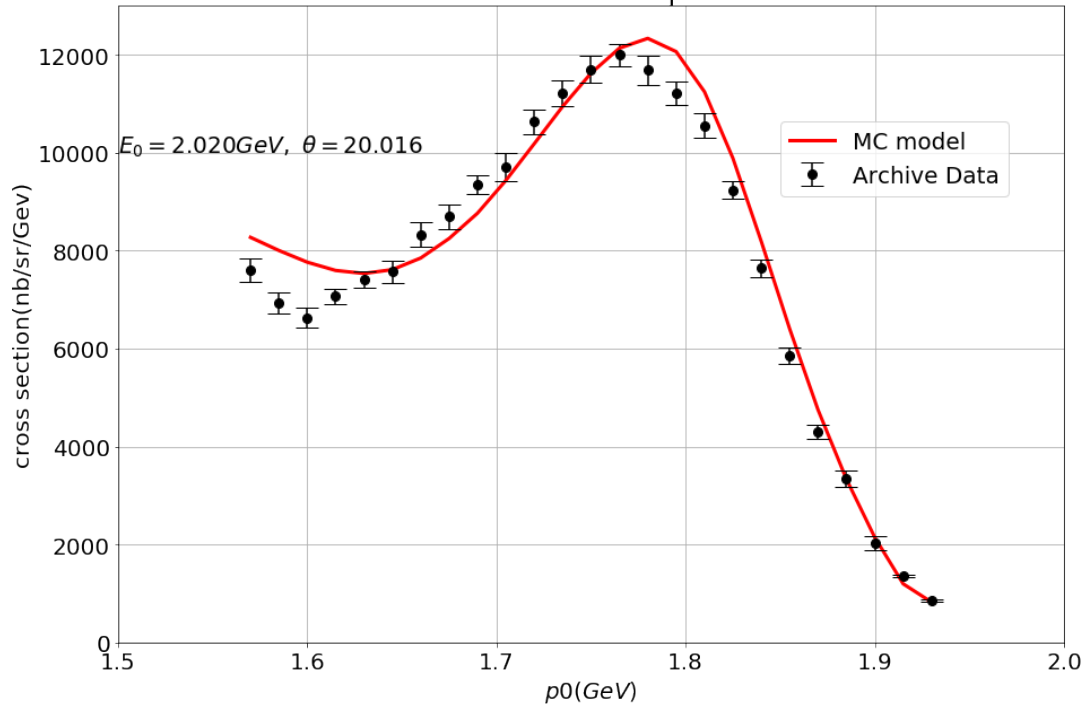


Archive data: <http://faculty.virginia.edu/qes-archive/data/12C.dat>



# 2020@20

Cross Section Comparison



Cross Section Comparison

