

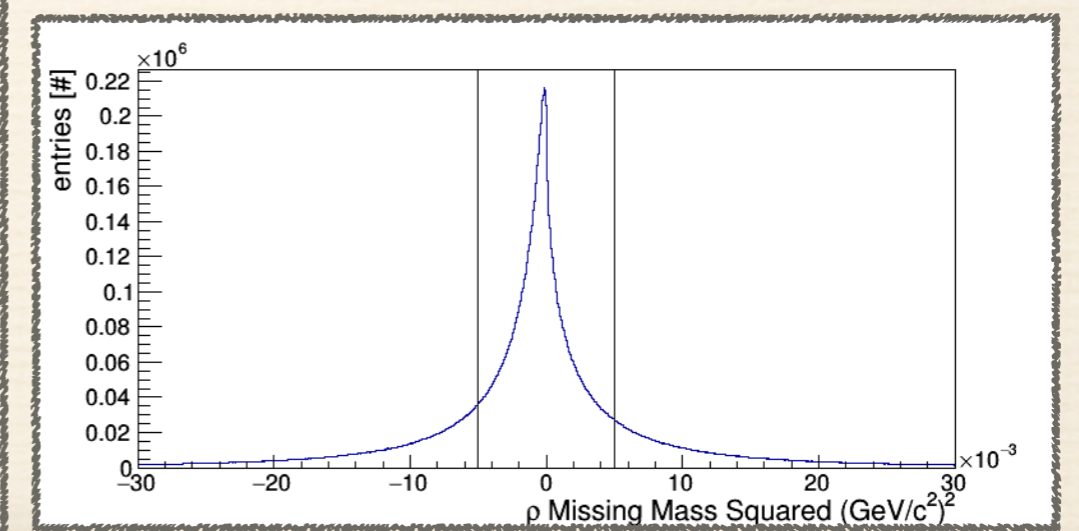
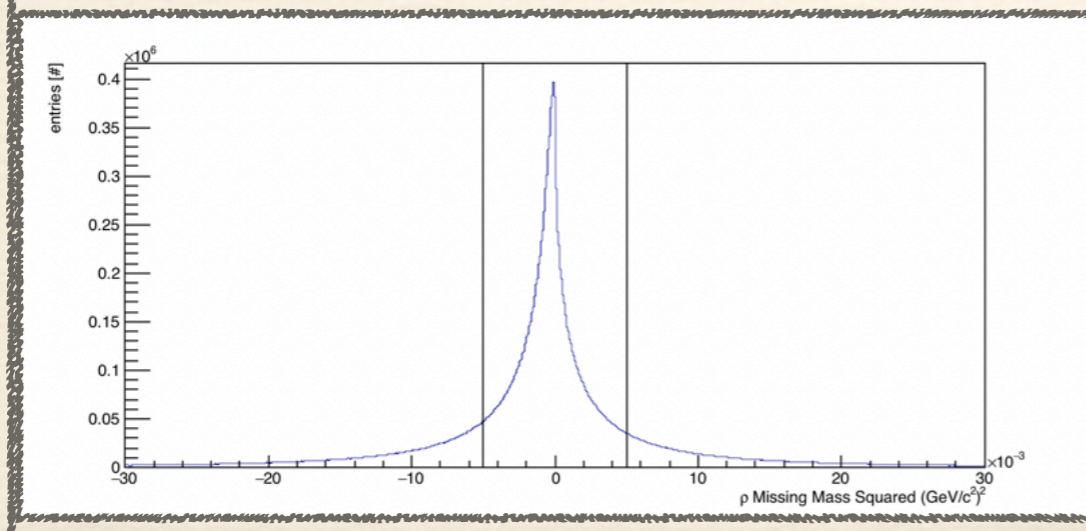
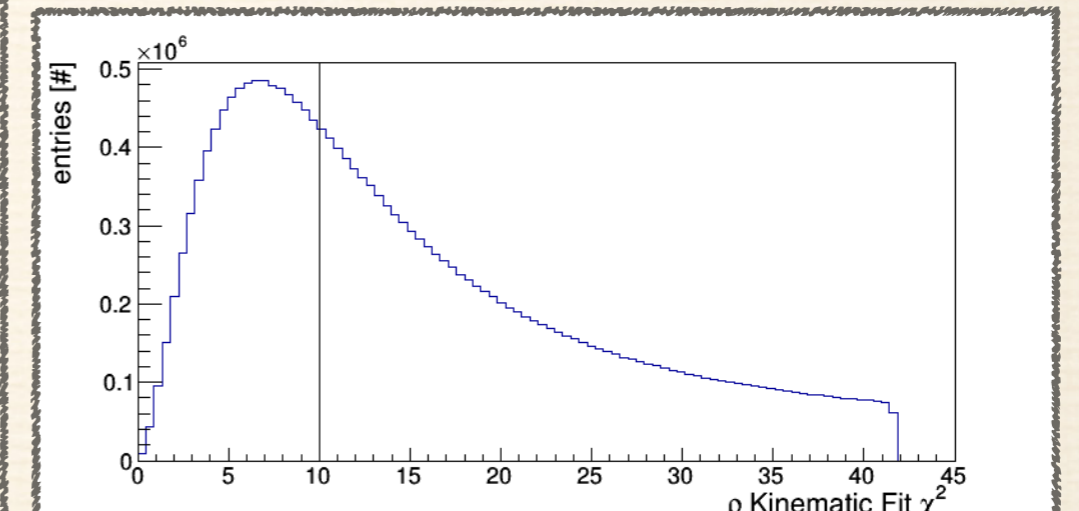
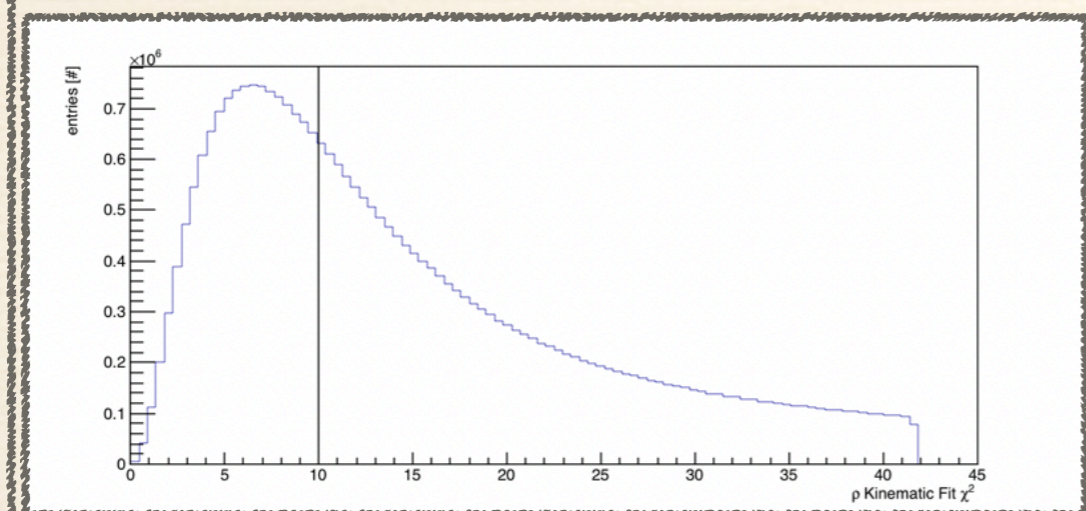
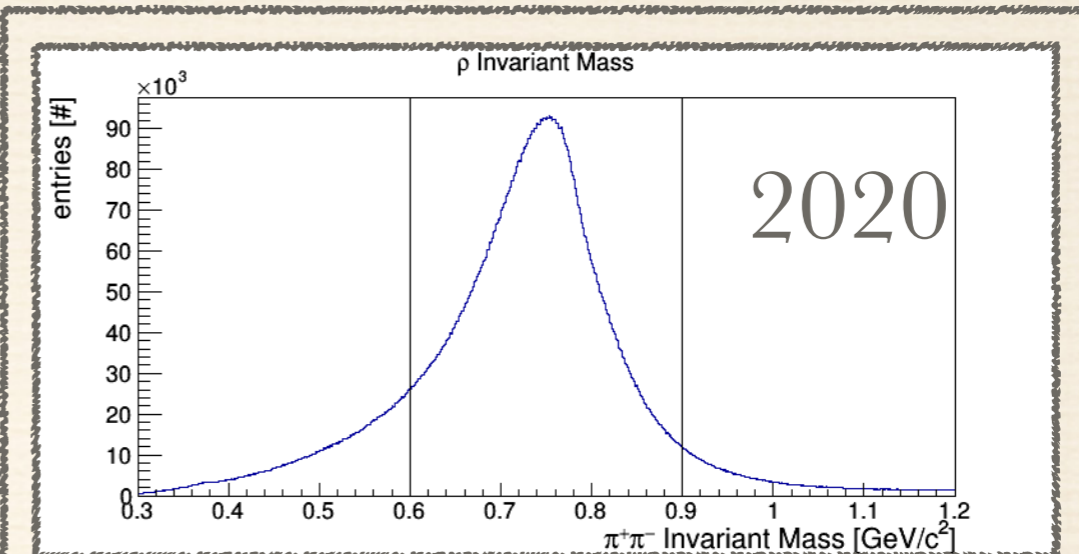
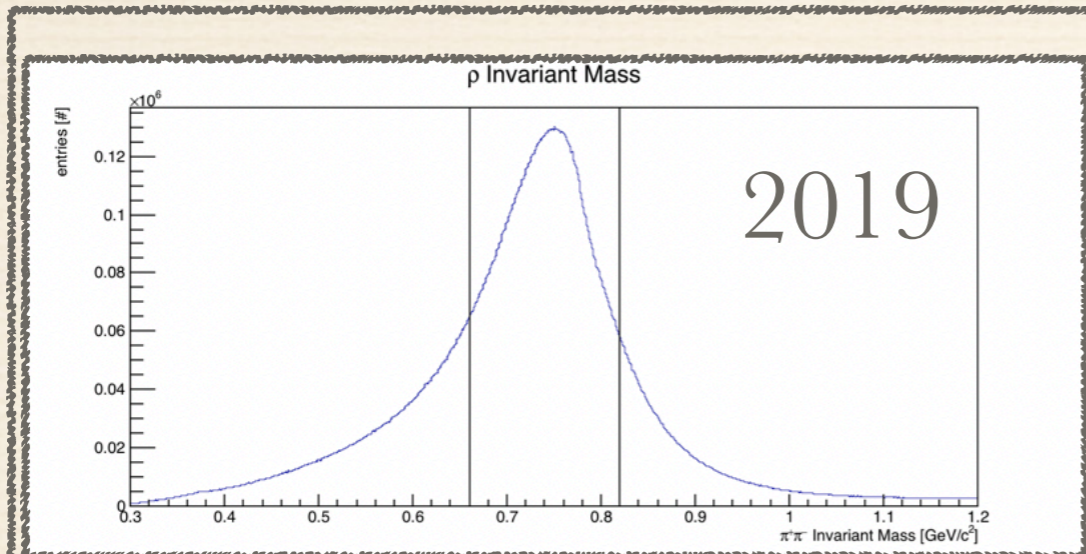
# GlueX DIRC Calibration

## 2020 (1)



*Ahmed Ali*  
*3 Feb 2020*

# Event Selection



# Track Reconstruction Criteria

A) Time cuts:

Time difference between measured photon time and  
calculated time from the LUT =

( $\pm 3$  ns for direct photon &  
 $\pm 3.5$  ns for reflected photon)

B) Cherenkov angle cut:

$\pm 0.04$  ns from the mean value of the expected  
Cherenkov angle for Pions and Kaons

C)  $0.834 > \text{Reconstructed Cherenkov angle} > 0.0818$  rad

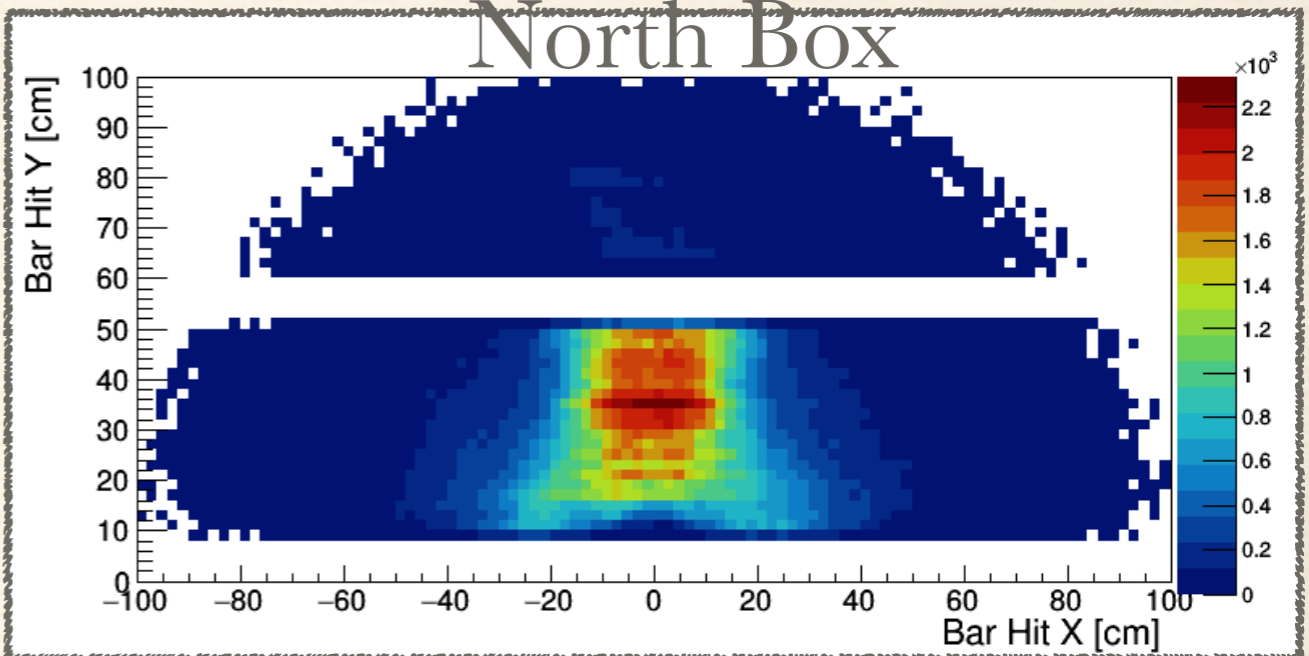
D)  $11.5 < \text{Single Photon resolution} < 5.1$  mrad

# Occupancy Reco. Tracks

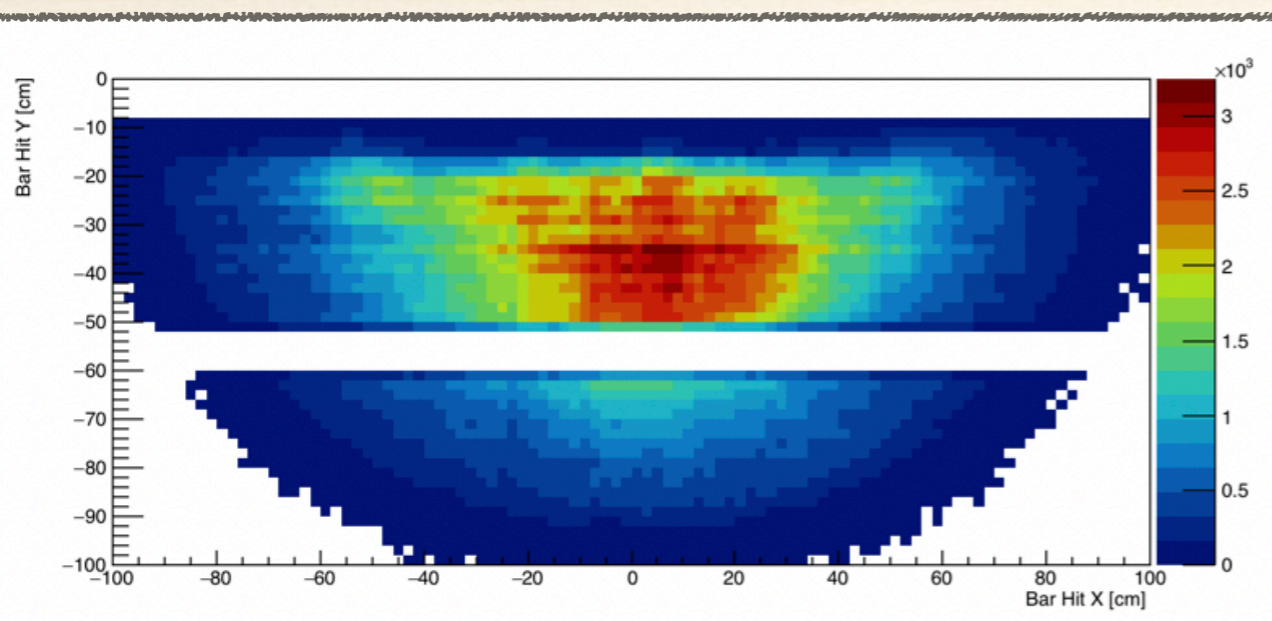
Occupancy of the reconstructed charged tracks on the DIRC wall

2020

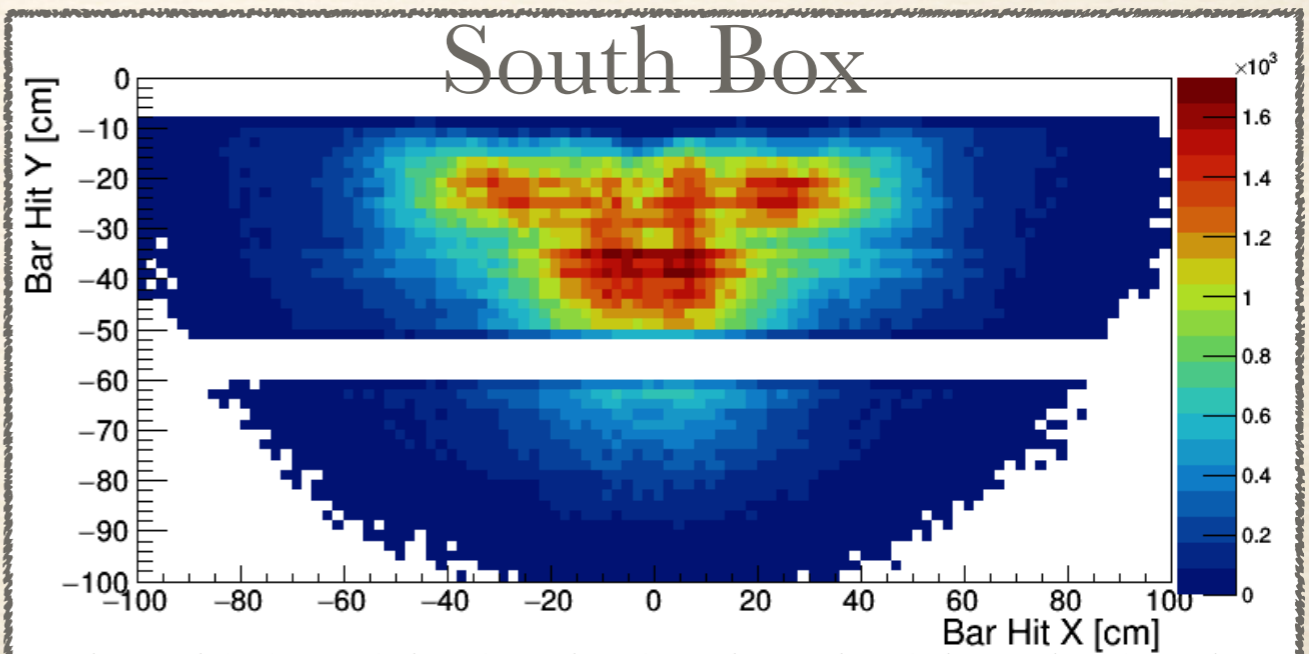
North Box



2019



South Box



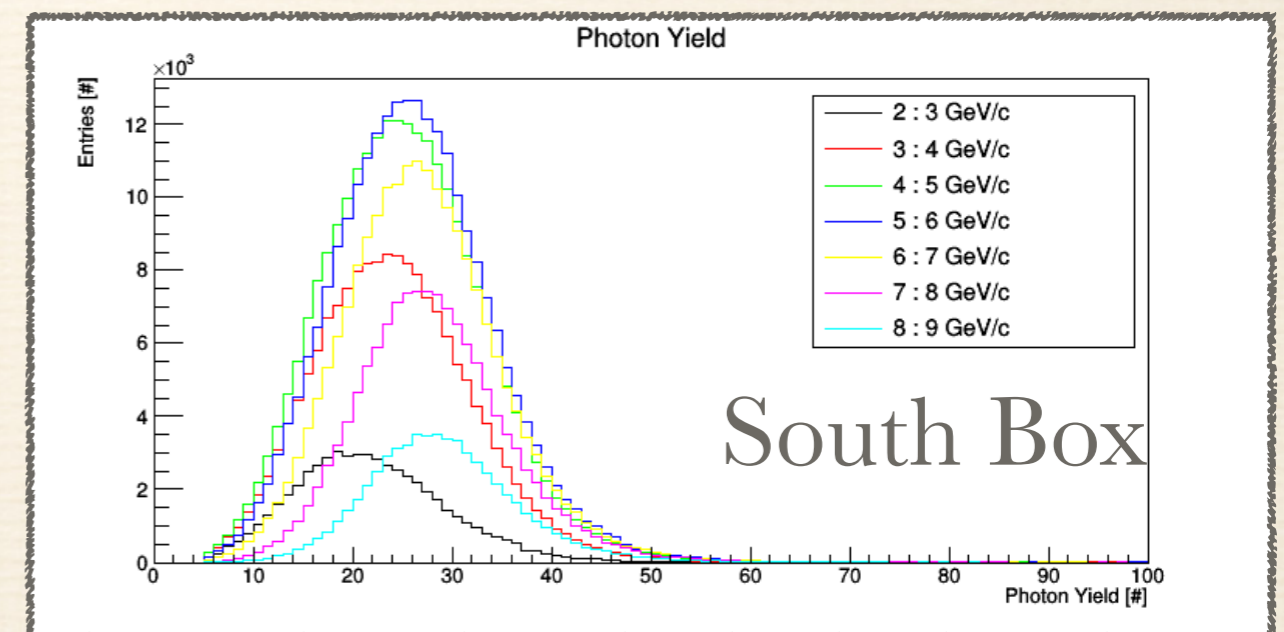
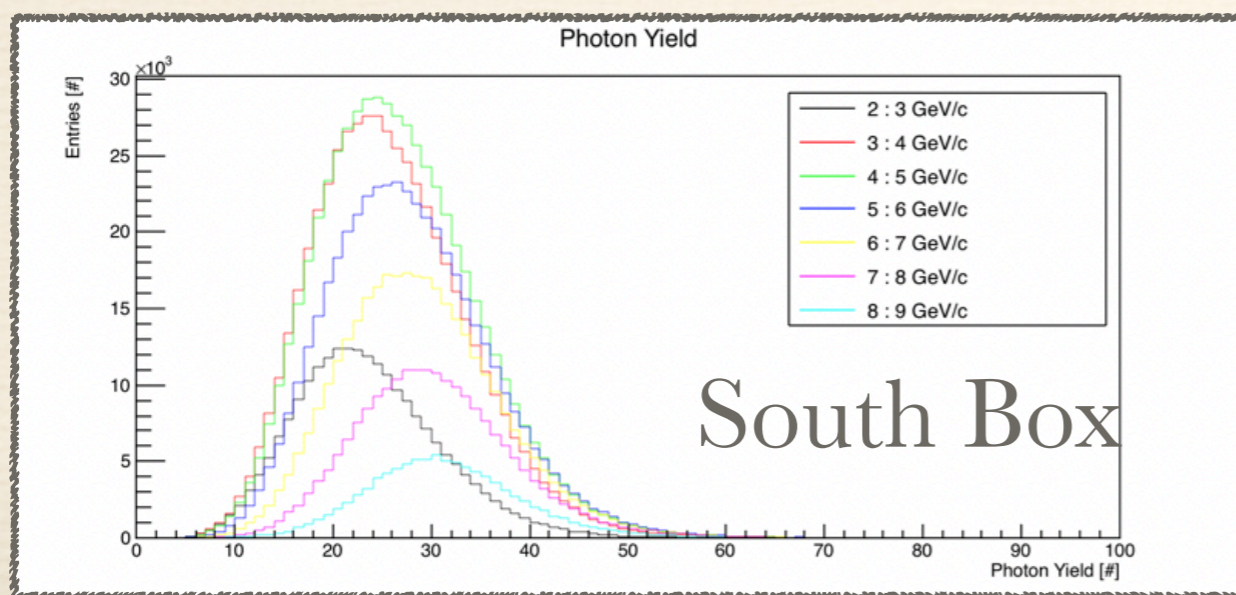
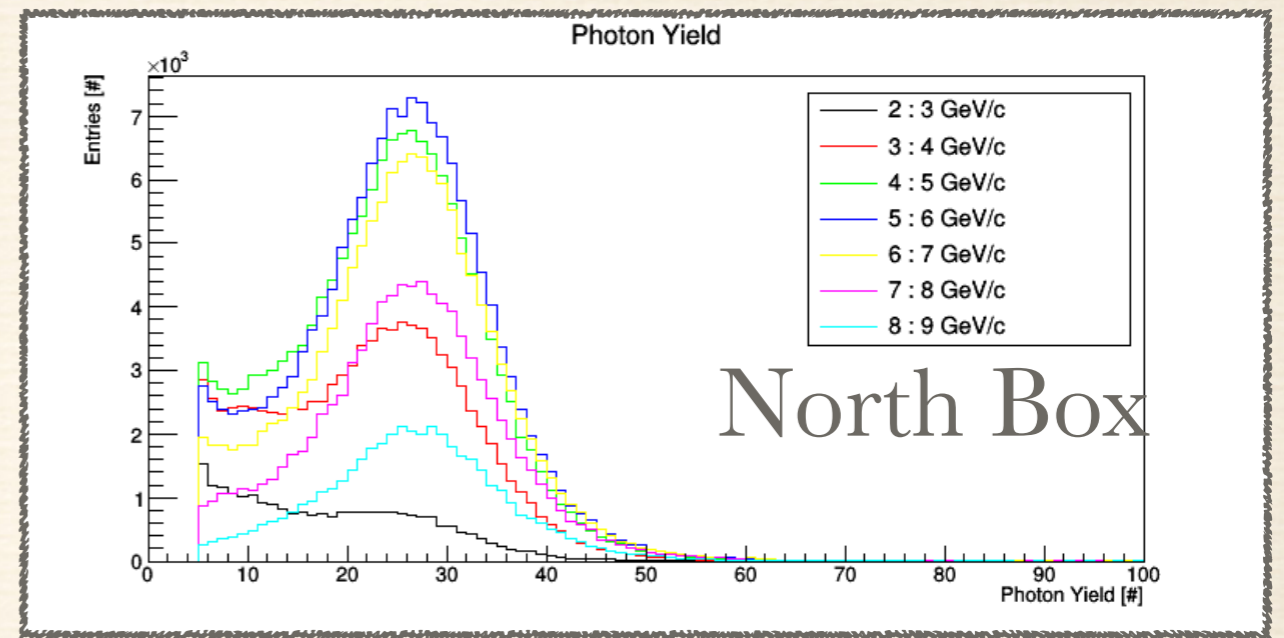
# Photon Yield

2020

Photon yield from pions

- All bars
- Momenta slices

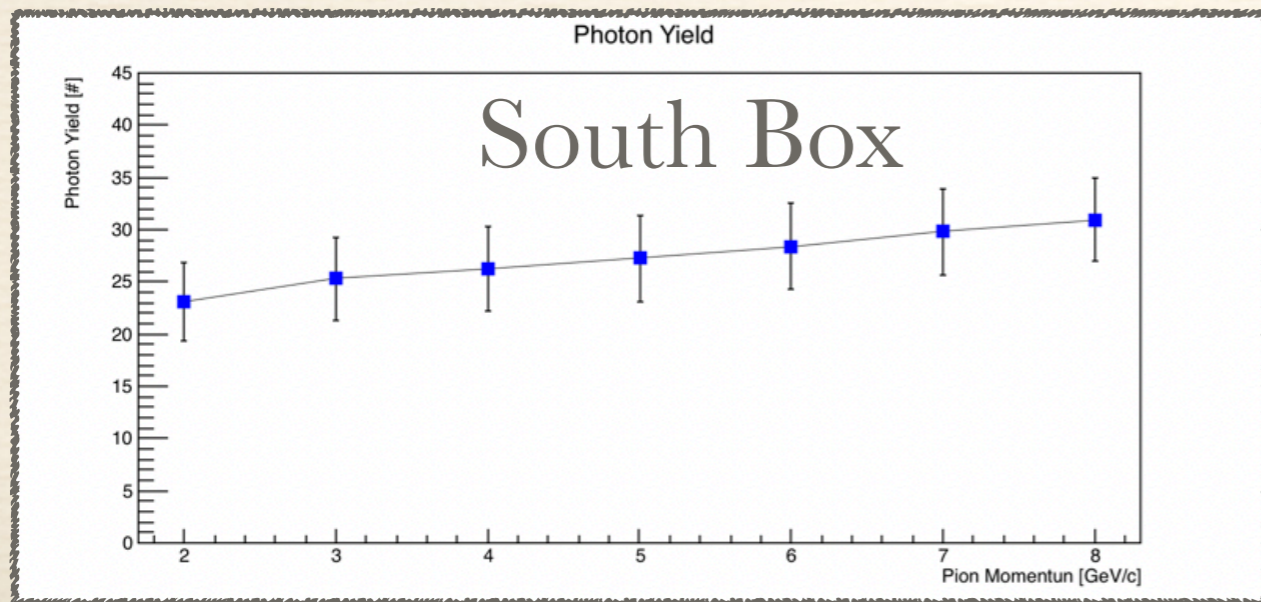
2019



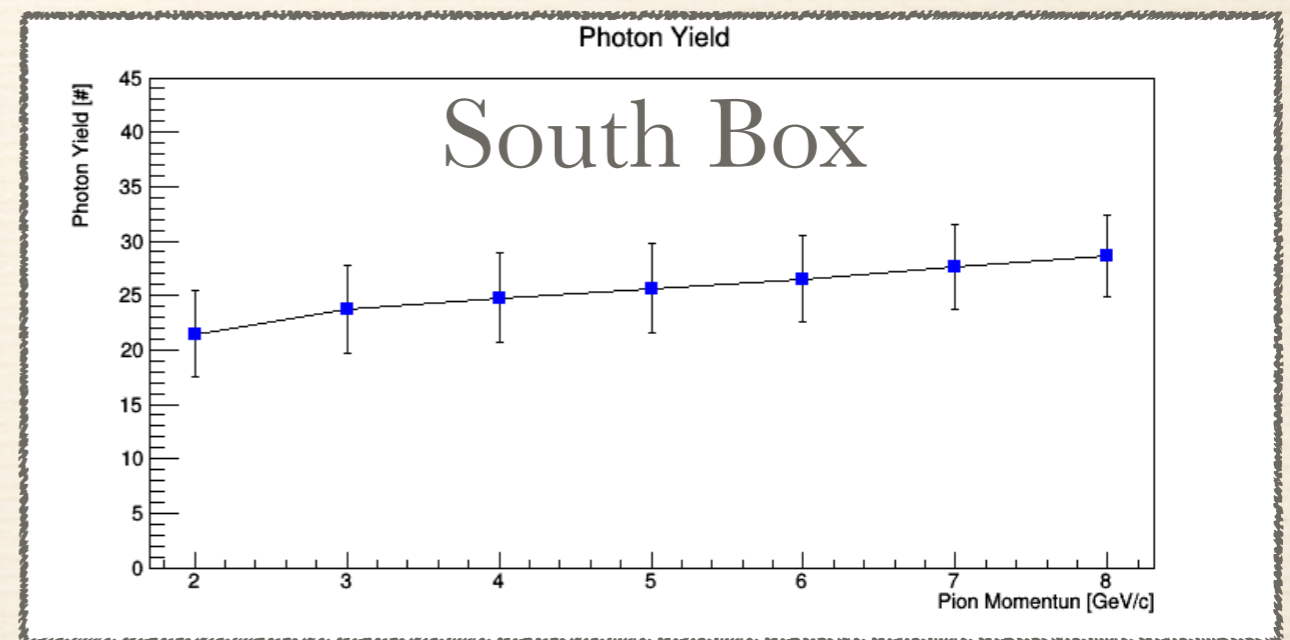
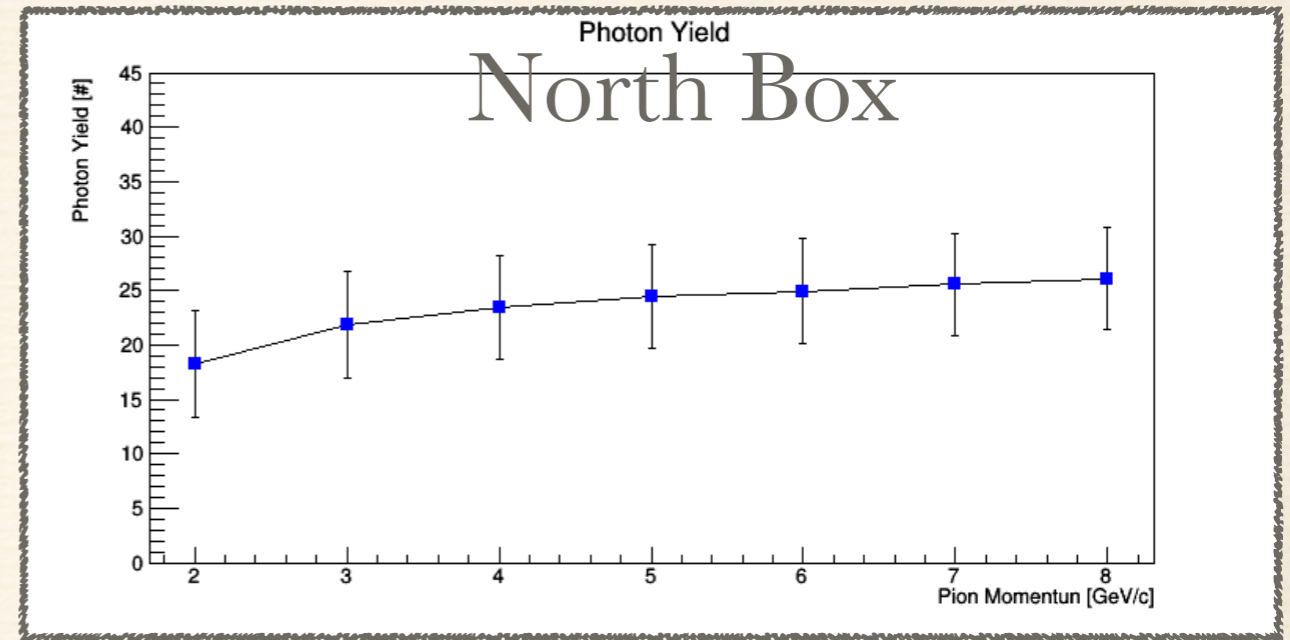
# Photon Yield

Photon yield Vs pions momenta  
- All bars

2019



2020



# Photon Yield Map

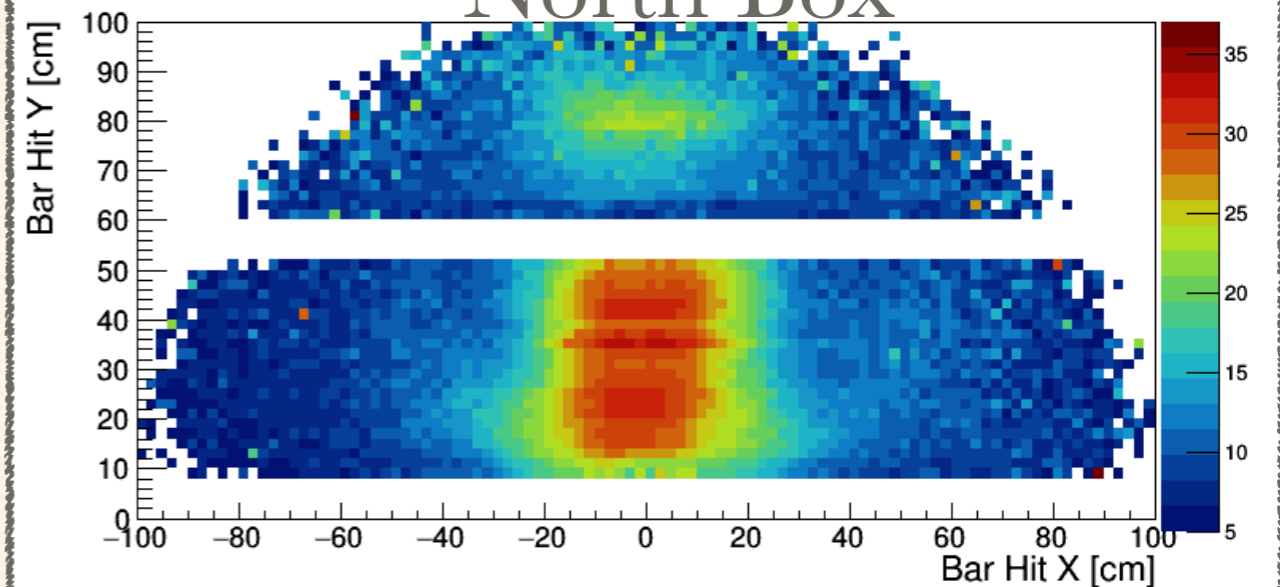
2020

Photon yield map

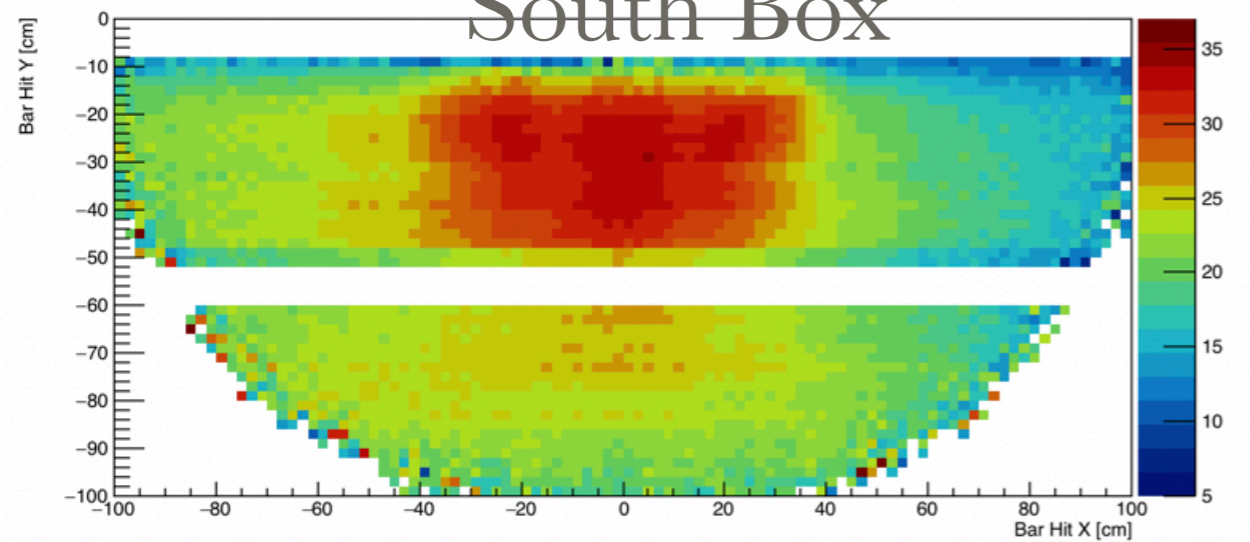
- All bars
- All momenta

2019

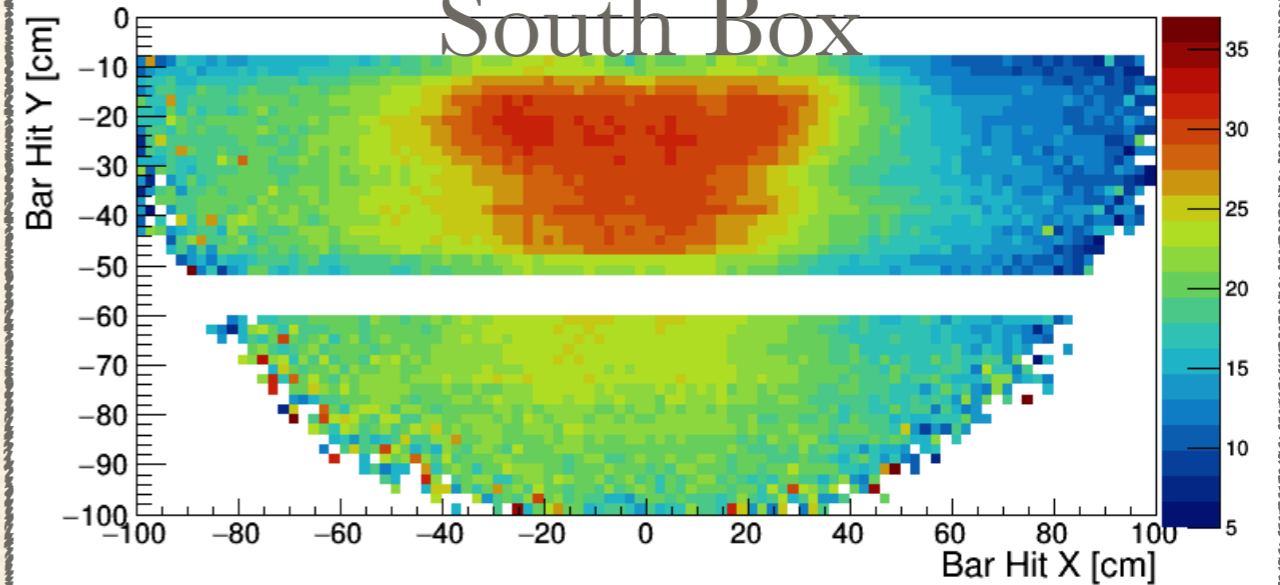
## North Box



## South Box



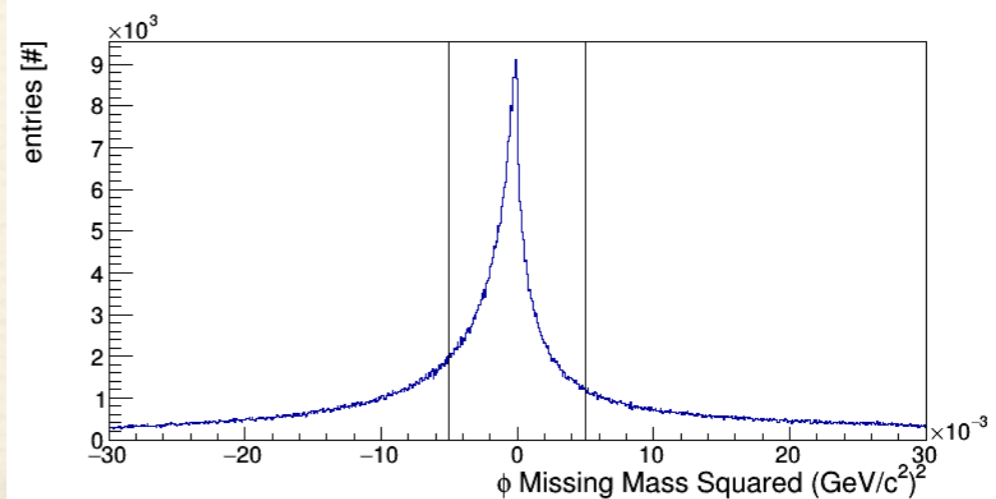
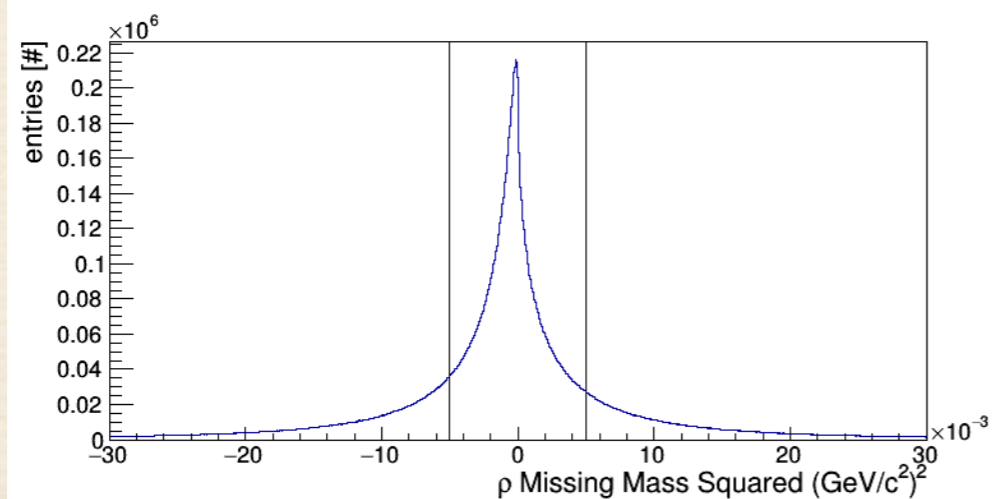
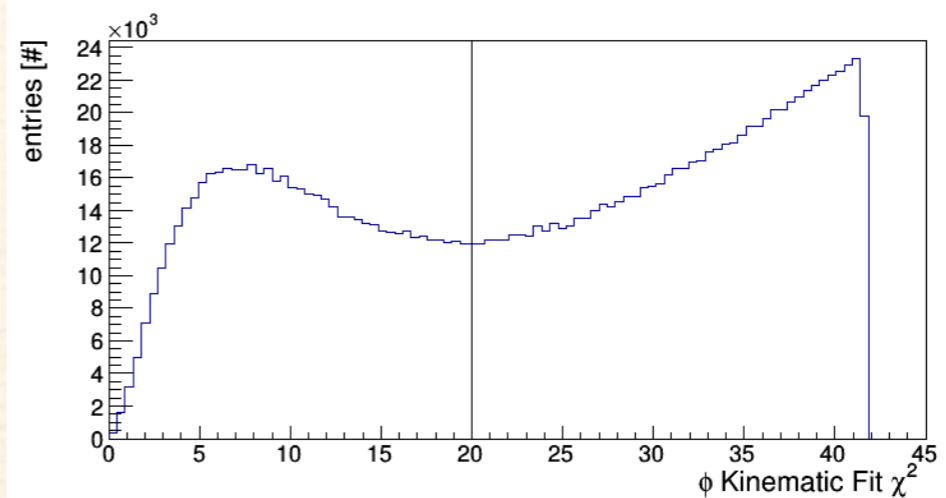
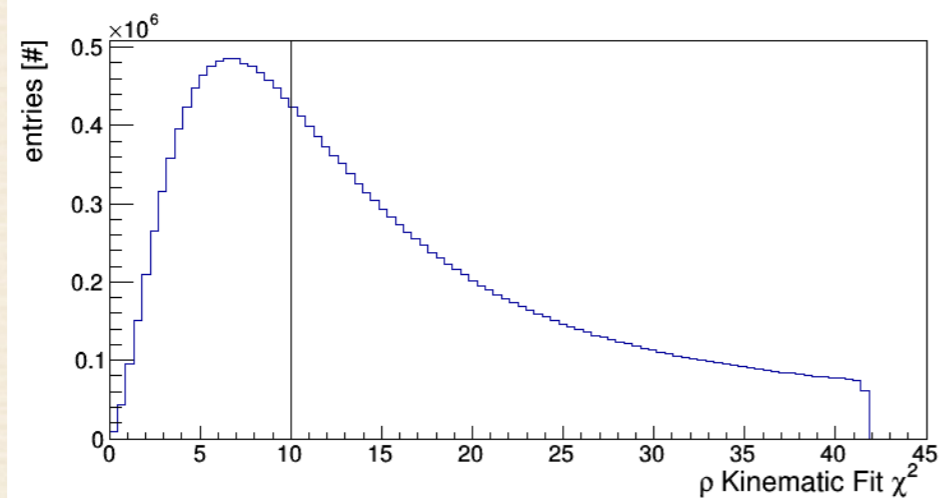
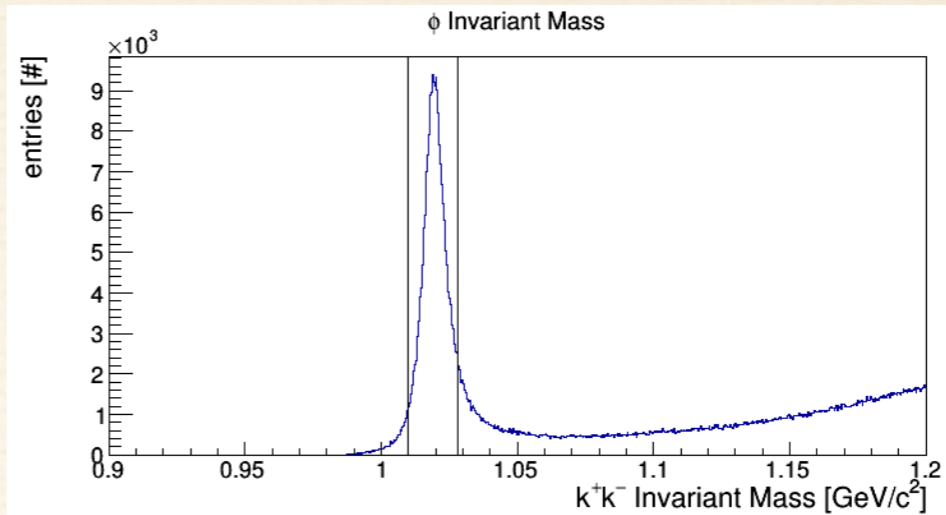
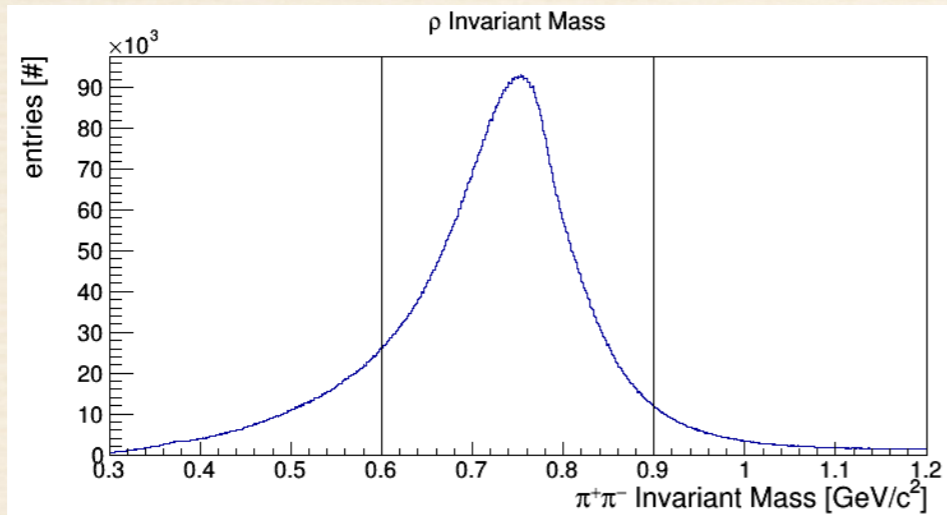
## South Box



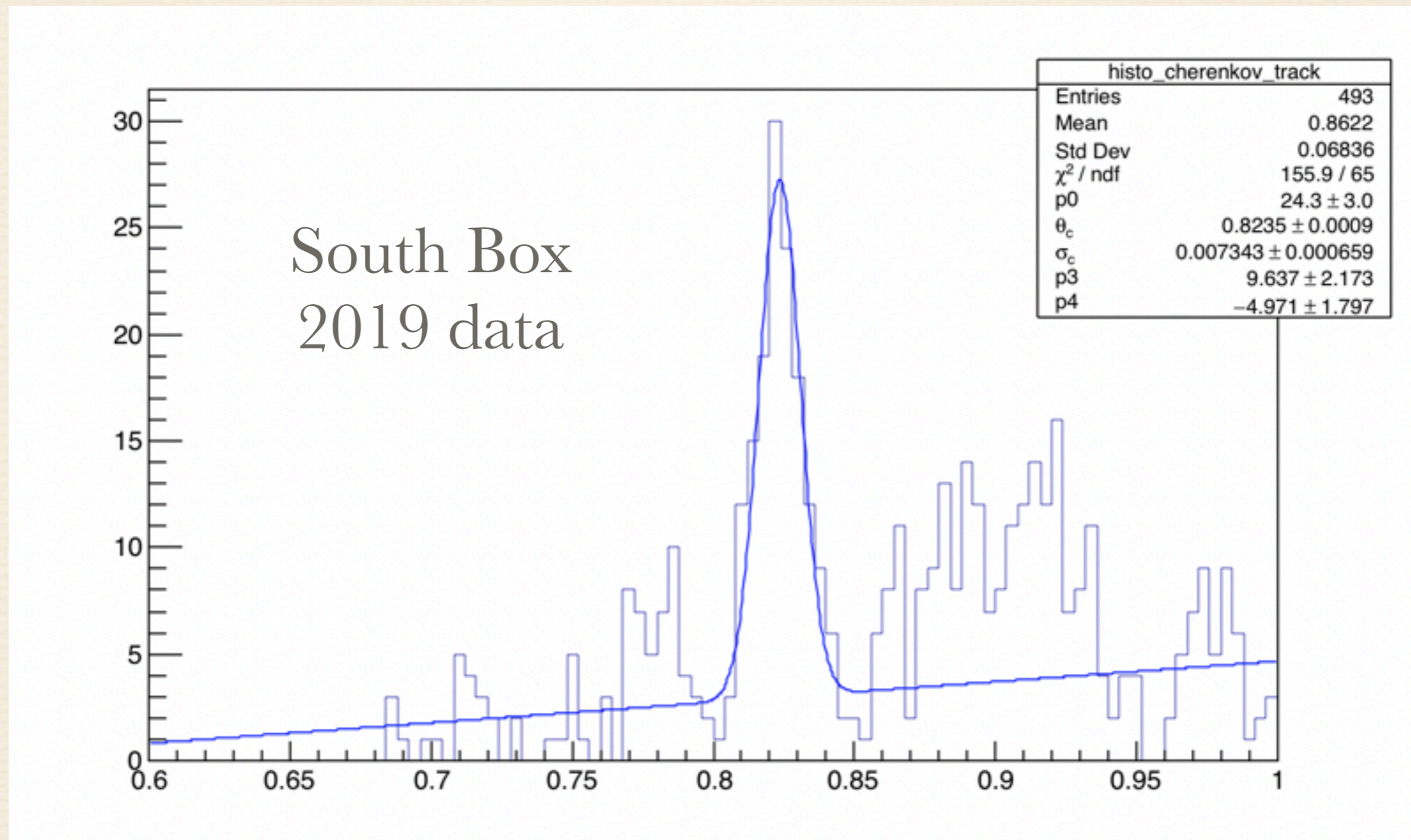
# Backup Slides



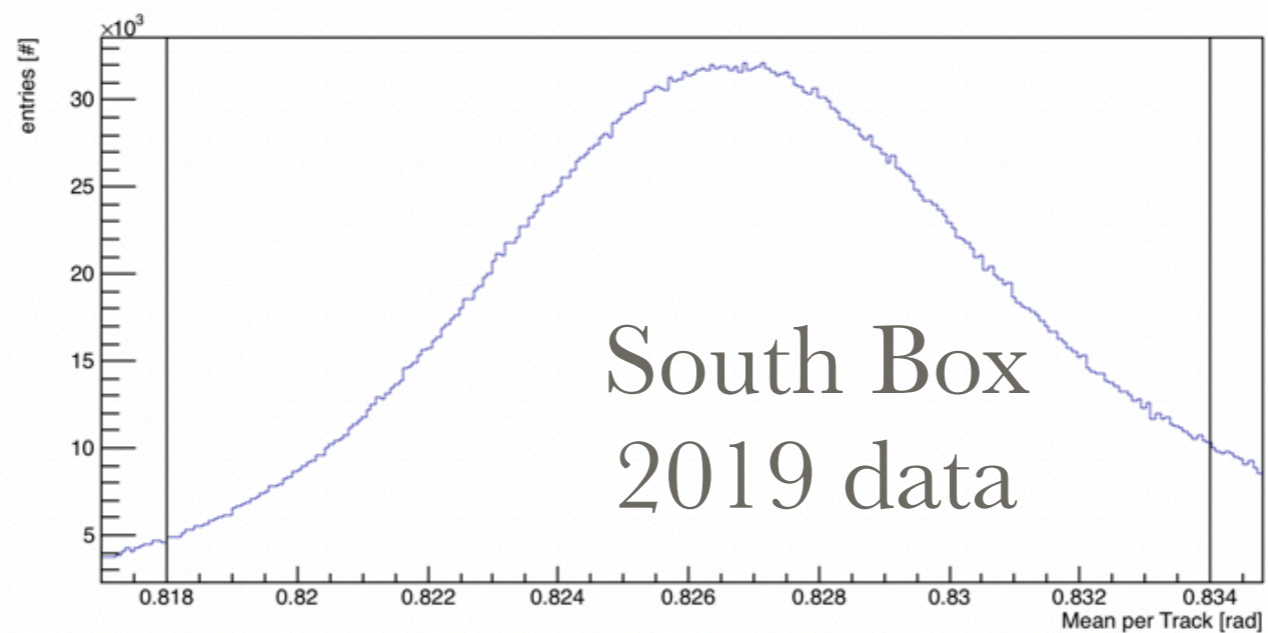
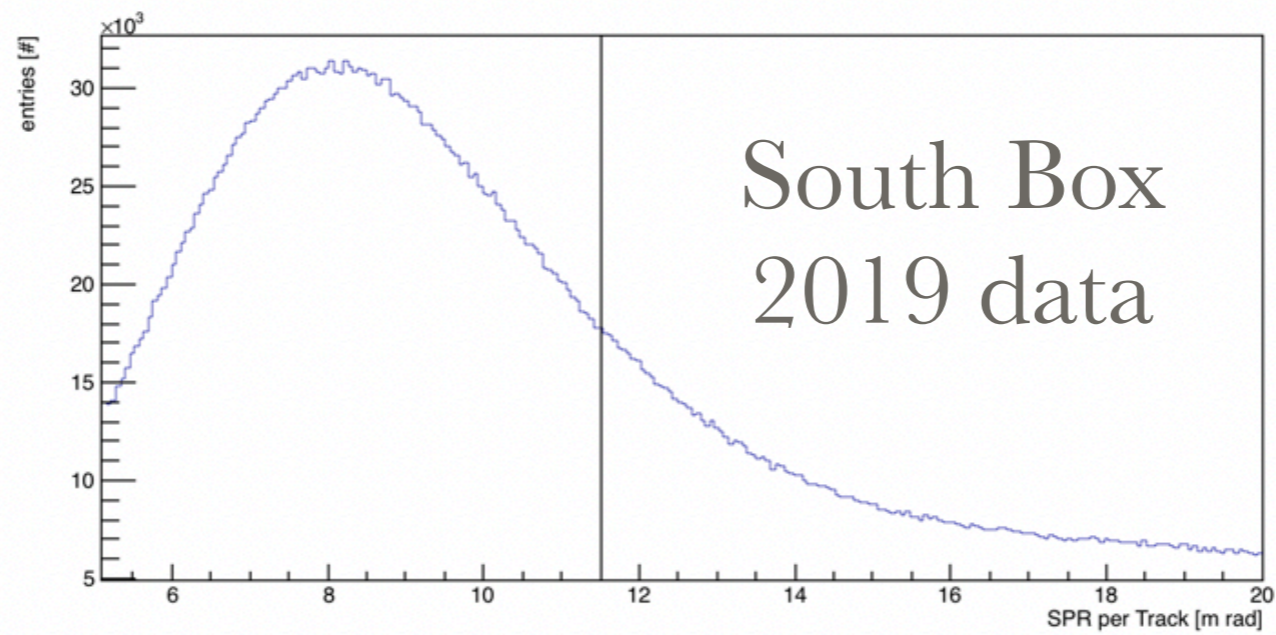
# Event Selection for Pi/K



# Reconstruction per track example



# Track Reconstruction Criteria



# Example for difference plot

