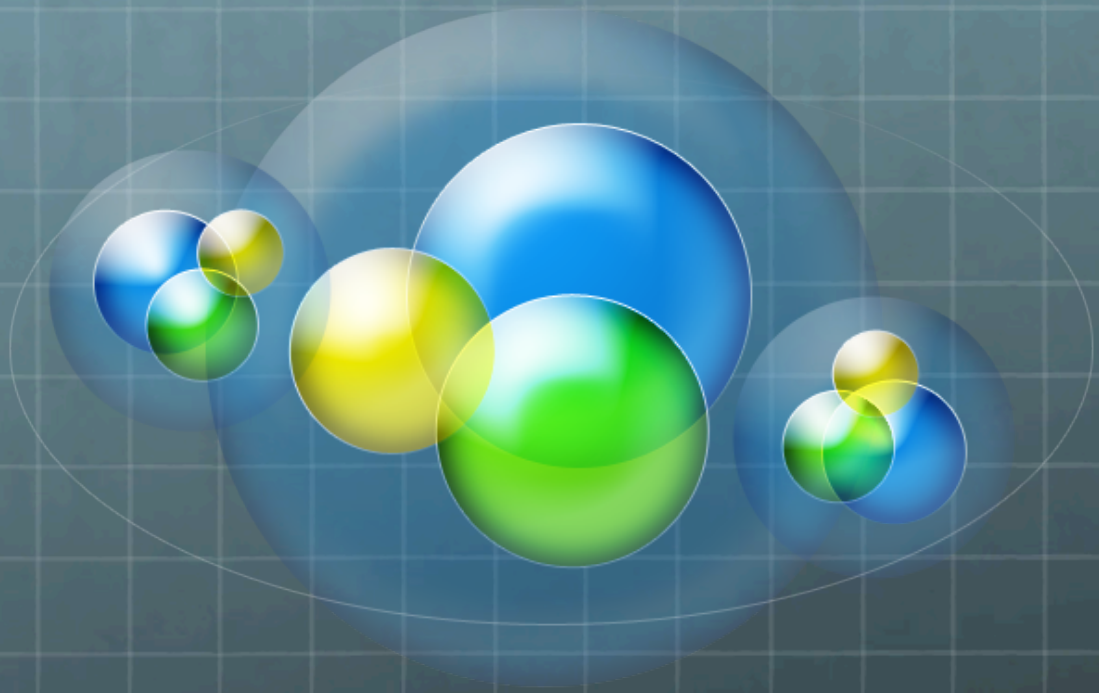


Commissioning Analyses 3

A.A

25 Jun 2019

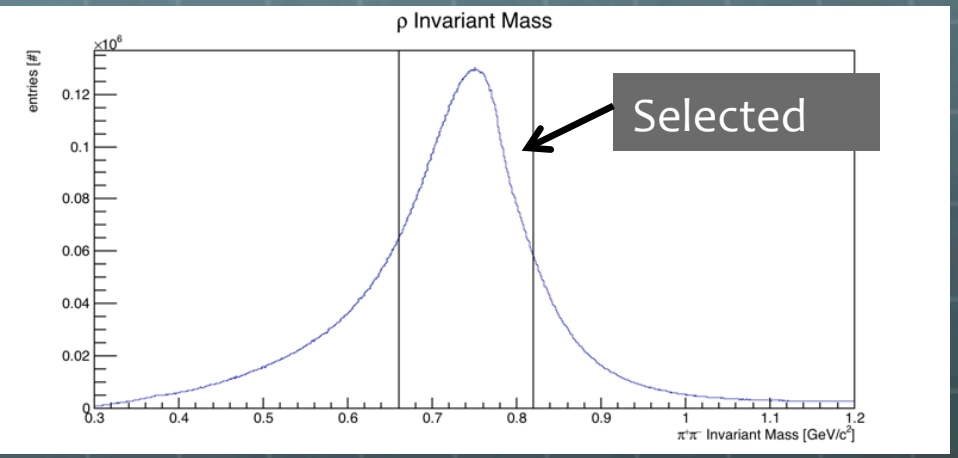
outline

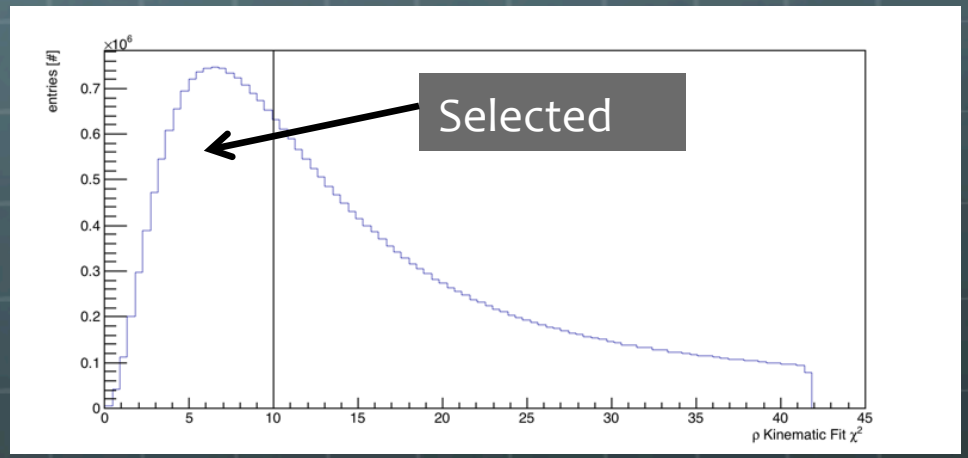
- Event Selection
- Timing Correction
- Reco. Cherenkov Angle per Track
- Photon Yield Study
- Cherenkov Track Resolution

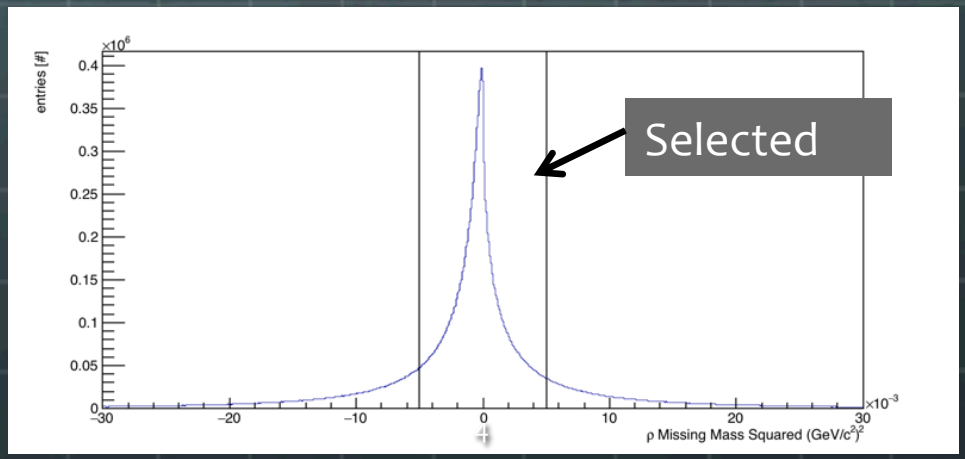
Event Selection

Event Selection

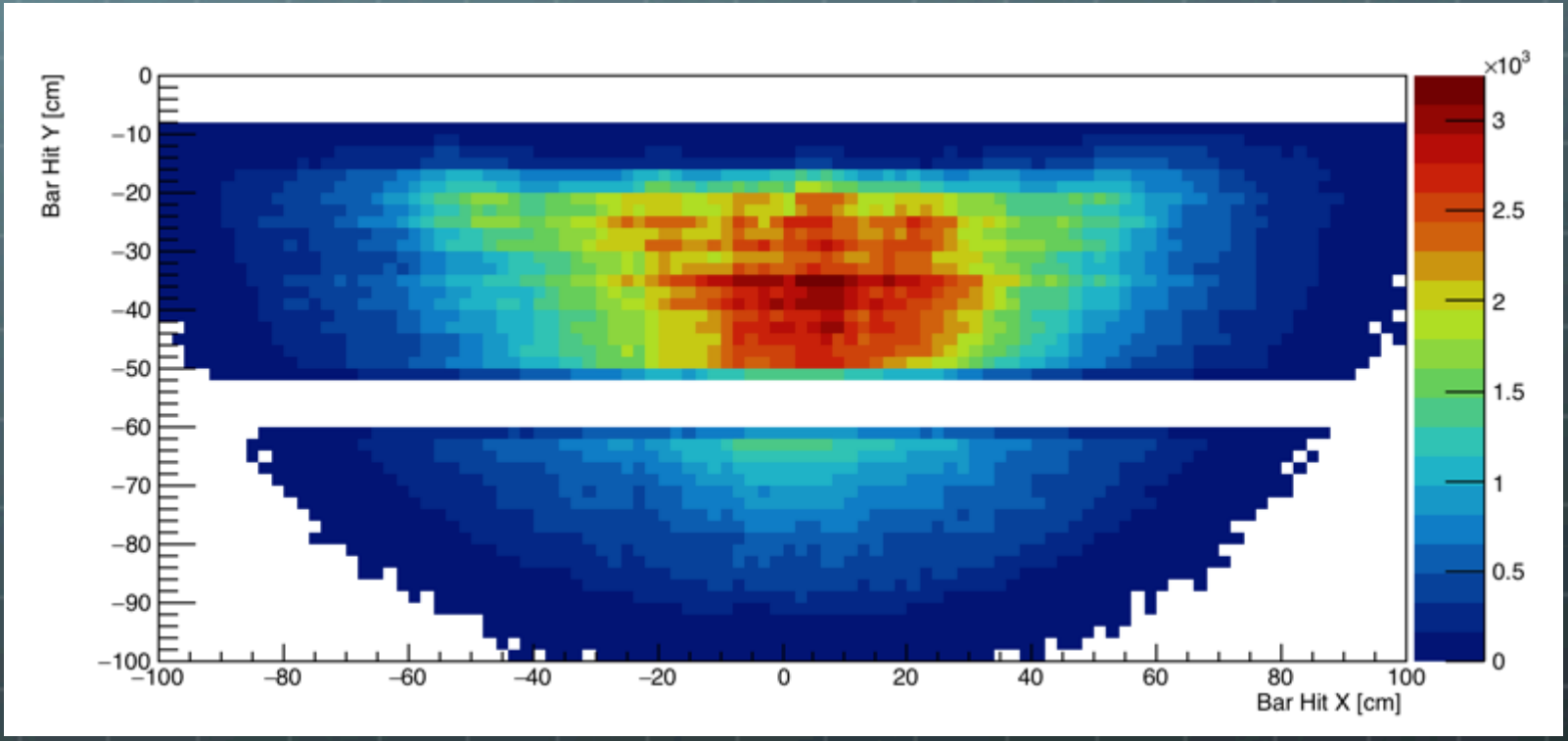
Pion Data





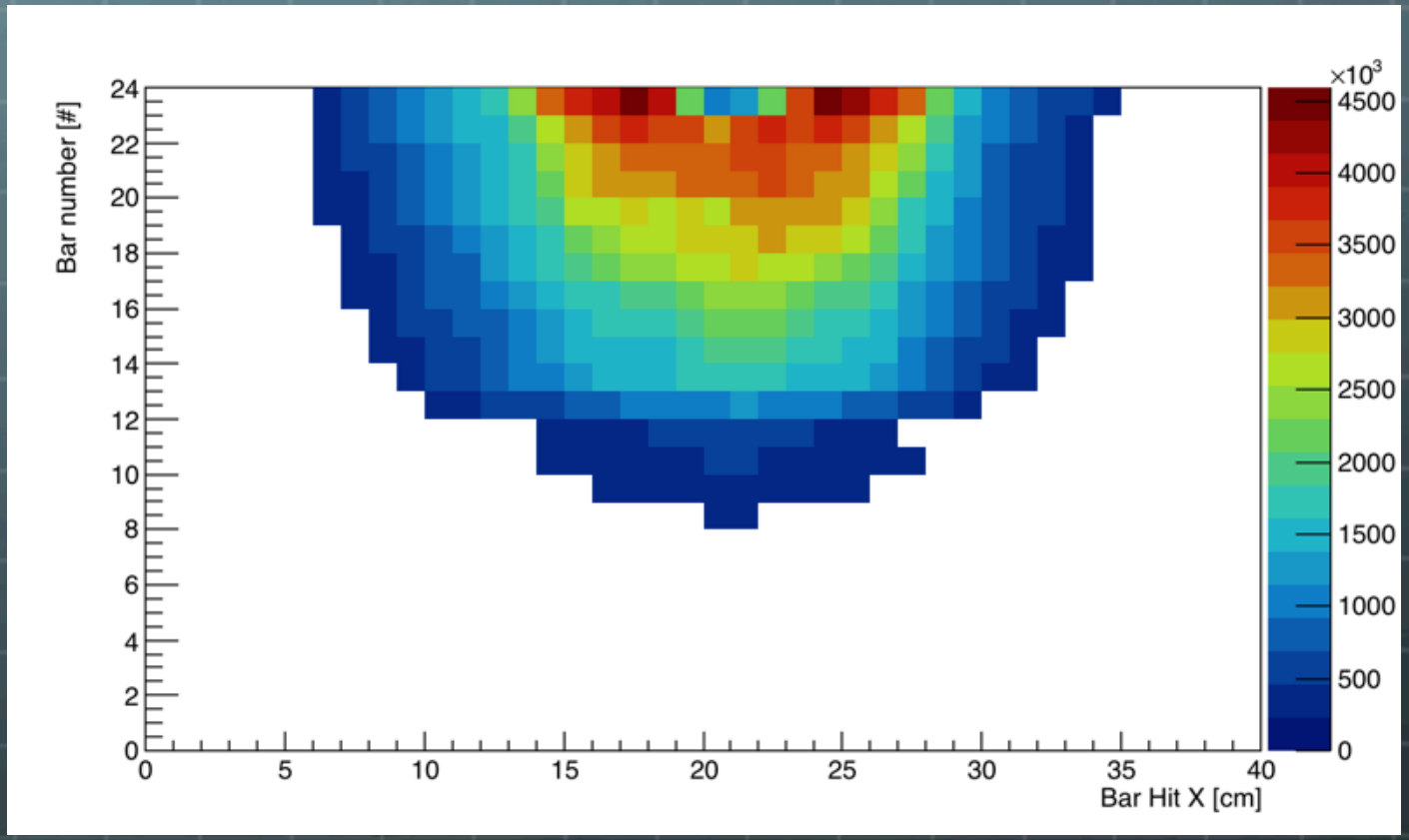


Occupancy



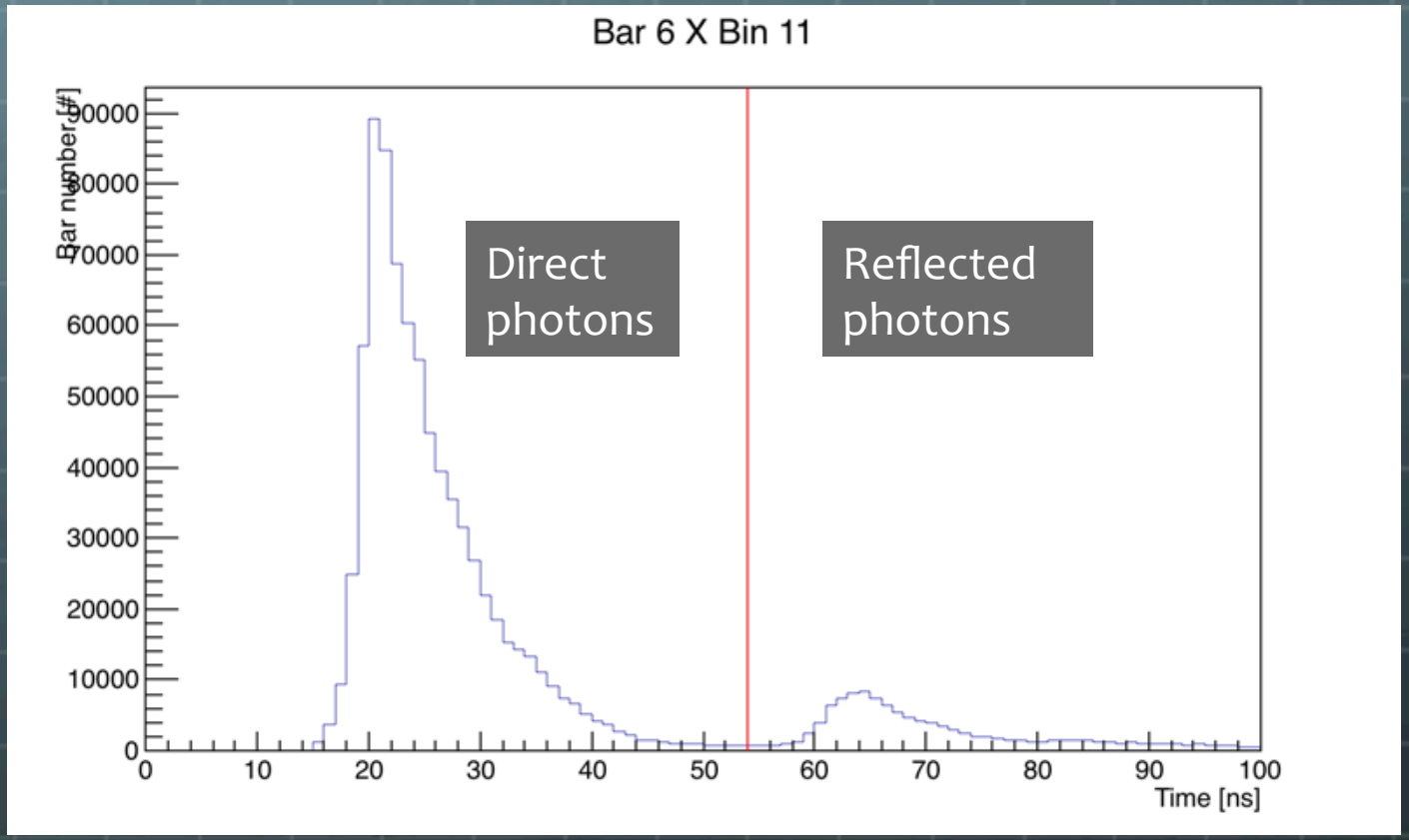
DIRC Wall Occupancy distribution

Timing Correction



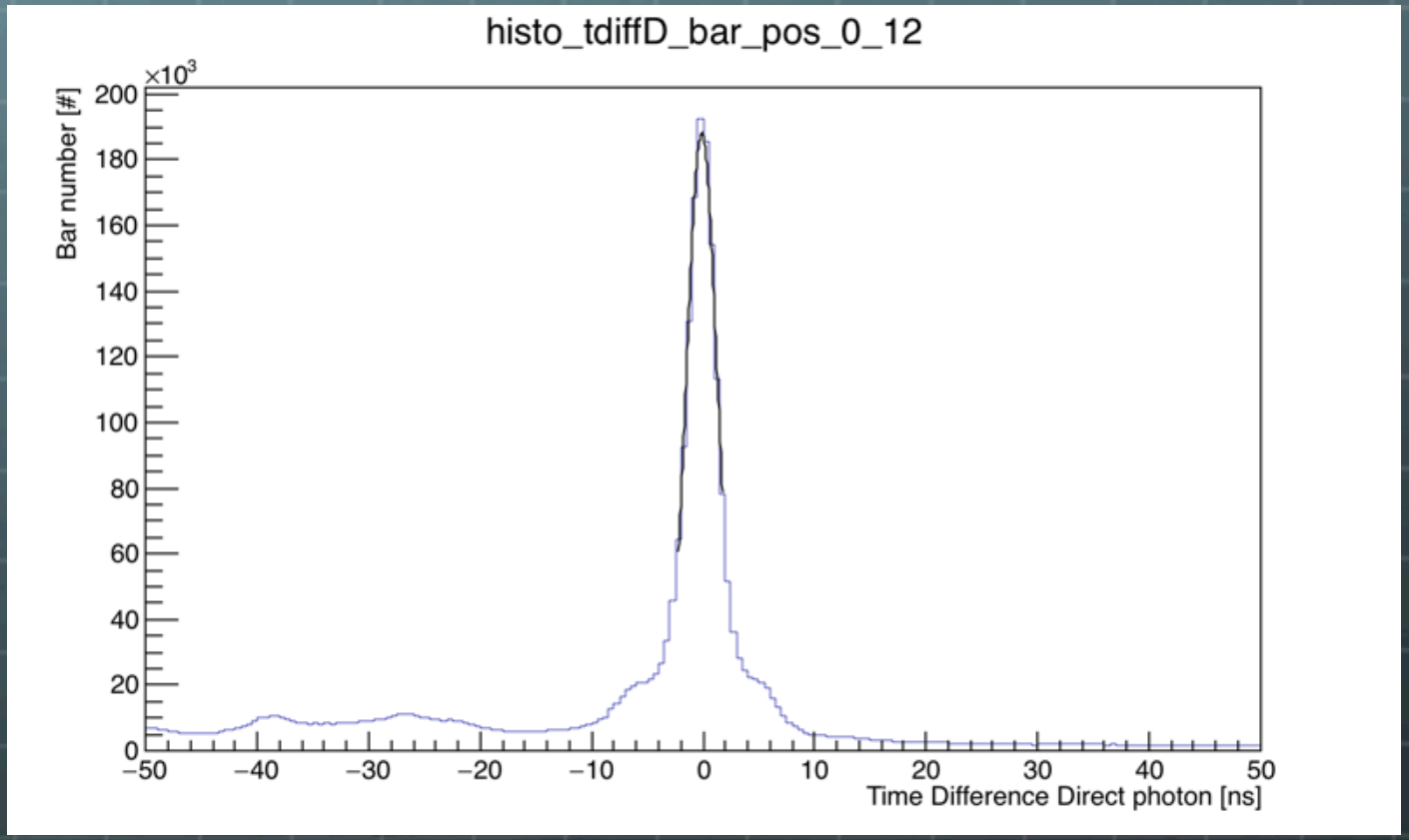
Divide DIRC Wall into segments

Timing Correction



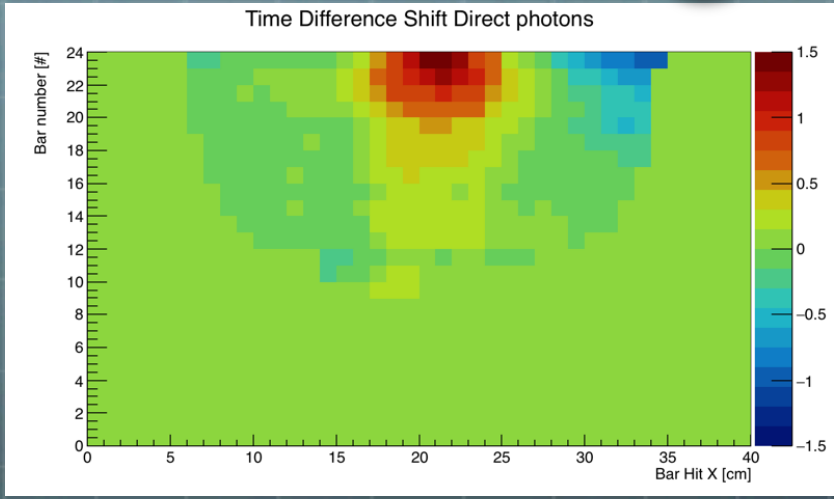
Draw time spectrum for each cell

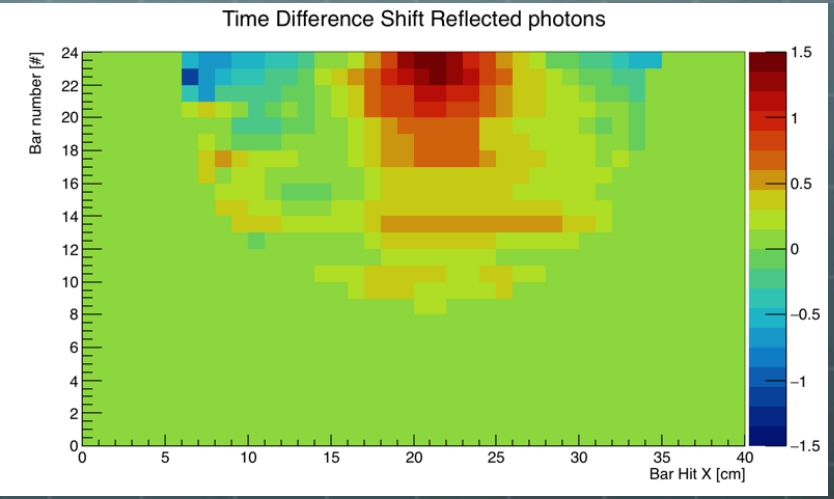
Timing Correction

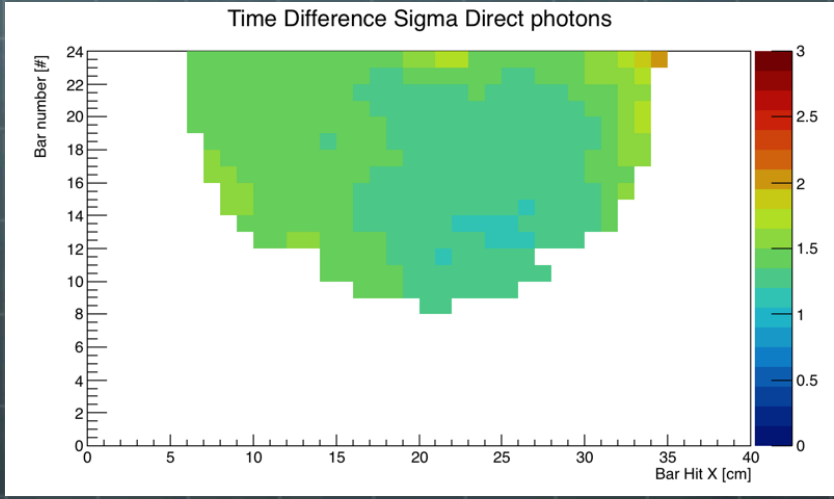


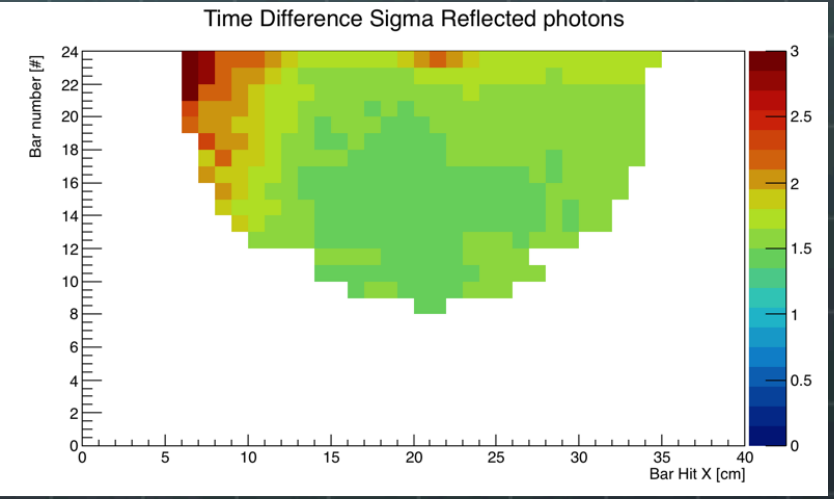
Draw time difference for each cell

Timing Correction





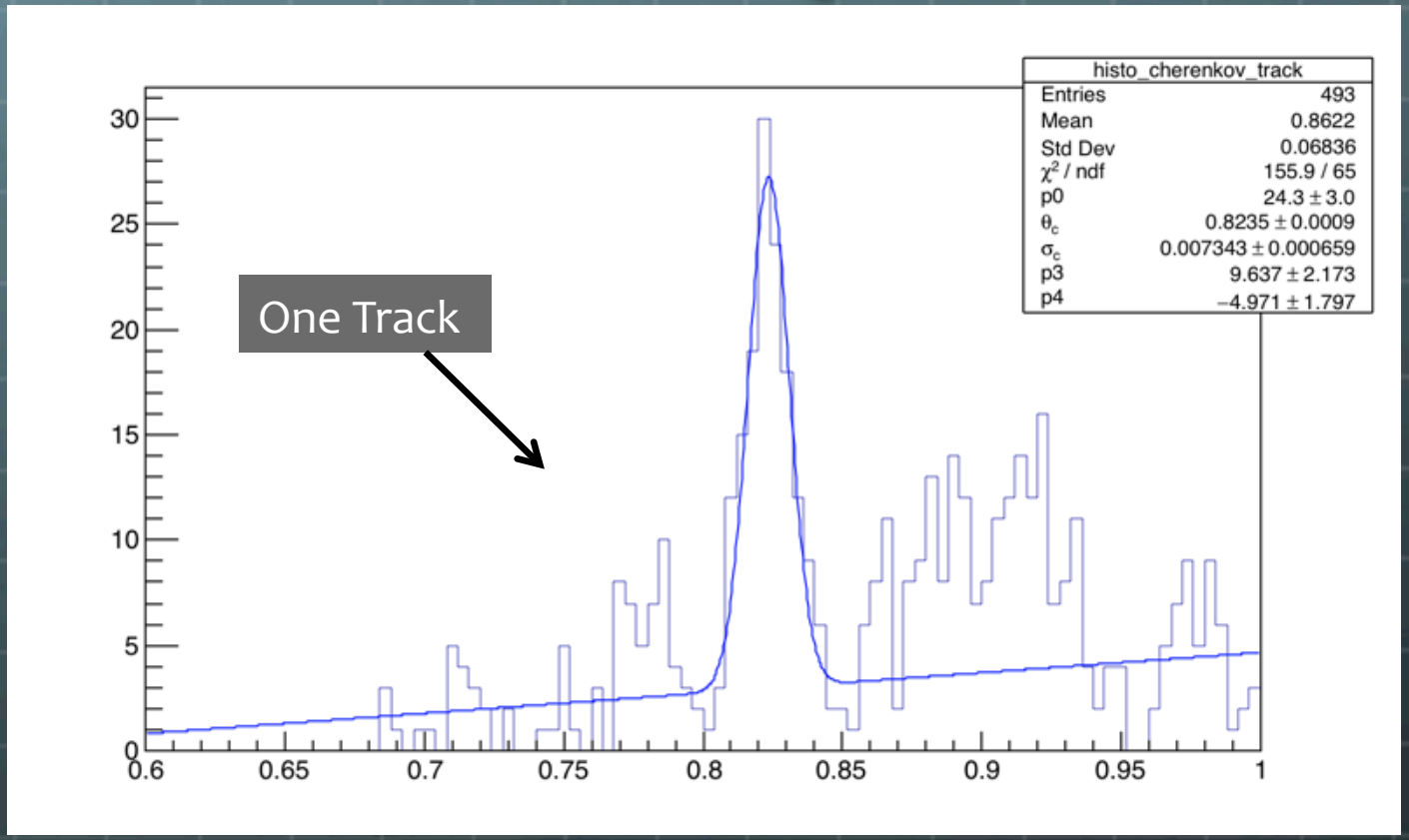




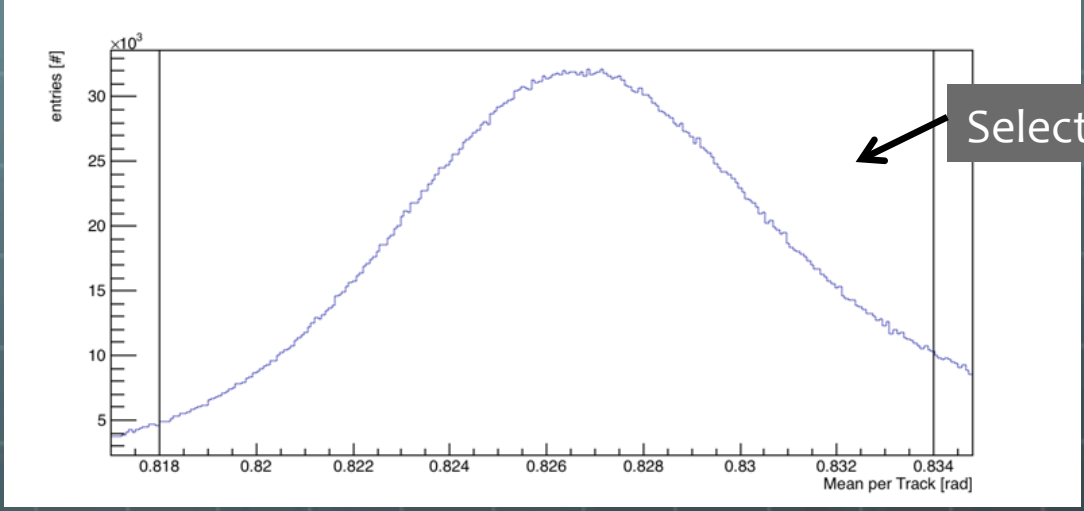
Maps used to remove the shifts

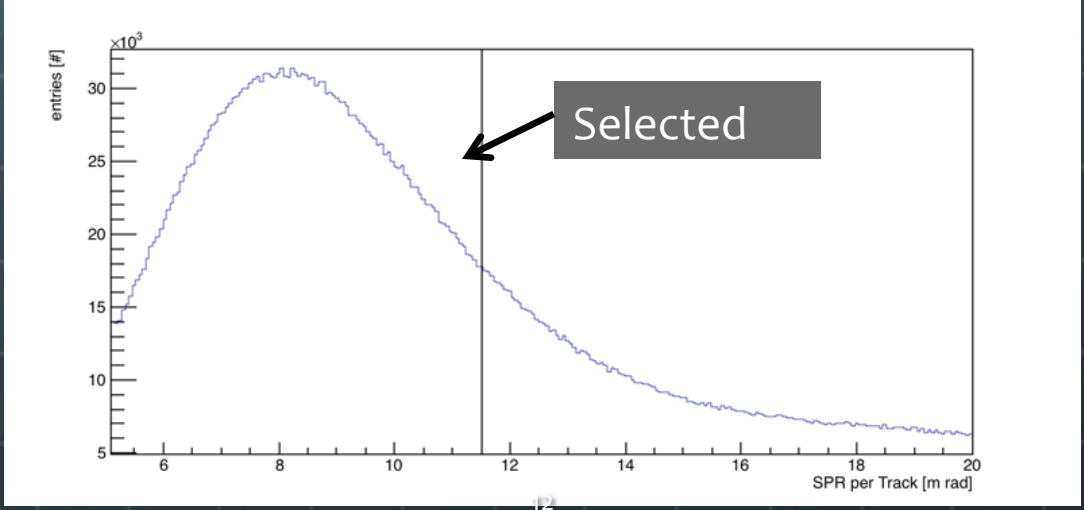
Reco. Cherenkov distribution per Track

Reco. Cherenkov distribution per Track



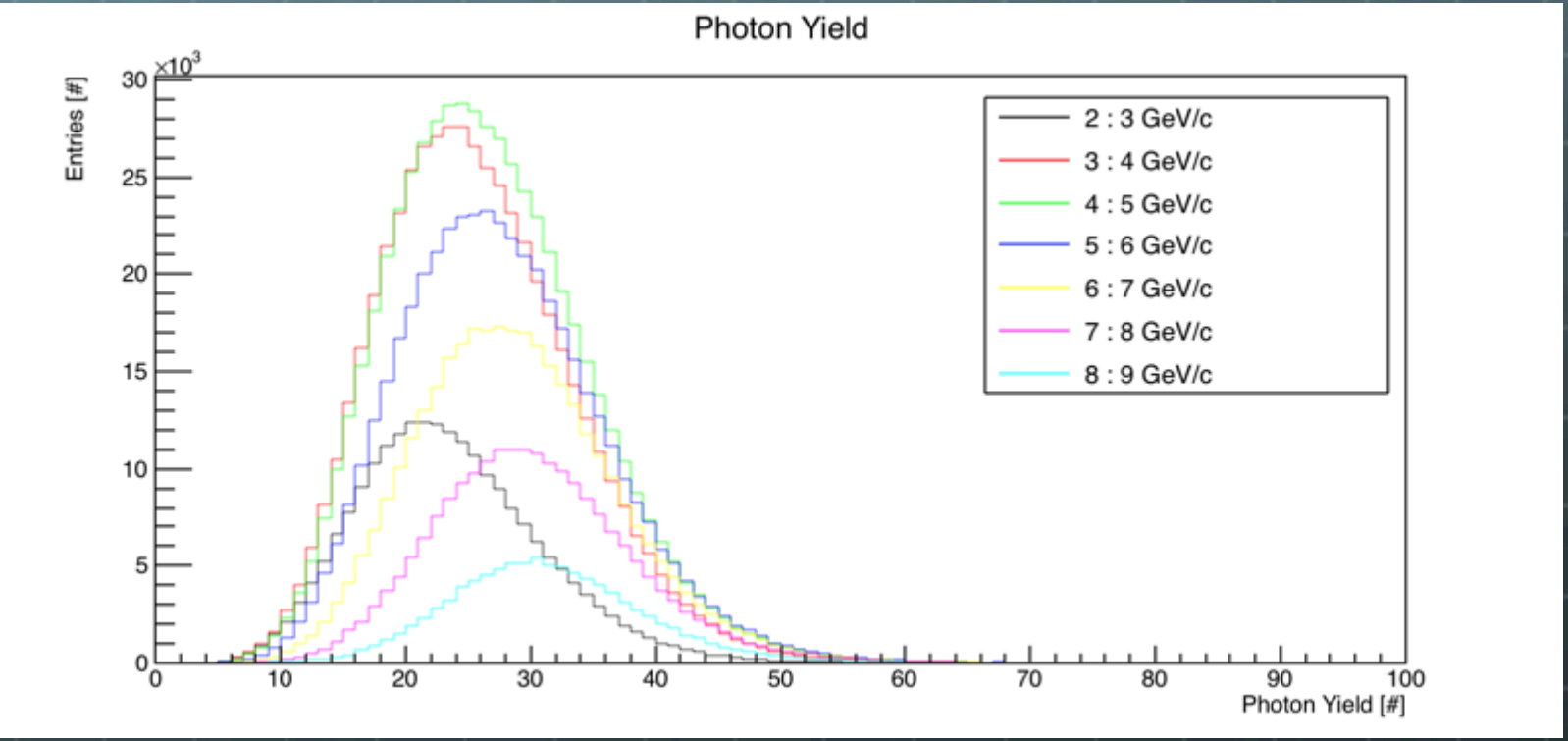
Fitting Parameters





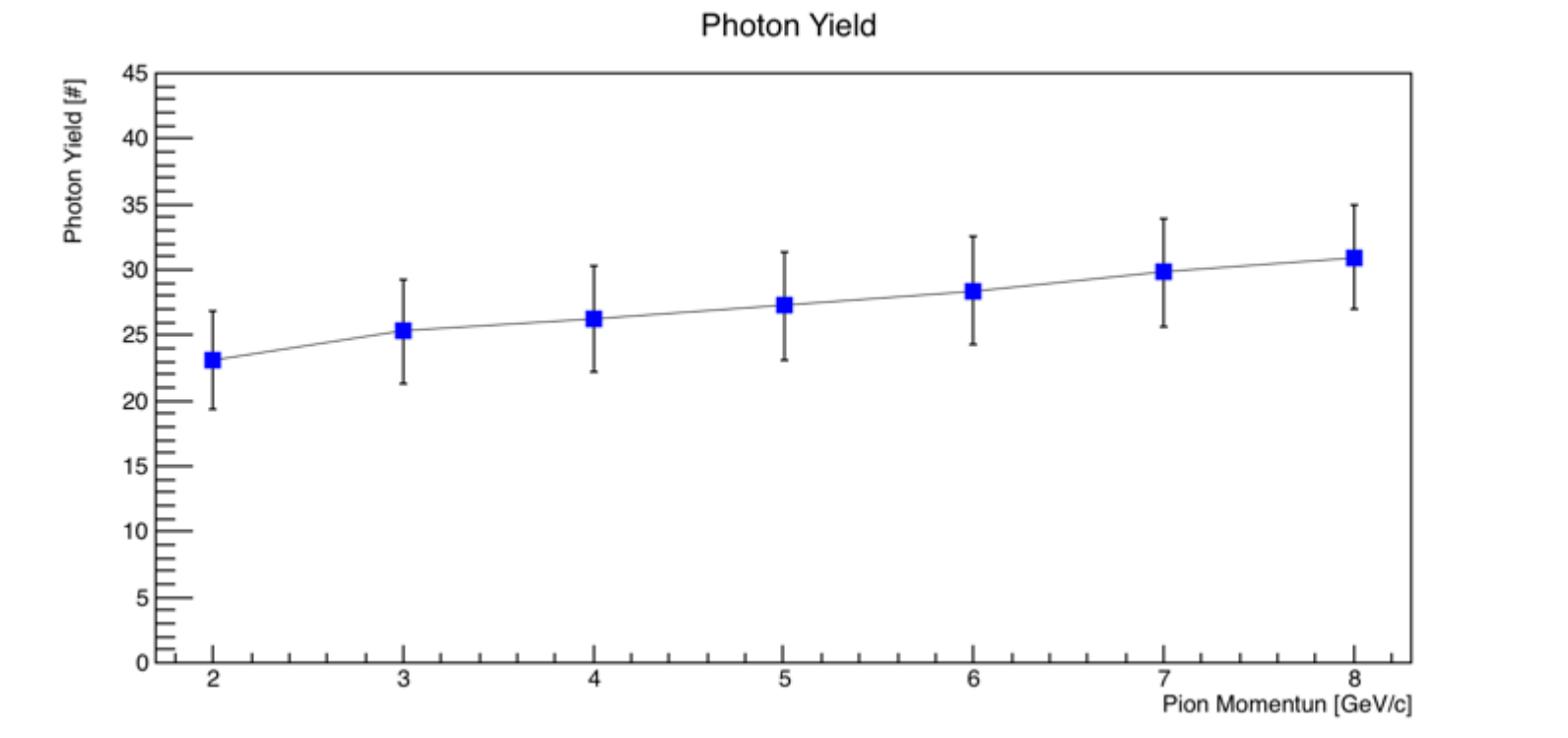
Photon Yield Study

Photon yield



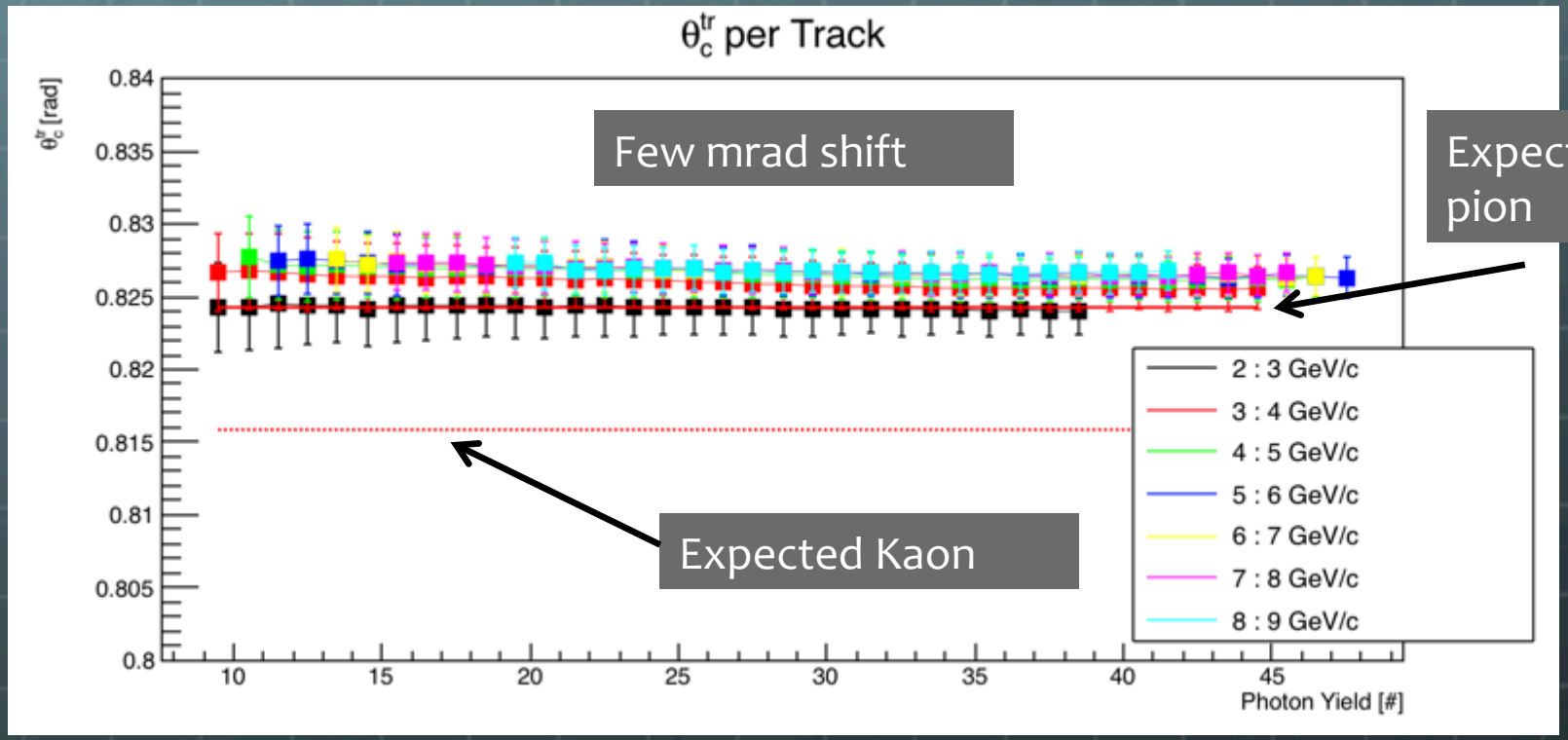
Increasing photon yield by increasing momentum

Photon Yield Vs Momentum



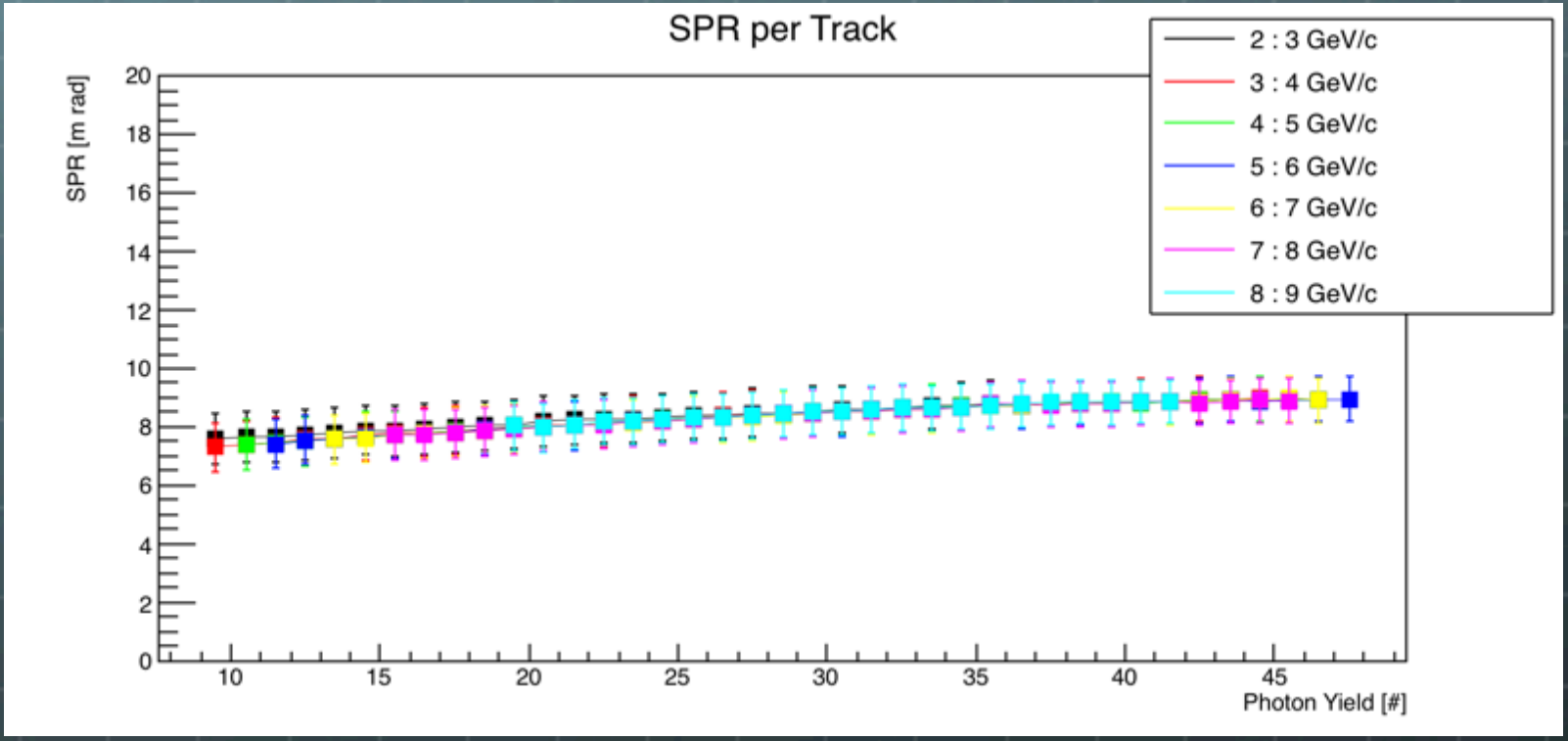
Increasing photon yield by increasing momentum

Cherenkov per track vs Yield



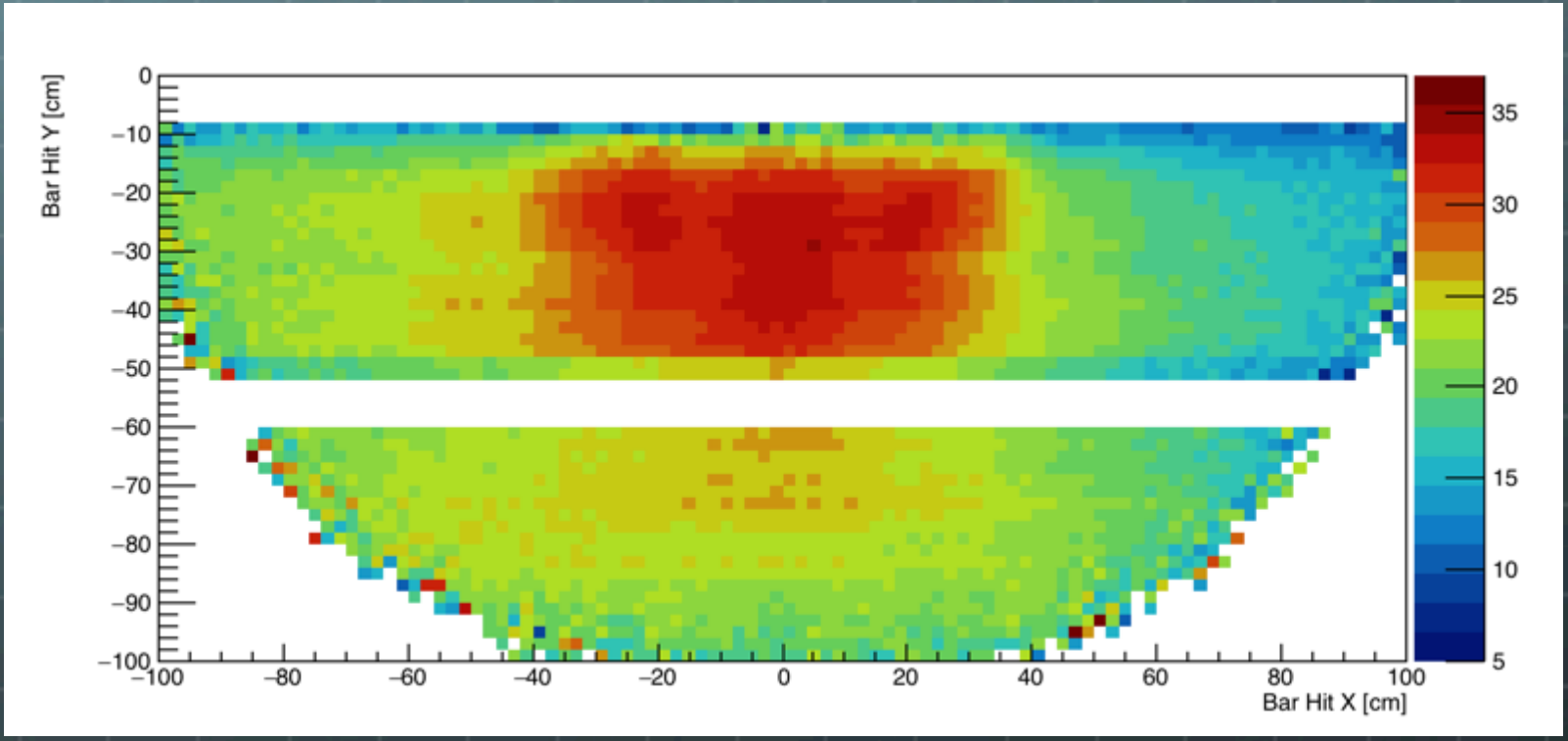
Reco. Cherenkov angel

SPR vs Yield



Single photon resolution per track

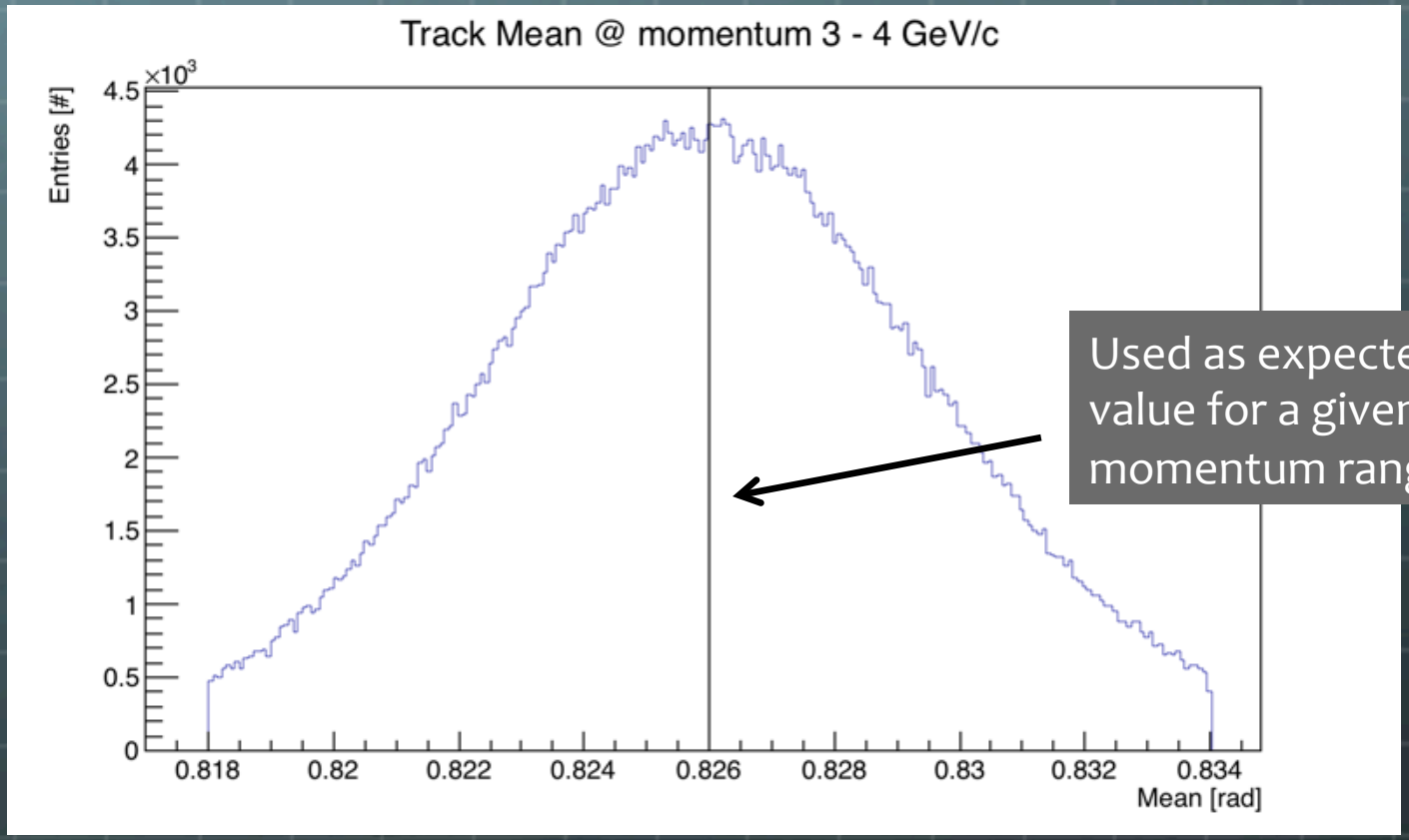
Photon Yield Map all Momenta



Photon Yield Map

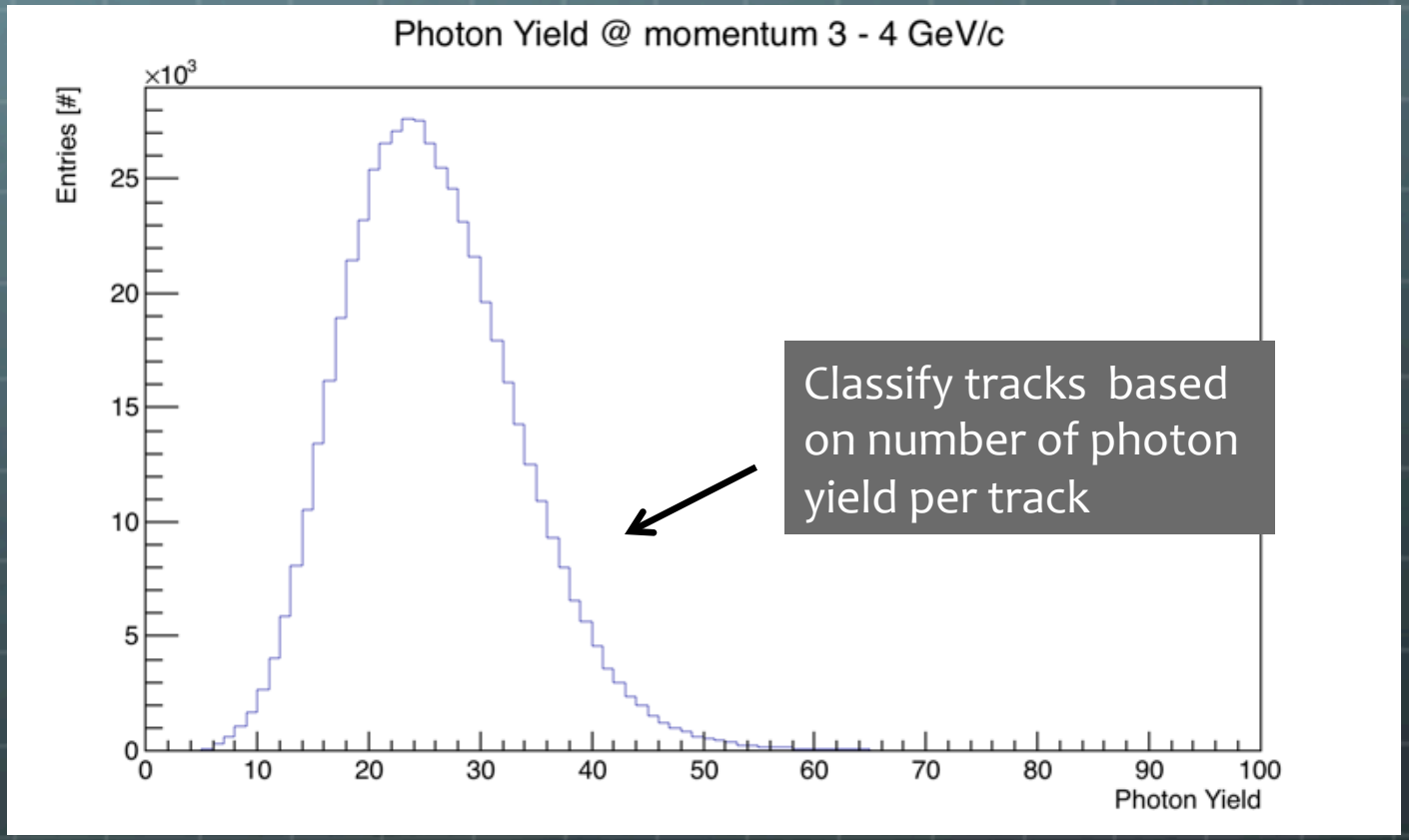
Cherenkov Track Resolution

Cherenkov Track Resolution



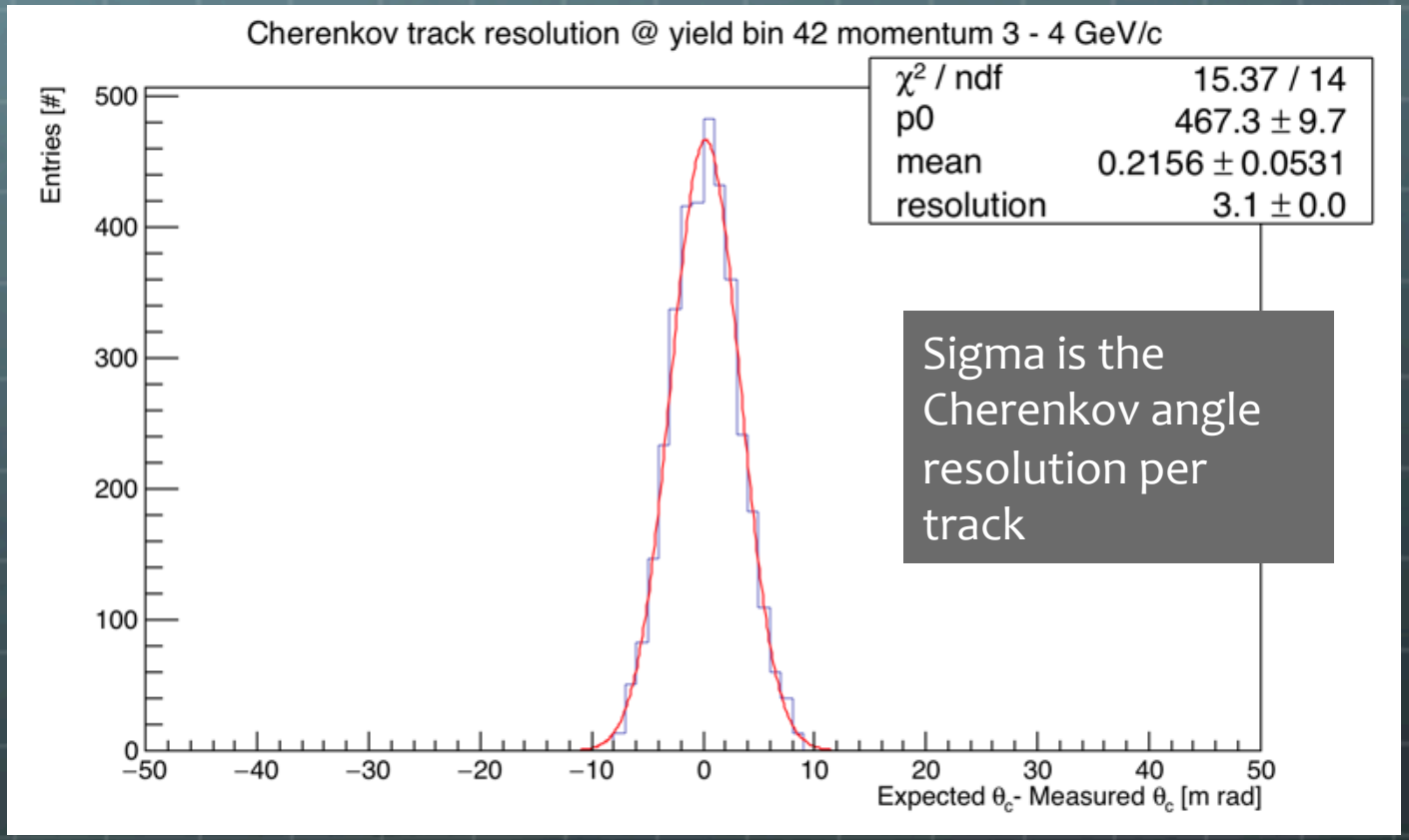
Reconstructed Cherenkov angle per track @ momentum 3-4 GeV/c

Cherenkov Track Resolution



Photon yield per track @ momentum 3-4 GeV/c

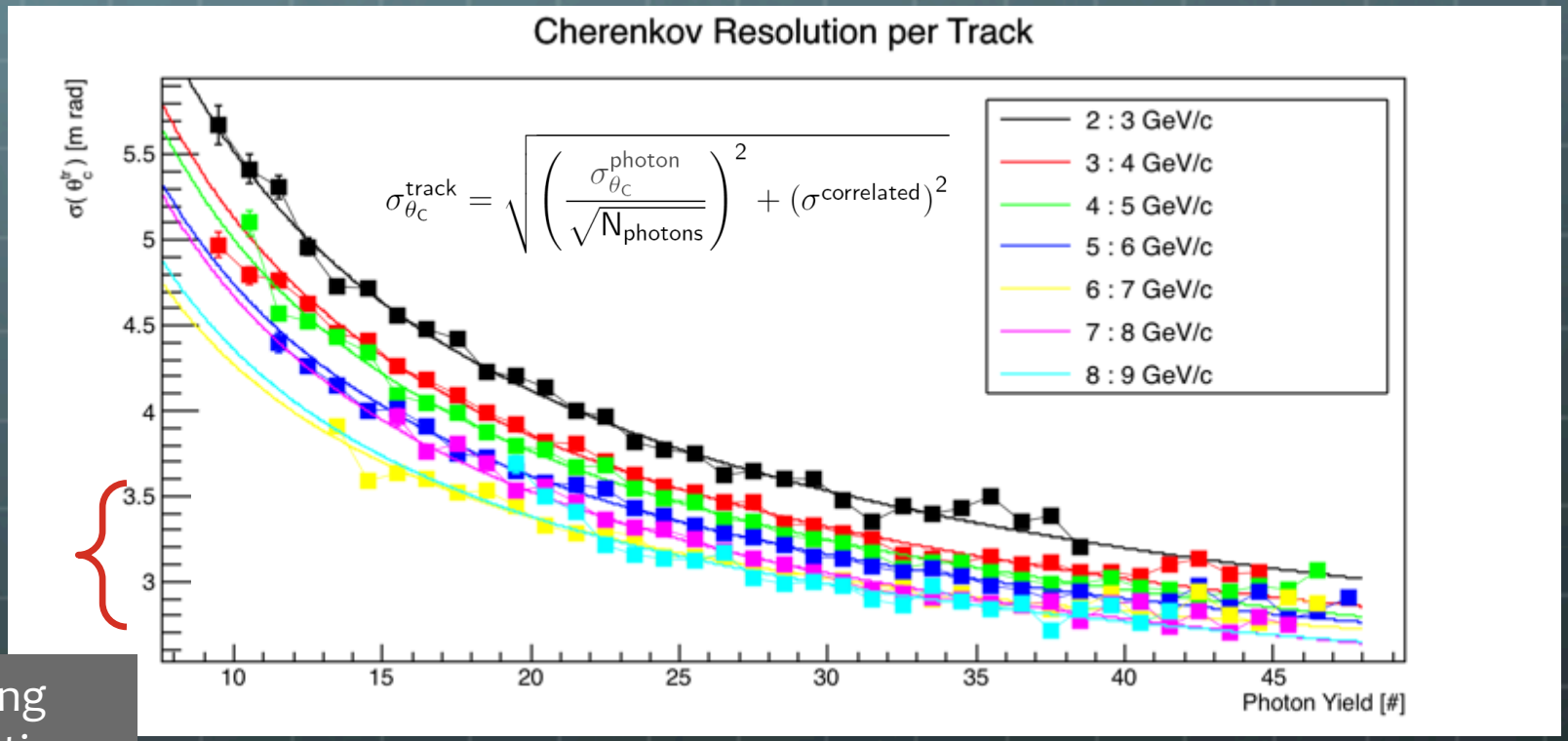
Cherenkov Track resolution



Sigma is the Cherenkov angle resolution per track

Cherenkov angle resolution per track @ momentum 3-4 GeV/c @ a given photon yield bin

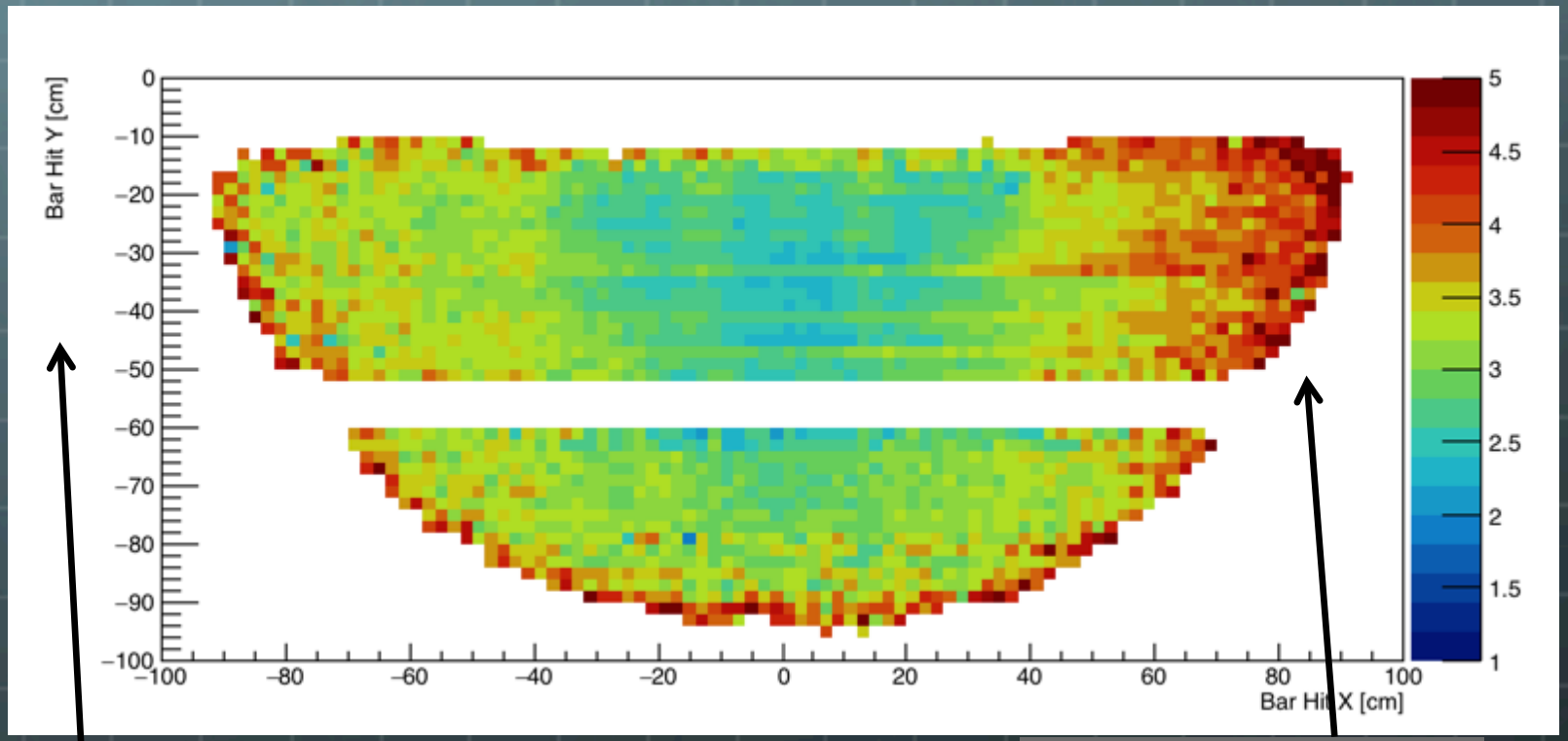
Cherenkov Track Resolution



Tracking resolution

Cherenkov angle resolution

Average Cherenkov track resolution map

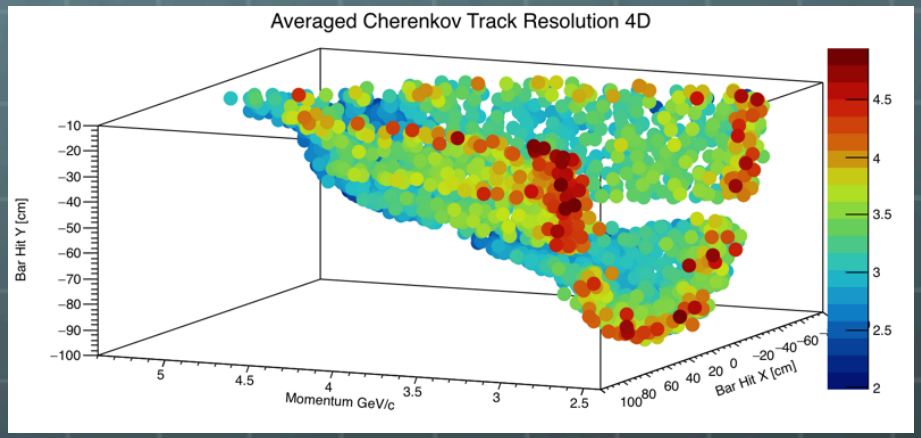


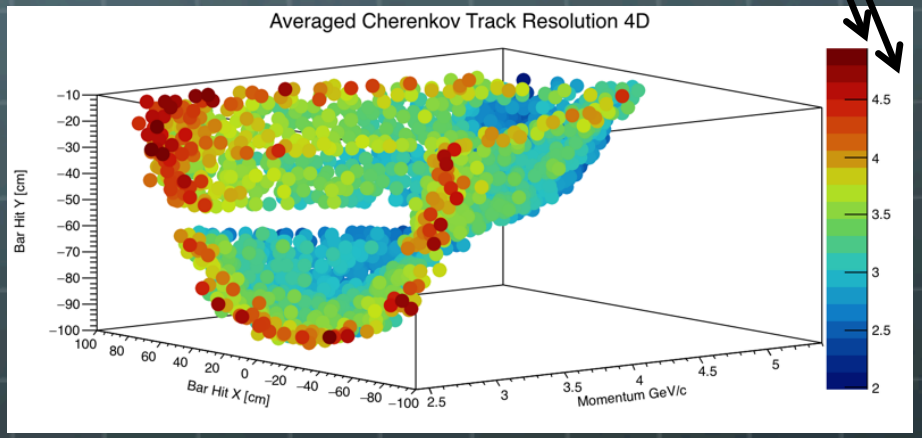
Optical Box Side

Region corresponds to photons with the longest path length

4 D Average Cherenkov track resolution map

Average Resolution (all momentum all photon yield) mrad





Next Step

- Cherenkov Systematics Study
- Separation power Study