# Pi/K Ratio Results

Andre Lebedev

MIPP Software Meeting

May 3, 2007

# Approach to Analysis

- Data – MC comparison is not perfect, but looks reasonable
- Compute particle ID variable from mass squared
  - 0=pion
  - 1=proton
  - puts kaon at 0.265
- Extract the occupancy fraction of true pi/K in each histogram
- Apply this fraction to data

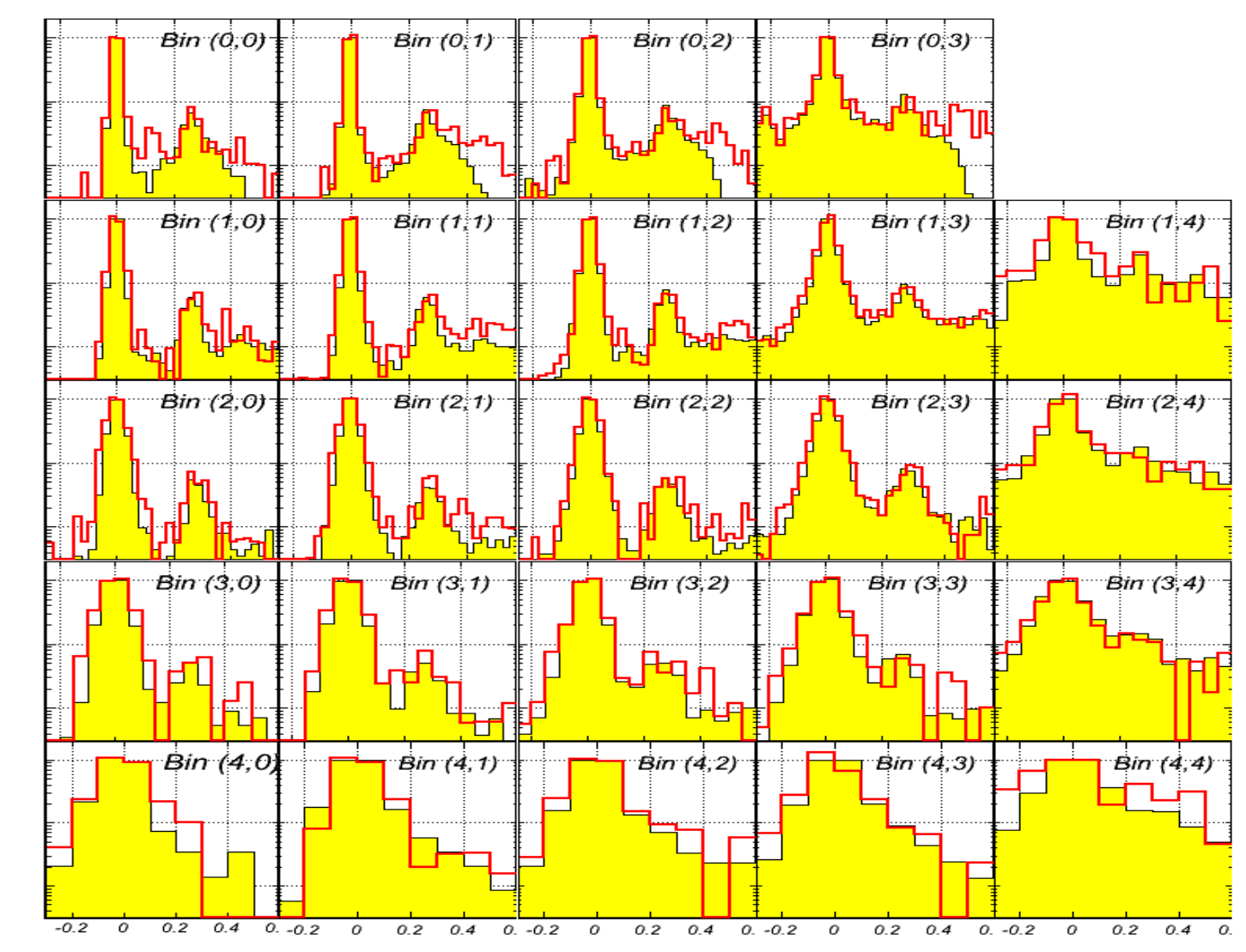
# Errors

- Statistical
- Correction from MC-reco/MC-ideal comparison
  - Statistical + 0.3 of correction
- Trigger efficiency
- Target out subtraction
- Background modeling
  - Vary (1 – occupancy) by +/-10%

# Data-MC positives

MC – yellow shade

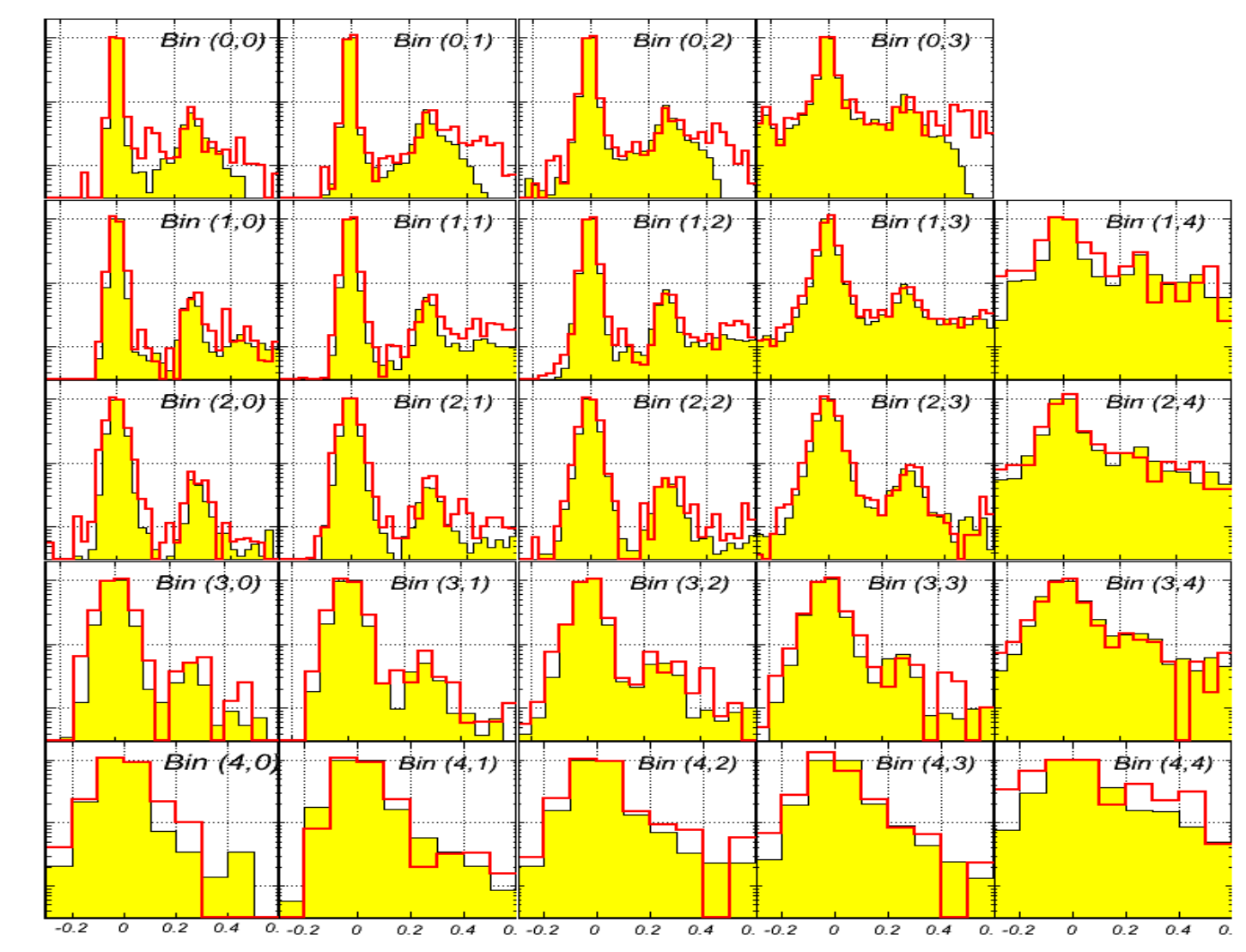
Data – red line



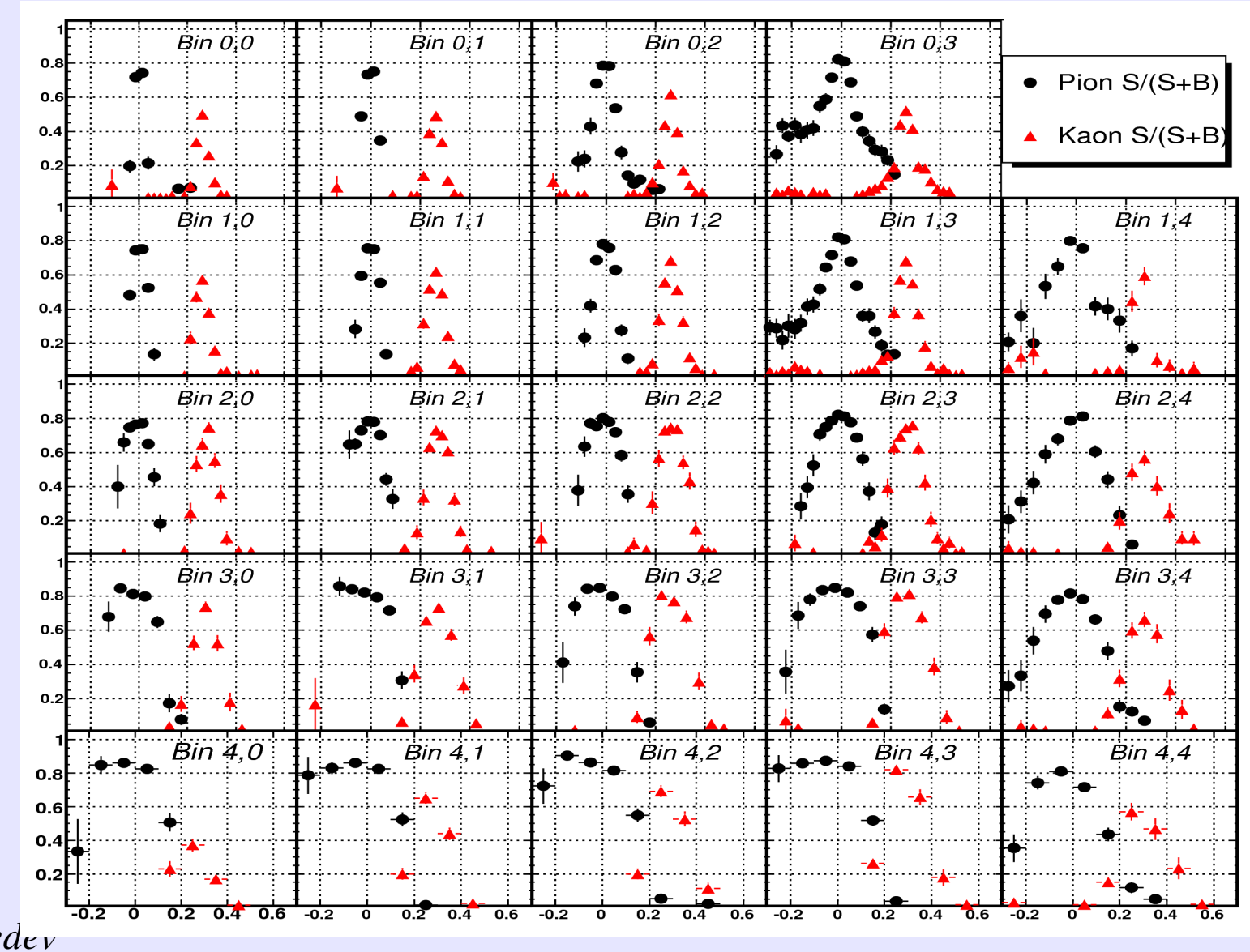
# Data-MC negatives

MC – yellow shade

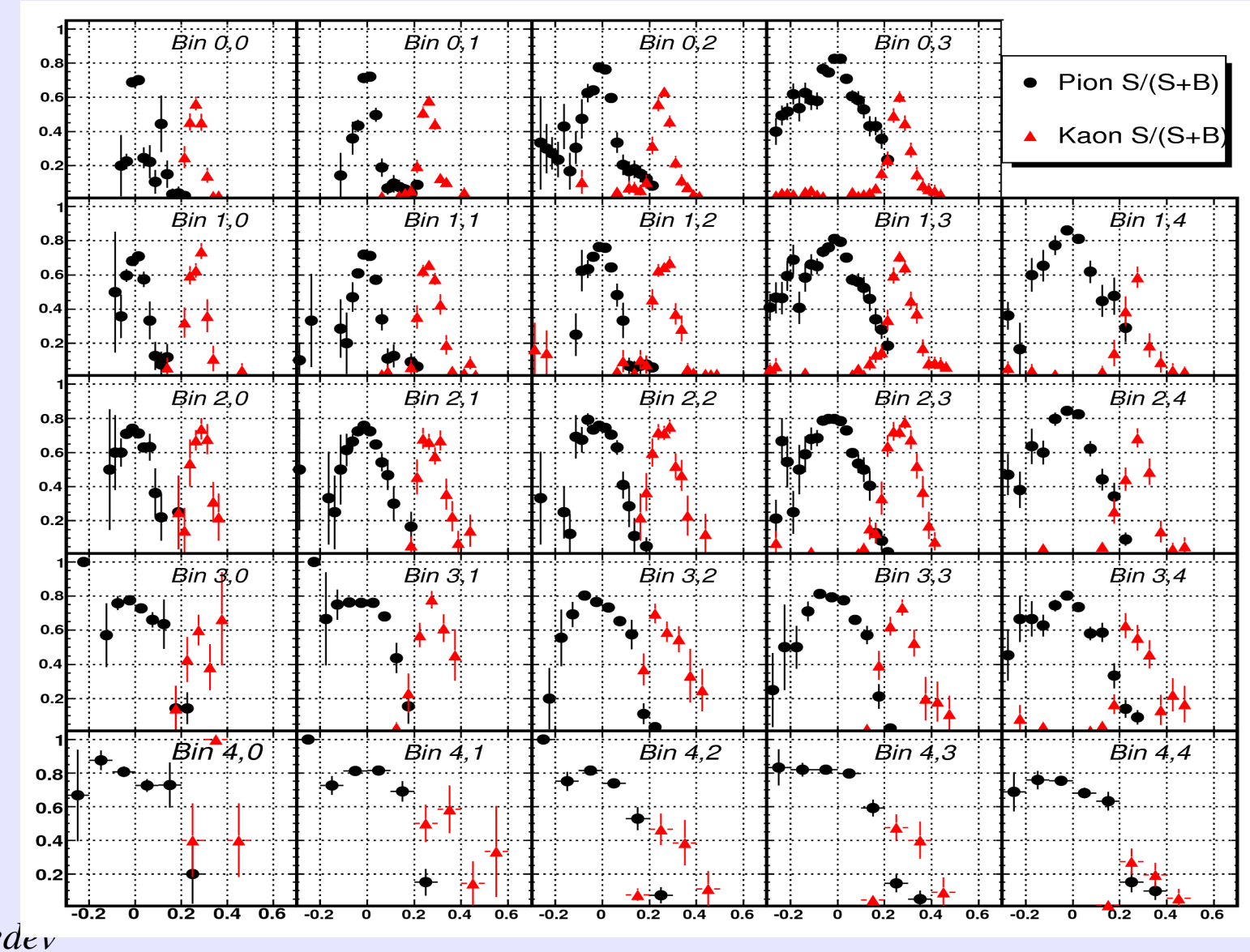
Data – red line



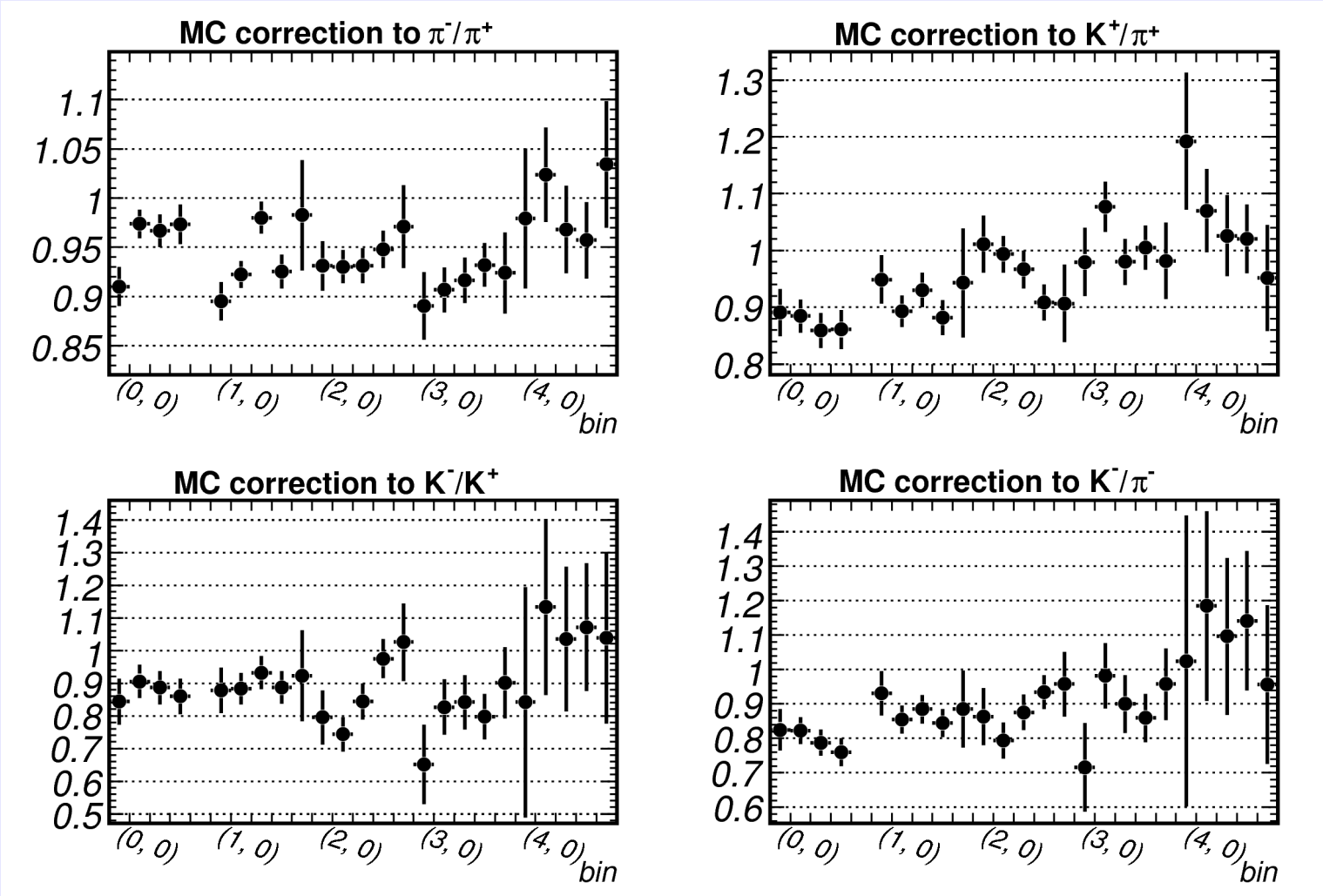
# Occupancy Positives



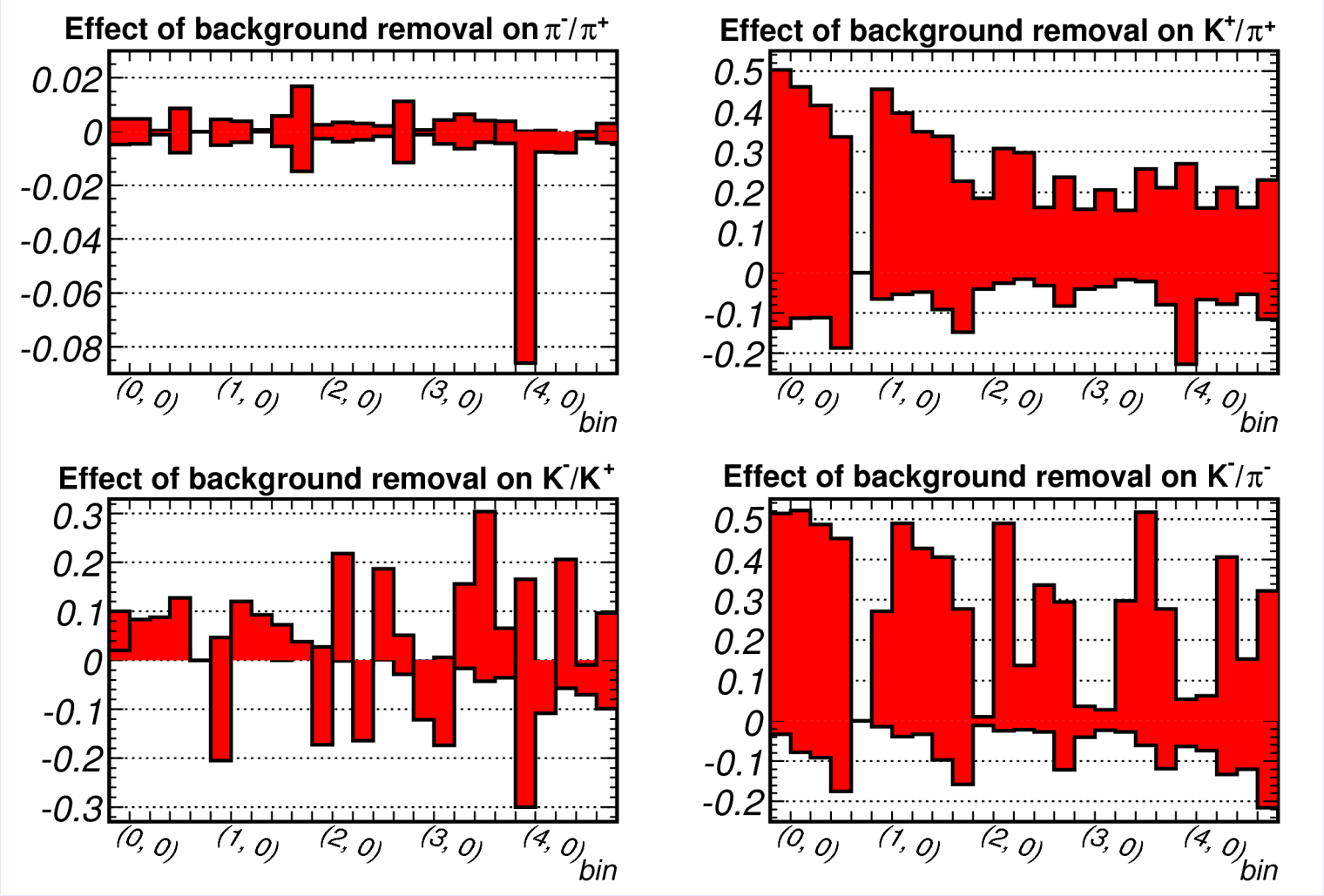
# Occupancy Negatives



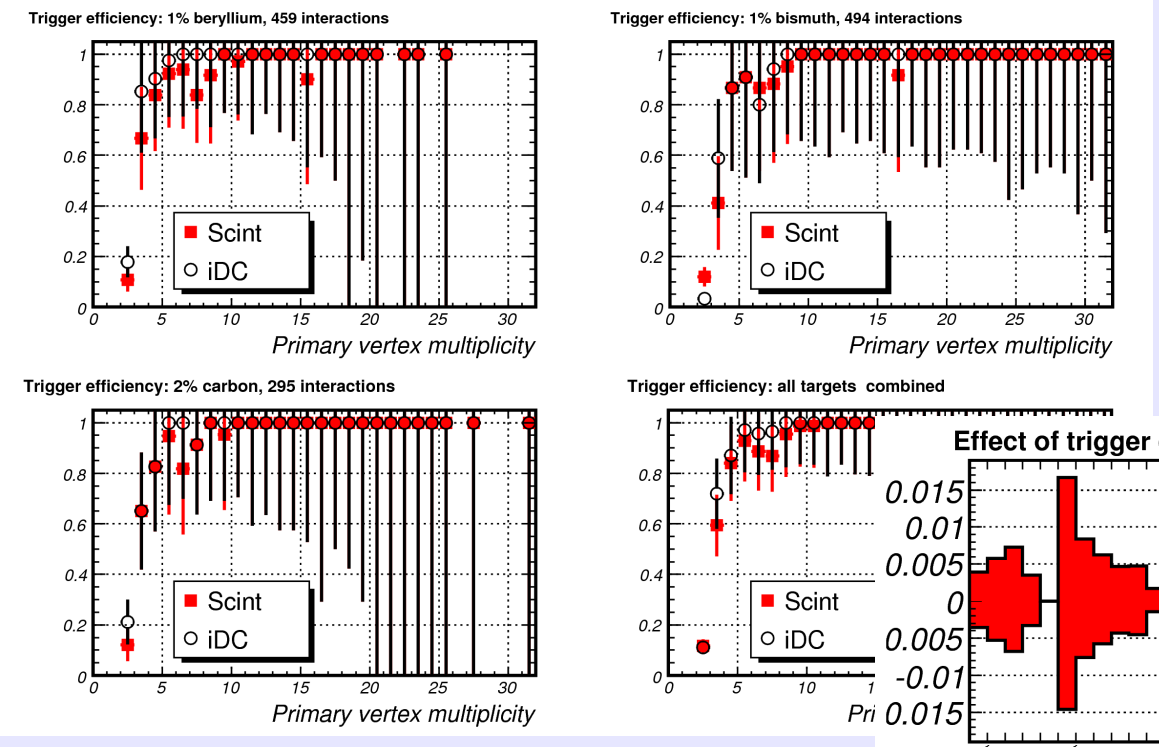
# MC Correction and Error

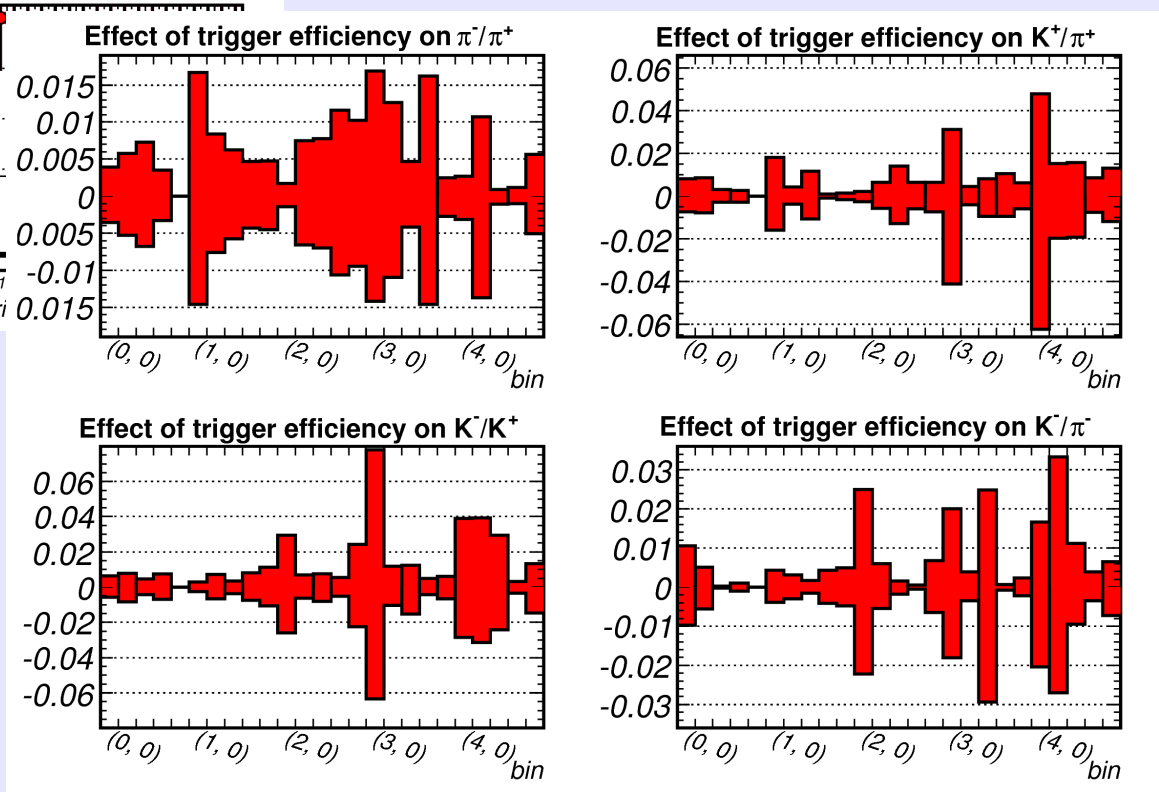


# Background Removal

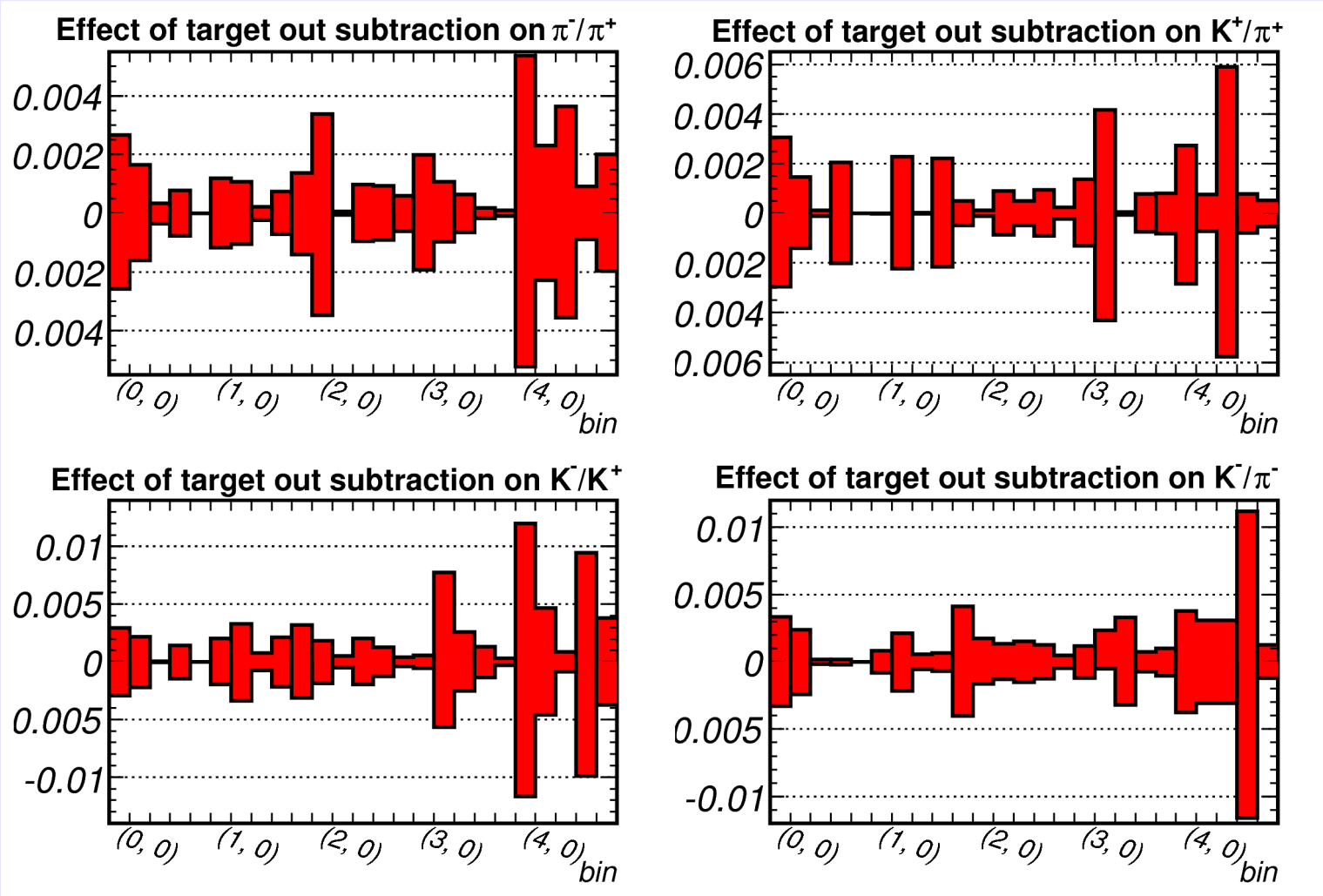


# Trigger Efficiency

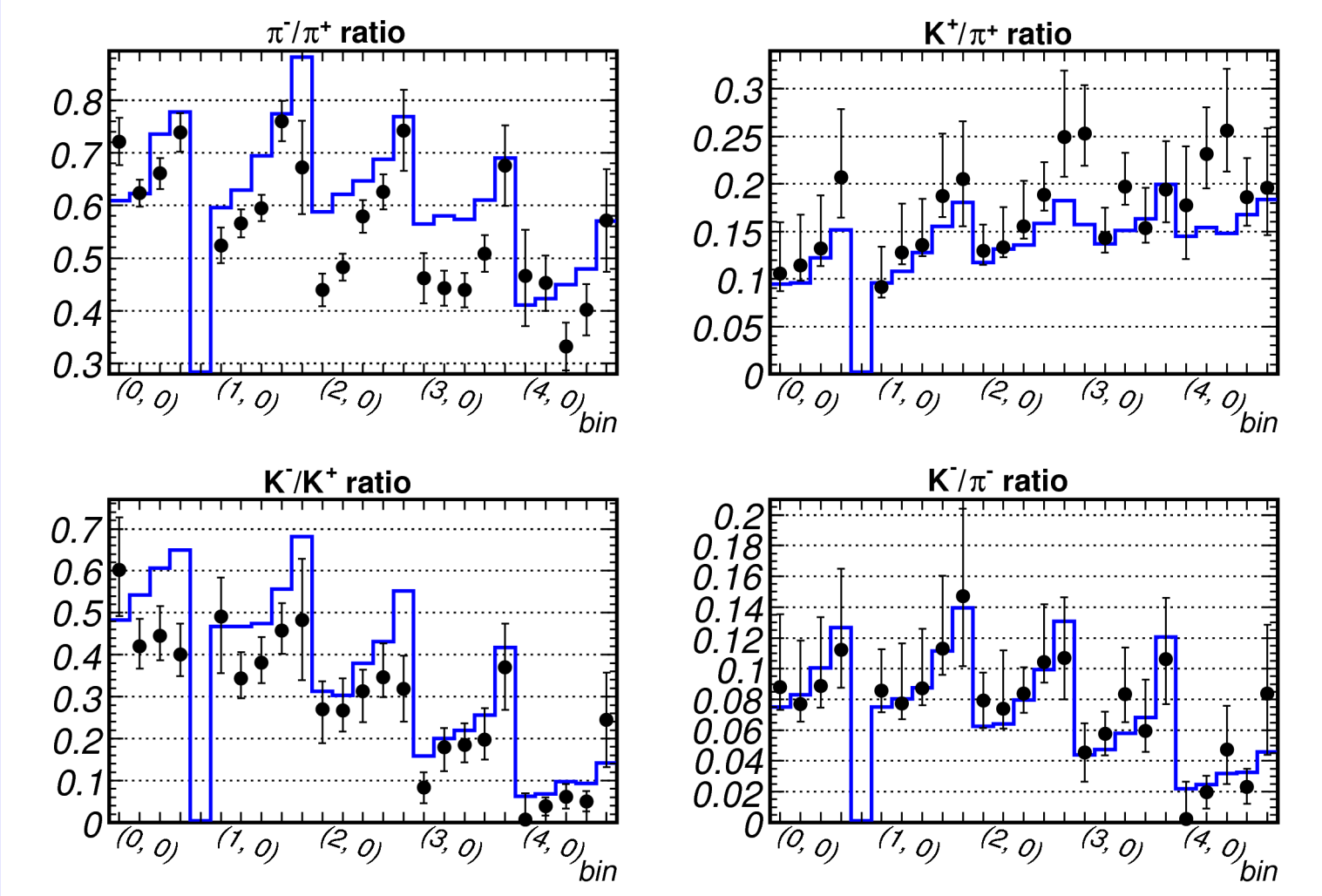


# Target out subtraction



# Result vs Fluka



# What now?

- First analysis result is complete
  - Significant errors from MC/data comparison – need to tune and better understand MC
- I need to finish writing by tomorrow afternoon
  - Will post the thesis to doc-db, comments are welcome in the next 2 weeks