Group meeting
July 5th, 2024

Instruction responsibilities

- Classes for Fall 2024:
  - PHY 331:
    - Need to make syllabus
  - PHY 361:
    - Need to make syllabus

Service responsibilities

- Committee:
  - GlueX Compton Analysis Review Committee:
    - Waiting for author response

Group responsibilities

- Undergrad: Nothing

Analysis

Presentations:

- Presentation to cross section meeting

KKpi analysis:

- Polarization did not help ☹
- Going back over cuts but first need to get some files copied (2.3TB of 4.3 TB complete). ETA on files: ~10pm tonight

Ξ^* analysis:

- Requested studies:
  - Vertex dependence on π^0 mass with real and MC data (status: started MC)
  - *t*-cut dependence on Ξ^* spectrum (status: in progress)
  - Vertex angle between momentum and path of Ξ (status: not started)
  - Refine MC generator distributions (status: Initial run with *s* and *t* distributions are nearly complete: ETA is ~9pm tonight)
  - Mass fit Ξ for each bin in Ξ^* (status: complete)

$KK\pi$ Polarization Setup

Data and cuts

Dataset:

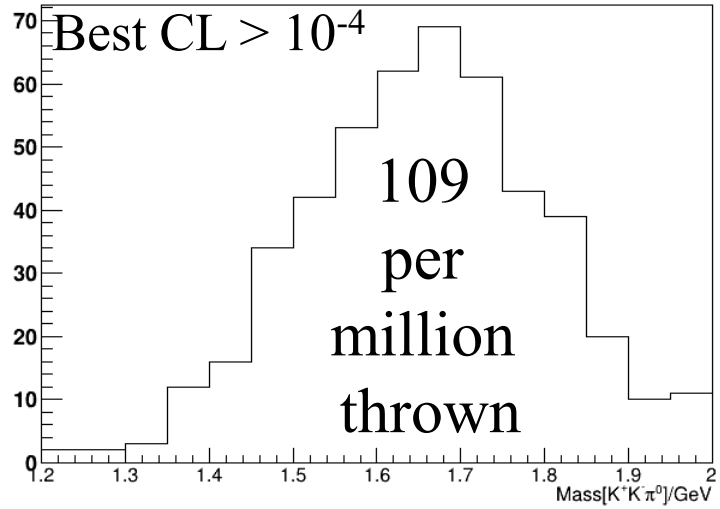
- Spring 2018 data

Restrictions:

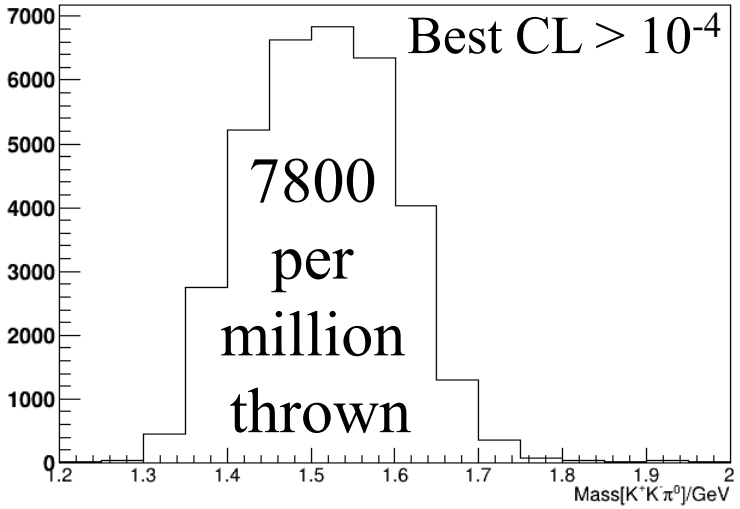
- Incident photon timed to be within central peak
- Only best Confidence Level (*CL*) per event kept
- *CL* must be above 10^{-4}
- Kaons must be forward directed (seen in TOF)
- Kaons must have momentum < 3 GeV
- Missing mass within 3 standard deviations of central peak
- 0.12 GeV < Mass[π^0] < 0.15 GeV

Contamination study (4.4 million thrown)

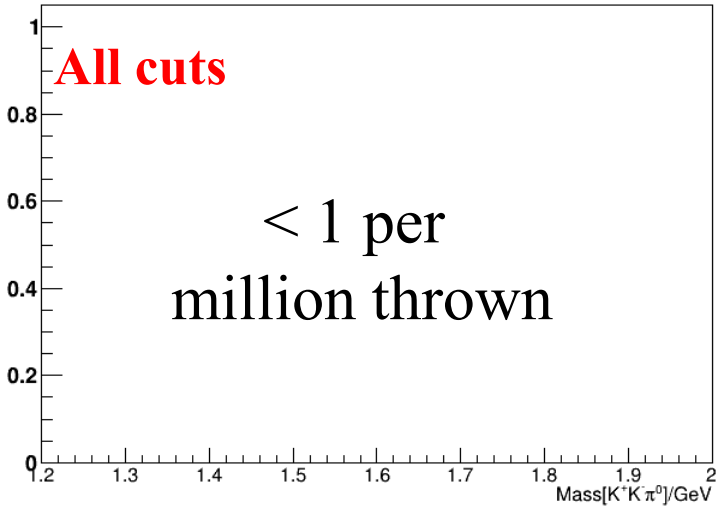
$\pi^+\pi^-\pi^0$ seen as $K^+K^-\pi^0$



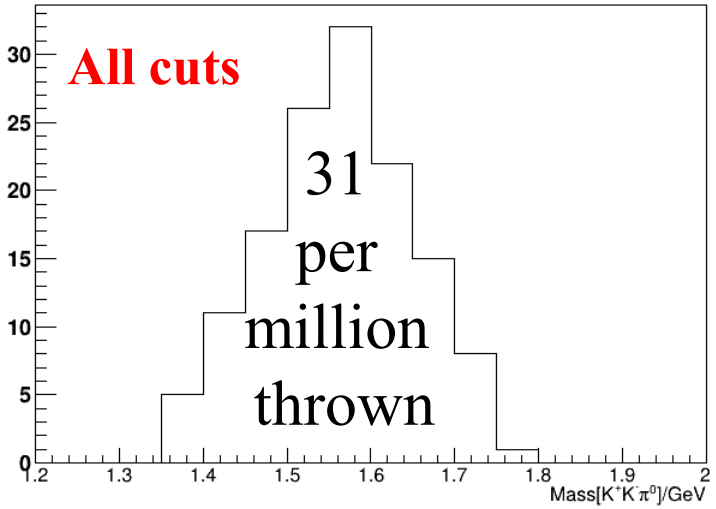
$K^+\pi^-\pi^0$ seen as $K^+K^-\pi^0$



$\pi^+\pi^-\pi^0$ seen as $K^+K^-\pi^0$



$K^+\pi^-\pi^0$ seen as $K^+K^-\pi^0$



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Will loosen this cut

Ξ^* bump hunt

Everything is a bit of a mess right now, but I can show some plots

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