

# FTPC dAu Update

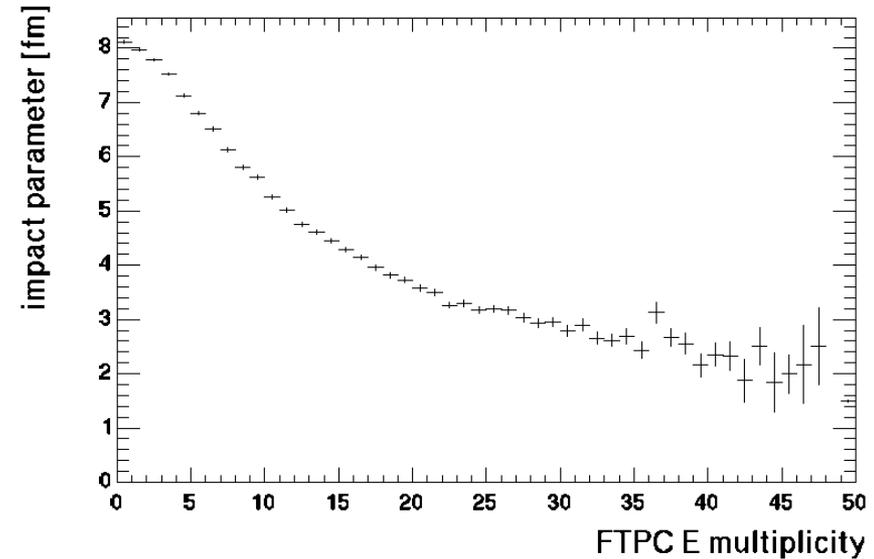
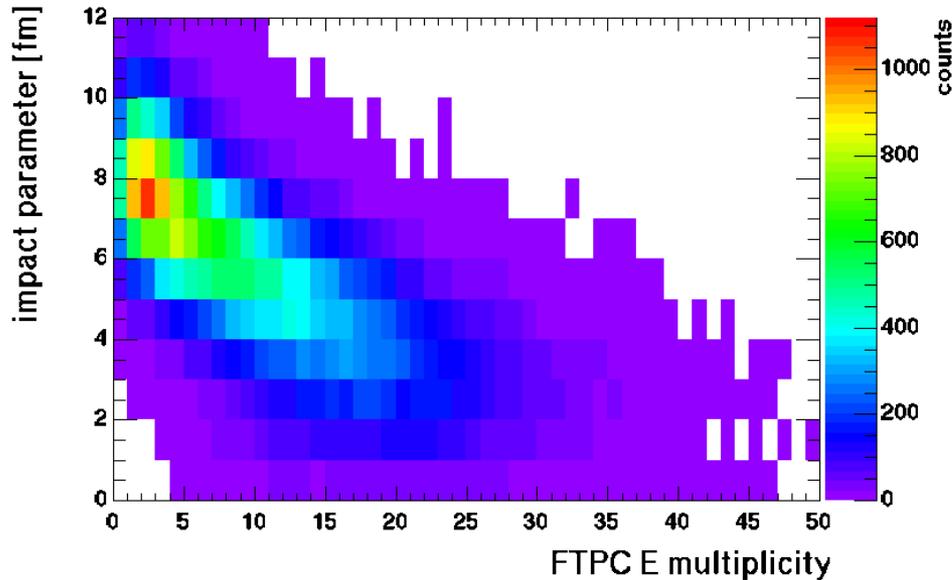
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## Outline

- Centrality Definition in dAu
- Pileup in the FTPCs
- Strangeness Update
- First Glimpse at pp

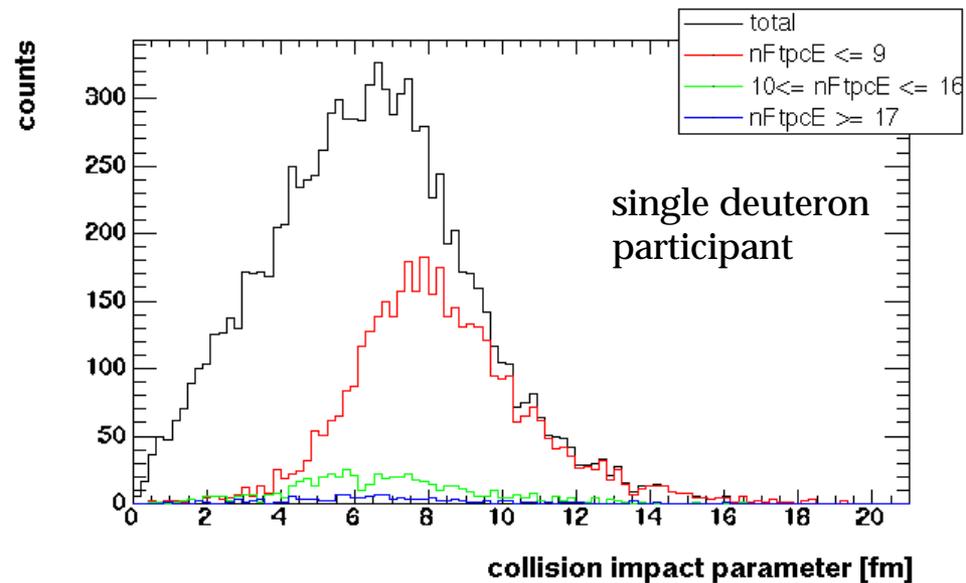
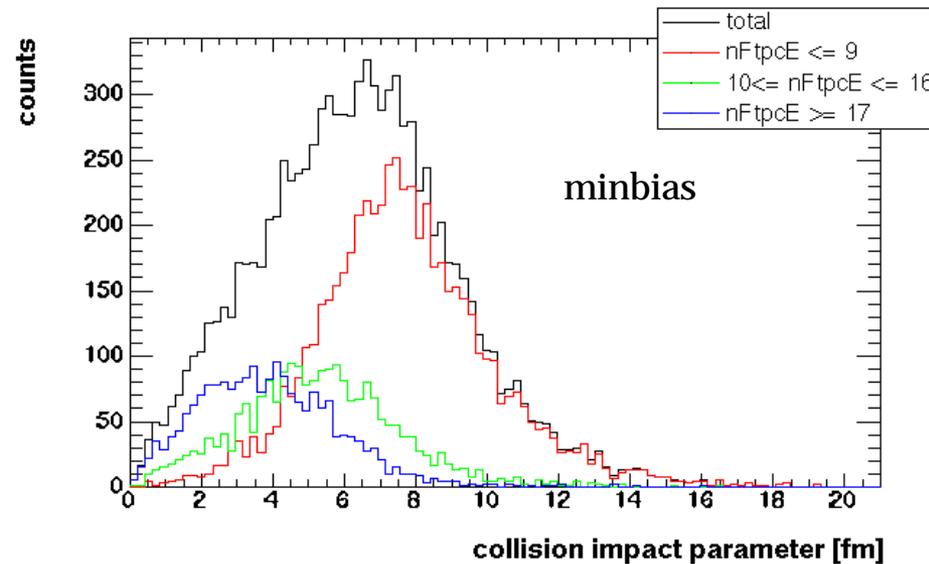
# dAu Centrality from HIJING



- HIJING simulations show clear correlation between impact parameter of collision and FTPC E multiplicity
- FTPC data is used as STAR centrality definition for dAu



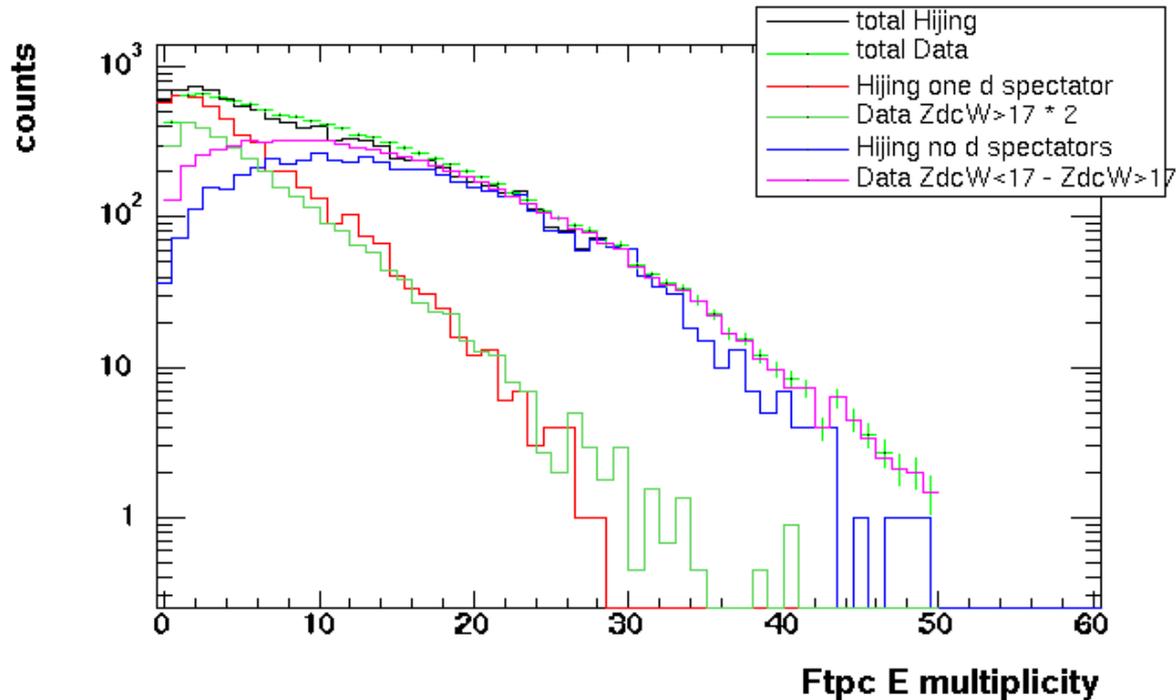
# Centrality Bins



- 3 centrality bins: 20% most central, 20%-40% and 40%-100%
- Impact parameter for the three centrality bins, and for events with only one participating nucleon from the deuteron

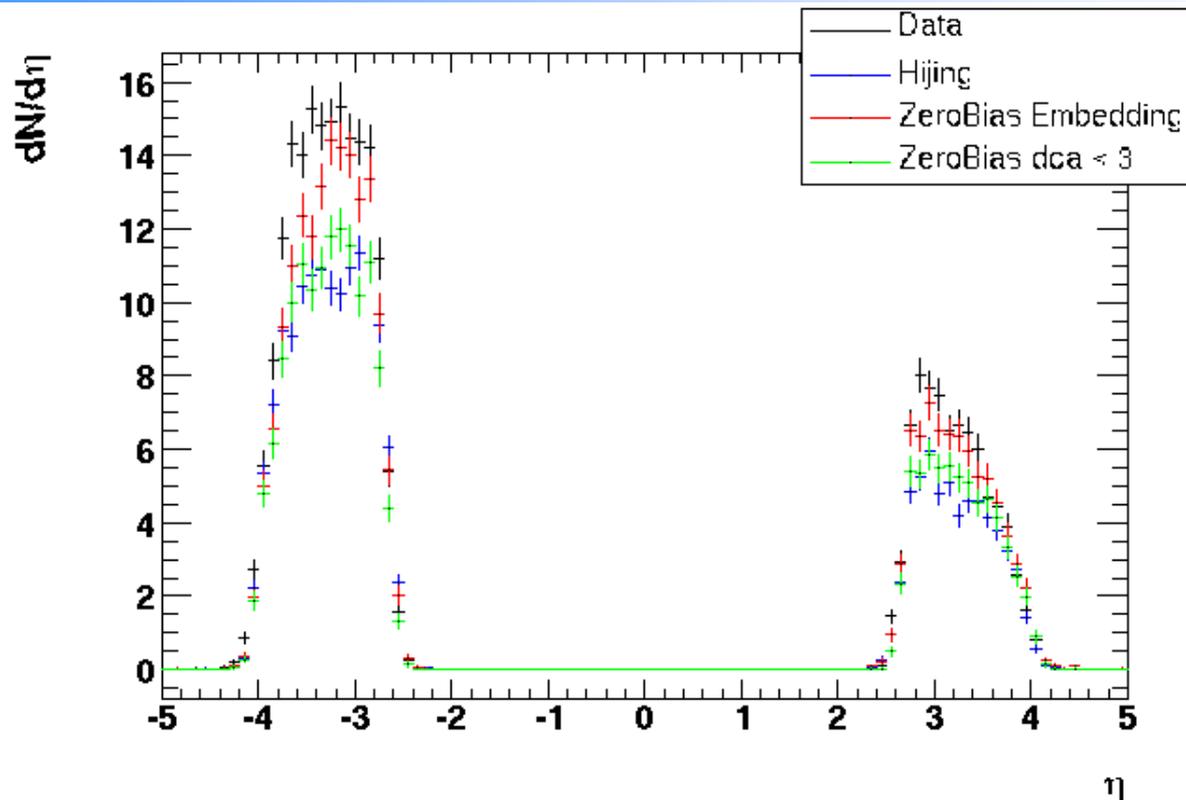


# What about Data?



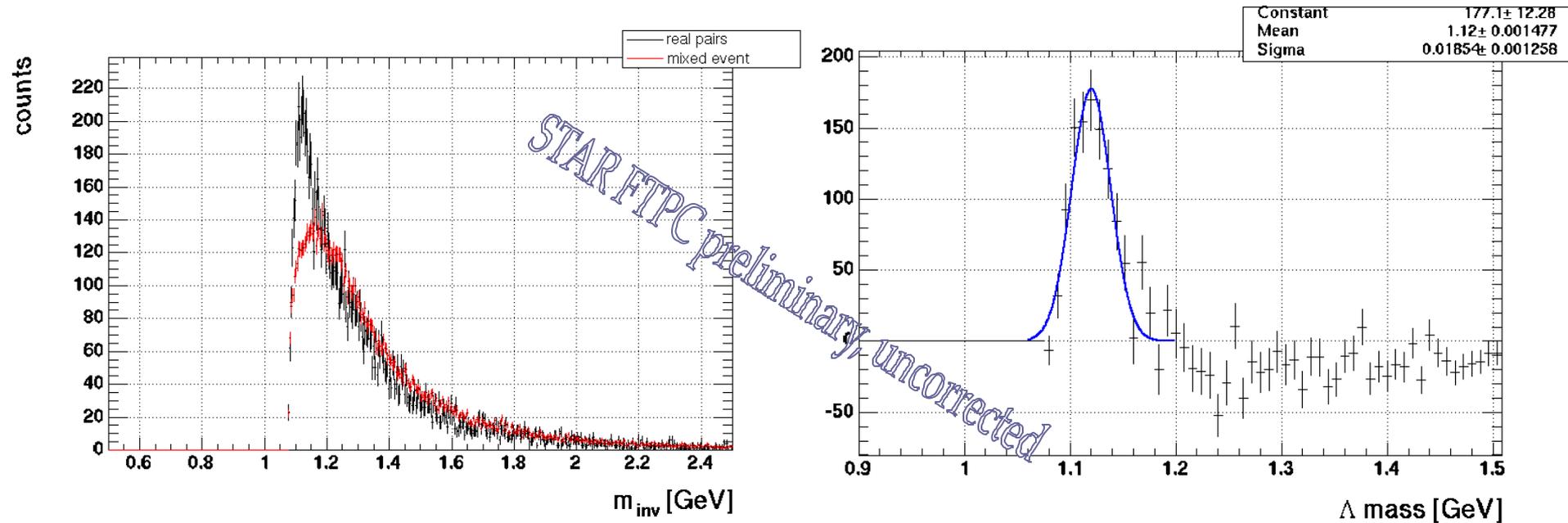
- dAu HIJING gives good description of overall multiplicity, but overestimates the contribution of single participant events

# First Look at Pileup in dAu



- Method: dAu HIJING embedding into zero bias events, so far low statistics, only test run
- DCA cut reduces pileup considerably, used for centrality definition

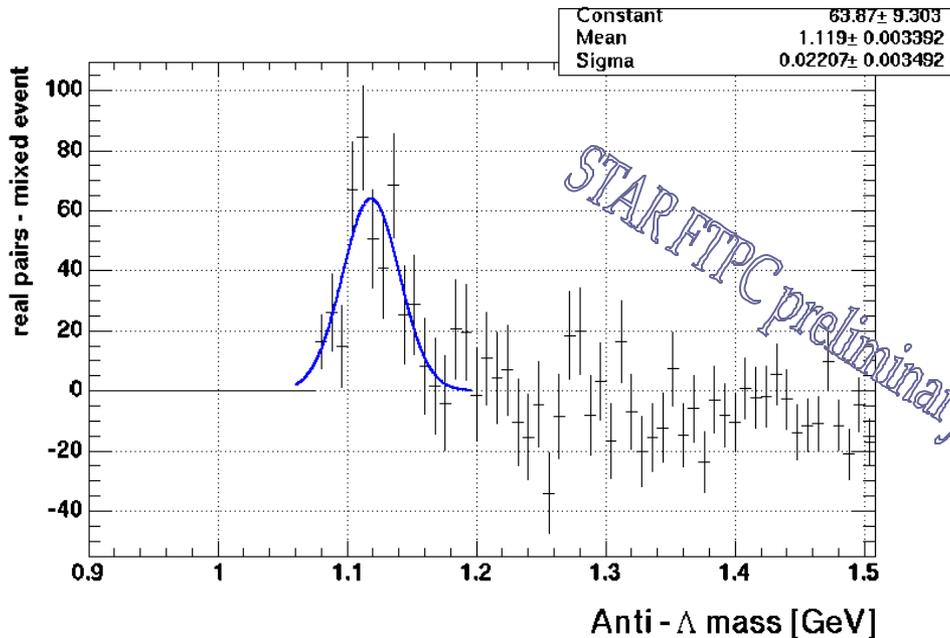
# Forward $\Lambda$ in dAu: Update



- $\Lambda$  (mass 1.116 GeV) decays 64% into  $p \pi$  ( $c\tau \sim 8$  cm)
- Topological cuts (track and V0 dca, pair dca, decay length)
- Mixed event background subtraction (HBT code)
- dAu minbias events ( $\sim 1.2$  M), FTPC west only



# Anti - $\Lambda$ / $\Lambda$ ratio at high $\eta$

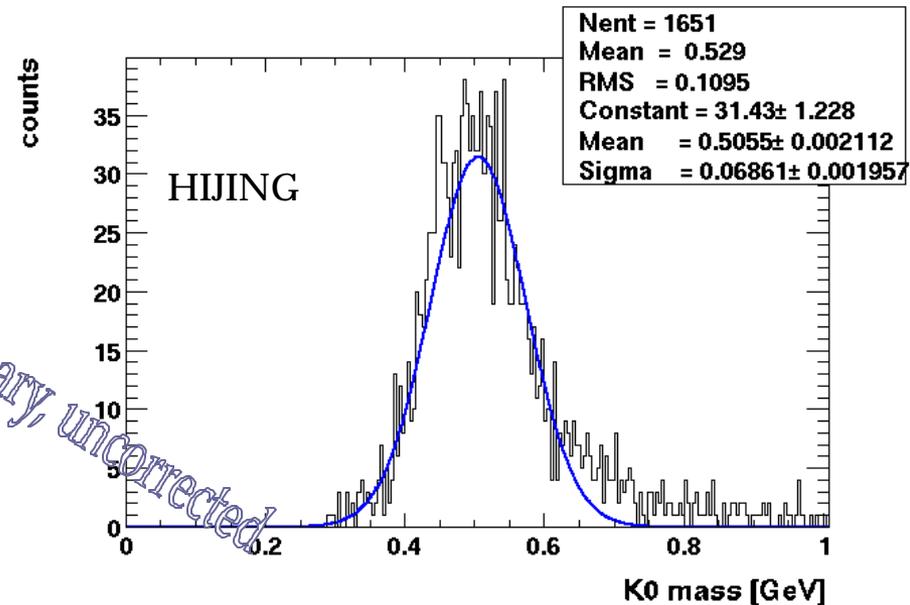
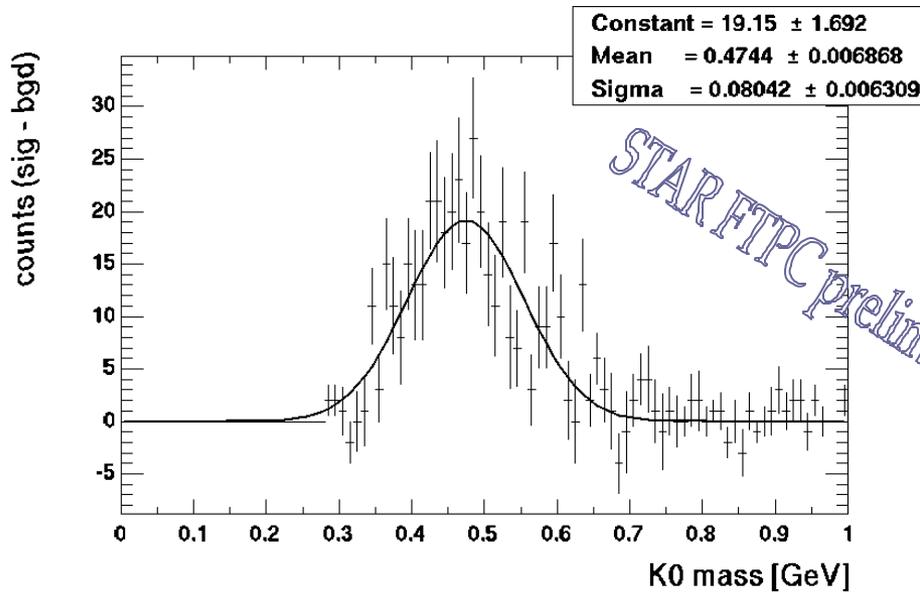


accepted events: 1.2 M  
 $\Lambda$ : 823  
Anti- $\Lambda$ : 372  
Anti- $\Lambda$  /  $\Lambda$  ratio: 0.45  
HIJING ratio: 0.46

- Anti- $\Lambda$  signal with mixed event background
- Ratio Anti- $\Lambda$ / $\Lambda$  affected by cuts: Different momentum distribution:  $\Lambda$   $\langle p \rangle = 8.7$  GeV, Anti- $\Lambda$   $\langle p \rangle = 7.9$  GeV from HIJING
- Not that far off from HIJING, but yields seem to be a factor of 2 low, and: Errors are huge!

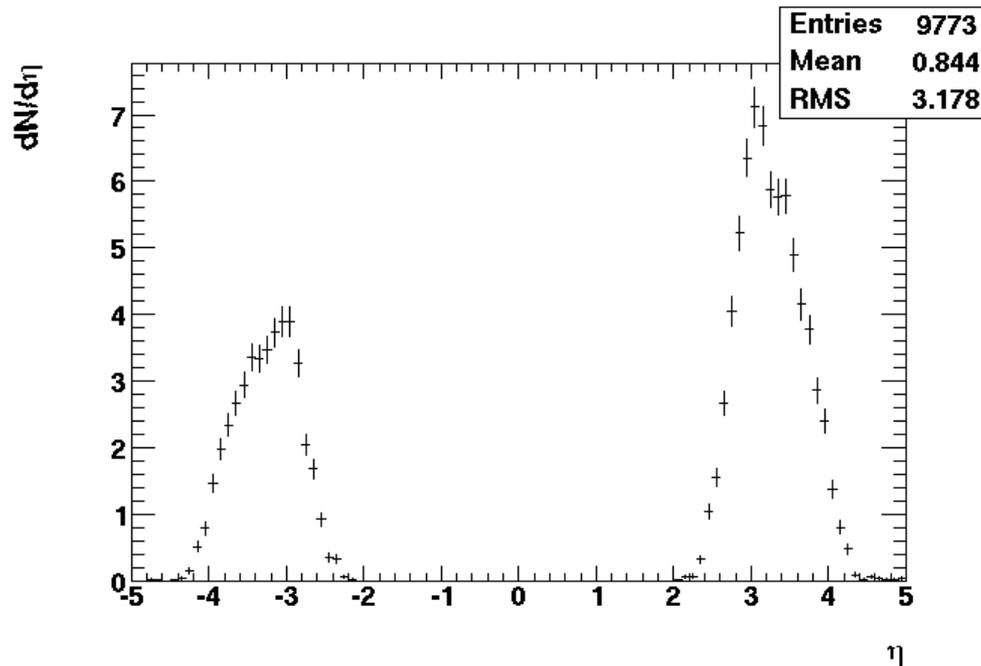


# First evidence of $K^0$



- Like sign background subtraction, tight cuts
- Very broad mass distribution, but this is expected from simulations (-> FTPC momentum resolution)

# What else? Some pp...



- First results from pp, using dAu preliminary calibration
- East multiplicity lower due to failed RDO board (reduces acceptance by 17%), additional electronic loss, trigger bias?
- Need manpower for calibration!



# Conclusion and Outlook

- Crucial role of FTPC in dAu analysis: STAR centrality definition via FTPC E multiplicity
- Physics analysis starting up: Spectra, Strangeness
- Reproduction with better calibration needed
- pp: We are in, but: Manpower for calibration needed!

