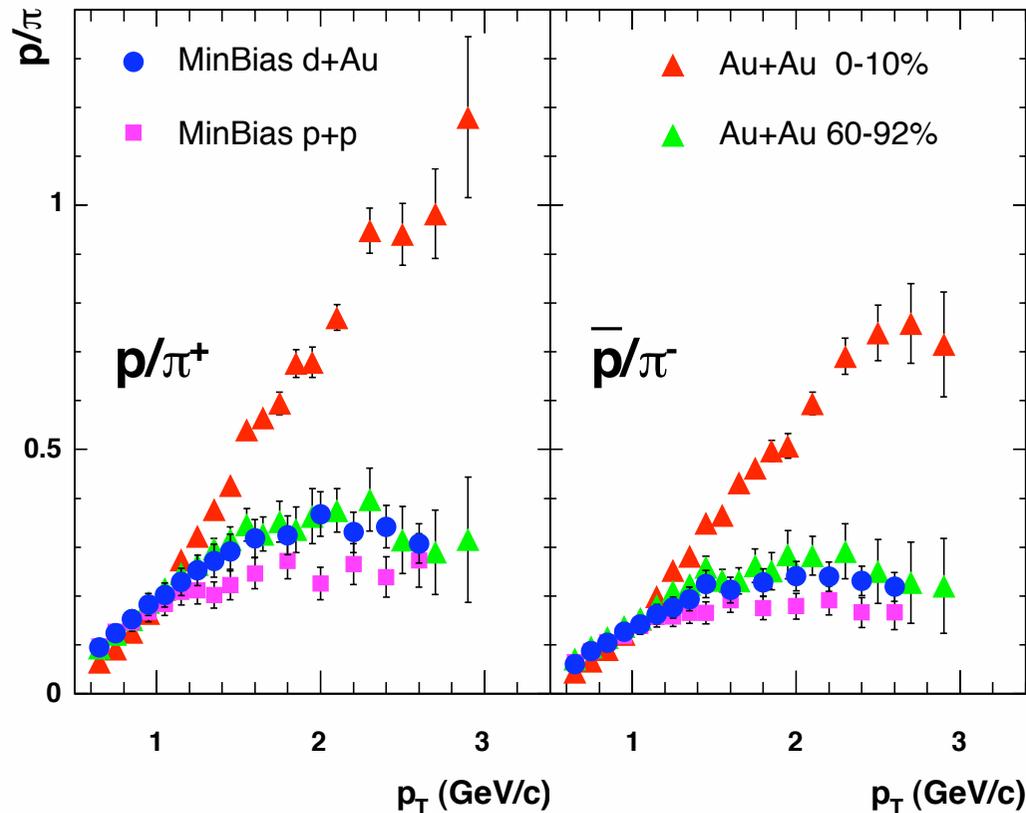


# Understanding the Baryon Excess

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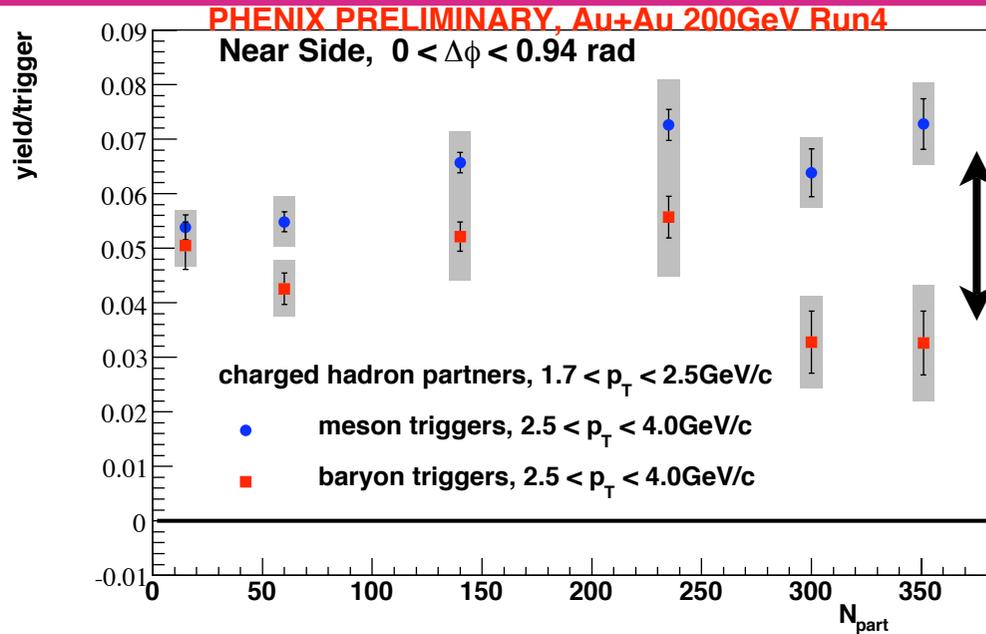


**PHENIX, nucl-ex/0603010**

- ▶ what causes the extra baryons?
  - ▶ hard parton scattering and modified jet fragmentation in the medium?
  - ▶ non-jet soft processes -- coalescence of quarks in high density environment?
- ▶ experimental handle: two-particle correlations in azimuthal angular distance ( $\Delta\Phi$ )
  - ▶ jets will produce correlations at  $\Delta\Phi$  near 0 and  $\pi$
  - ▶ count jet pairs per trigger
    - ▶ trigger comes from same  $p_T$  range as baryon excess

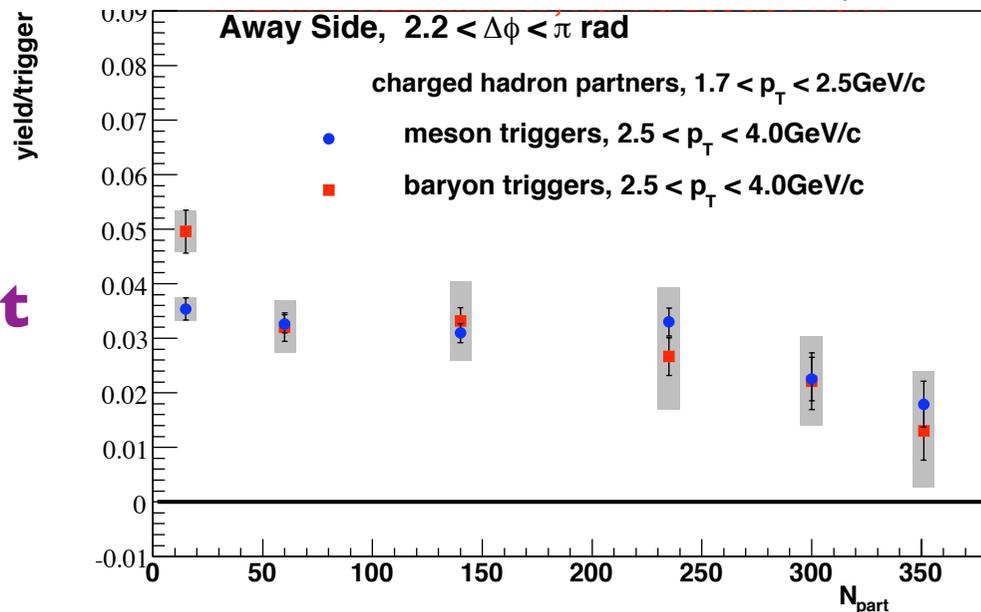
# do excess baryons come from jets?

near  
side jet



yes, but baryon  
trigger particles have  
 $\sim 2$ x less partners than  
meson triggers in  
central collisions

away  
side di-jet



di-jets from both  
trigger types show  
away side  
modification in  
central collisions

trigger:  $2.5 < p_T < 4.0$  GeV/c  
partner:  $1.7 < p_T < 2.5$  GeV/c

# conclusions

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- ▶ jets interact with the medium at intermediate  $p_T$ 
  - ▶ not yet understood
  - ▶ further work involving more differential studies done
- ▶ also involved the HBD upgrade
- ▶ been with BNL group ~9 months
  - ▶ enjoy being part of a large local group
    - ▶ allows maximal participation in PHENIX
    - ▶ interaction with the many people around BNL