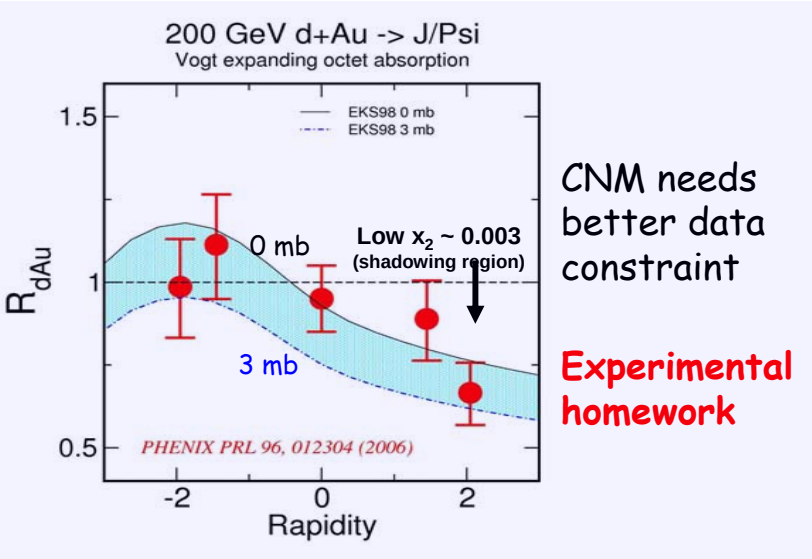
Summary – J/ψ Suppression
A puzzle of two (or more) ingredients

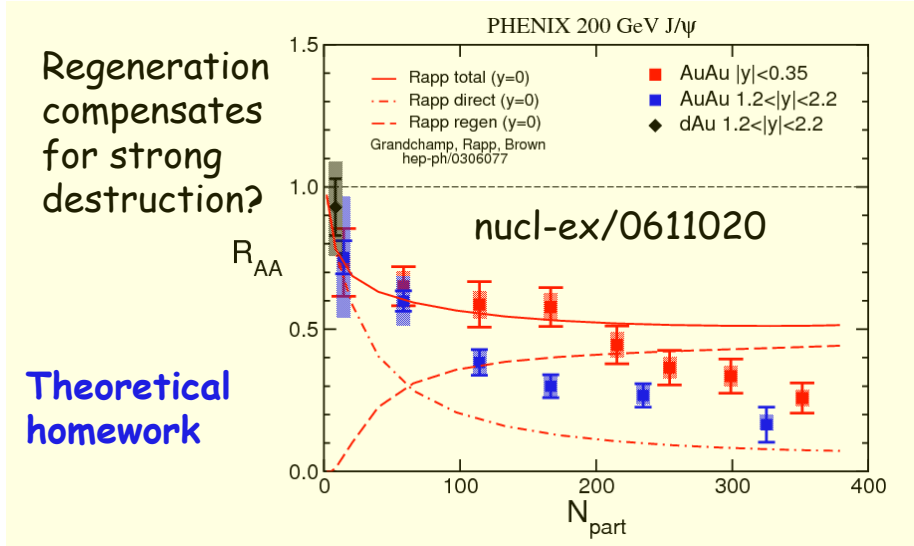
QM06 Plenary Talk
MJL Summary Slide



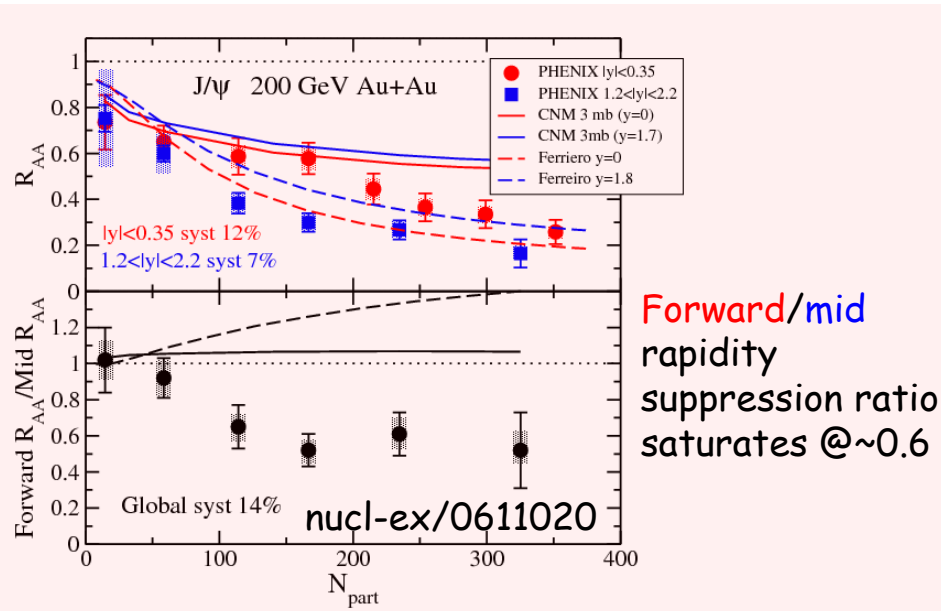
CNM needs better data constraint

Experimental homework

Regeneration compensates for strong destruction?



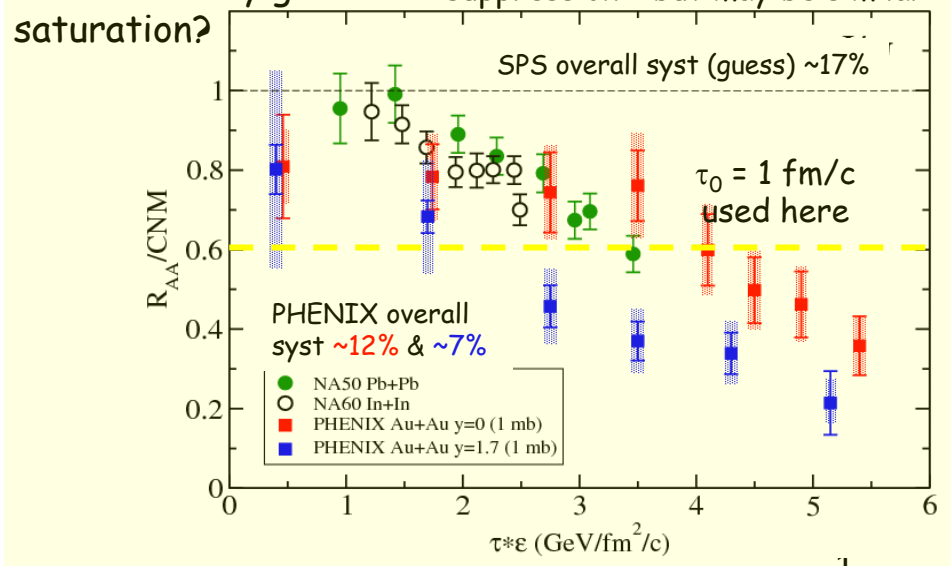
Theoretical homework



Forward/mid rapidity suppression ratio saturates @~0.6

Sequential screening and forward-y gluon saturation?

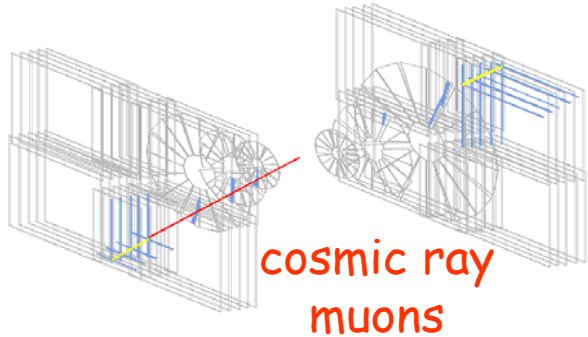
difficult to compare RHIC to SPS suppression – but may be similar

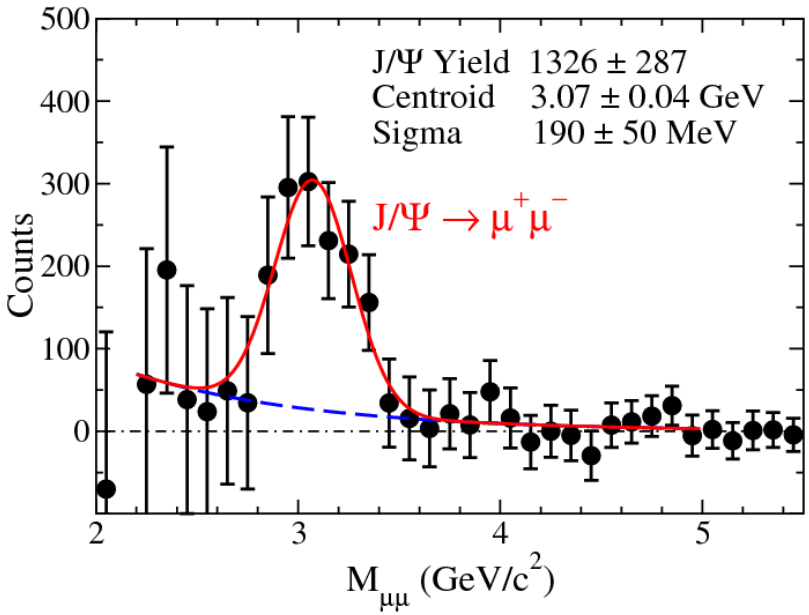


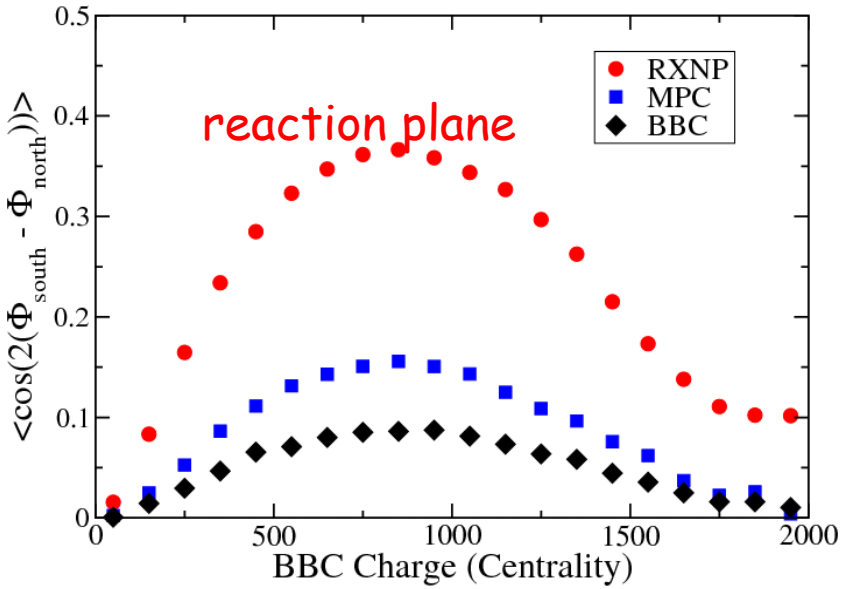
Mike Leitch, LANL
PHENIX Run7 Coordinator

5.12 Billion Min-bias events 813 μb^{-1}

~3.4 x Run4 (~1/3 of Run7+9 AuAu goal)



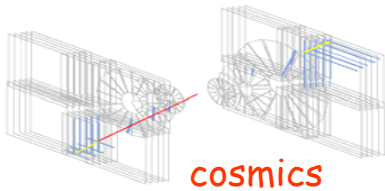


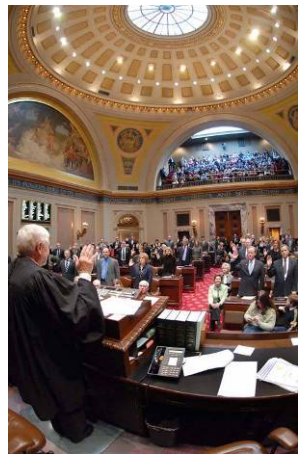


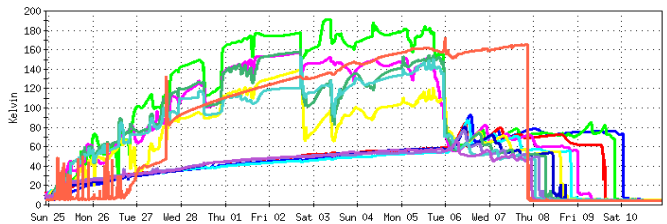
Above for ~8% of Run7 integrated luminosity (~16,000 $J/\psi \rightarrow \mu\mu$ for total luminosity)

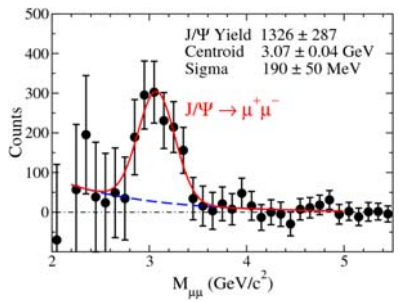
Run7 Chronology

- Originally hoped to start with Nov 1st cool-down and PHENIX planned for:
  - AuAu – 15 wks (1.1 nb-1), pp – 10 wks (32 pb-1)
- Delayed by continuing resolution & meager FY06 CR level
- But PHENIX started anyhow:
  - Cosmic rays starting Jan 9th
  - "Run7 is on" Feb 1st
  - Start of cool-down Feb 8th
  - Cryo problems Feb 24th
  - Rings cold & with beam Mar 13th
  - Start of Physics Mar 27th
- End of Run7 Jun 26th
- 13 wks of physics (Mar 27th – Jun 26th)



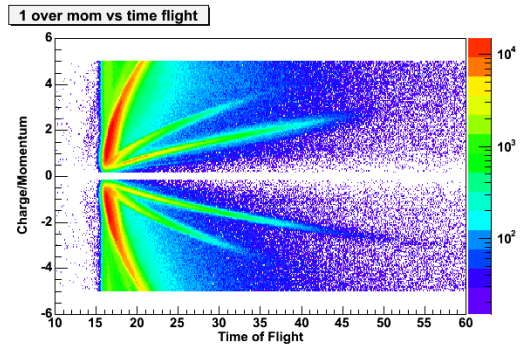


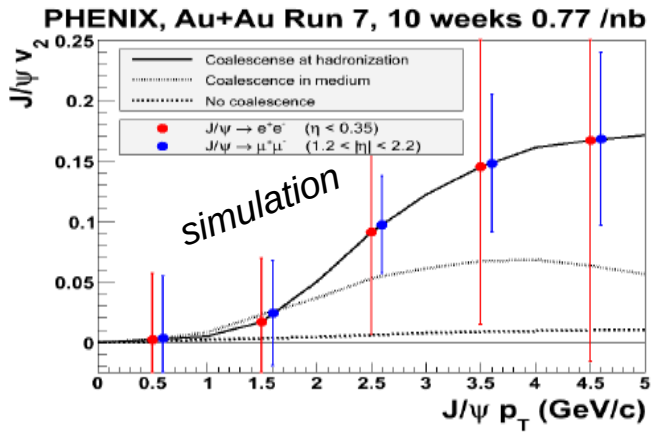


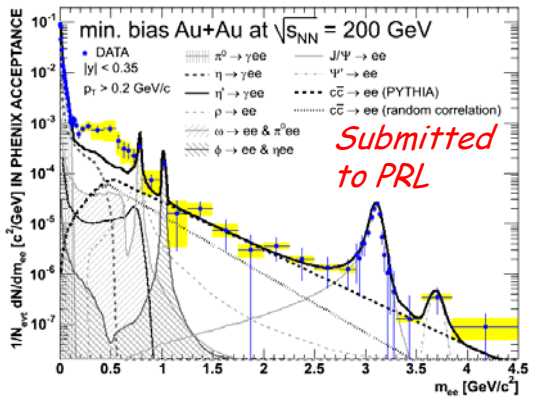


PHENIX Physics Goals for Run7

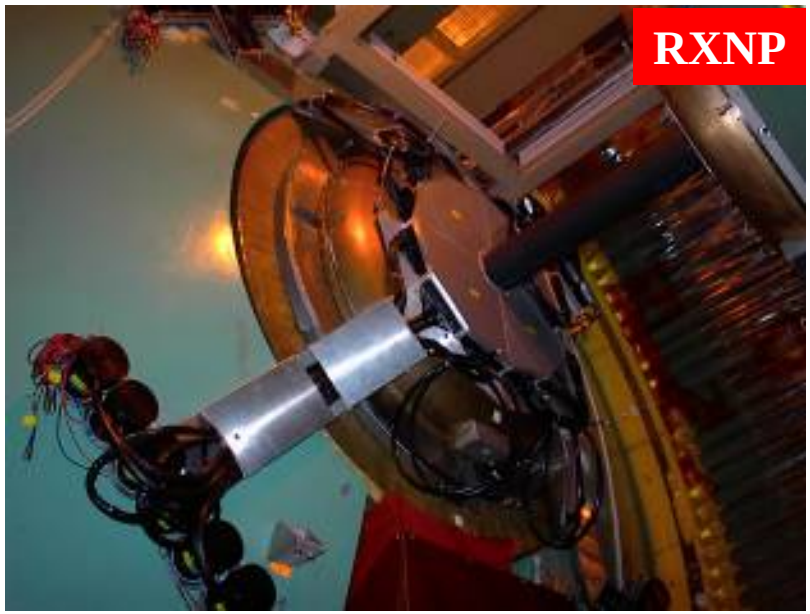
- Increase statistical & systematic precision of rare signals in AuAu, e.g. J/ψ, jet correlations, etc
- Increase reach in p_T, especially with PID from new TOF-West detector (p_T > 8 GeV/c)
  - Identified particle spectra
  - Identified leading particles in jets
- Factor of two or more improvement in Reaction Plane resolution - valuable to many signals
  - v_2 for J/ψ, γ - new
  - electrons, hadrons – extended
- Low-mass lepton pairs with the HBD

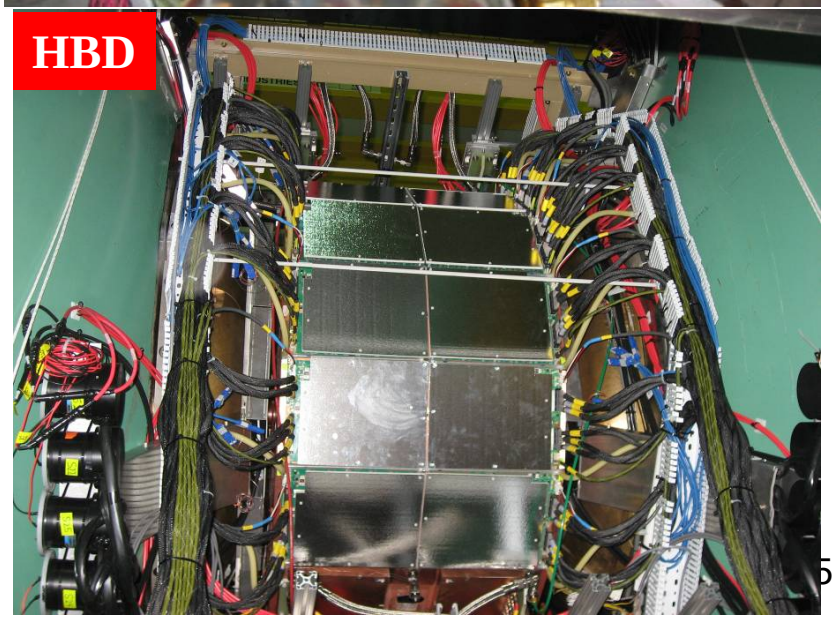




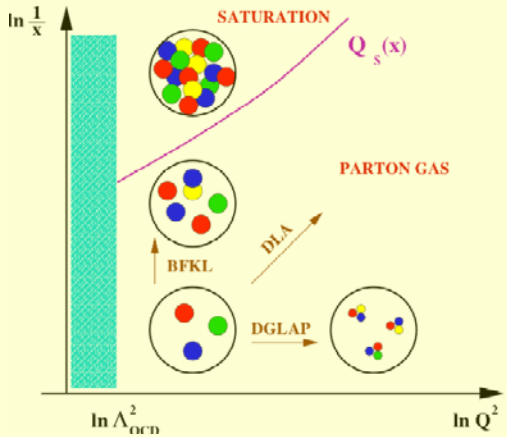


Four New Detector Subsystems for Run7

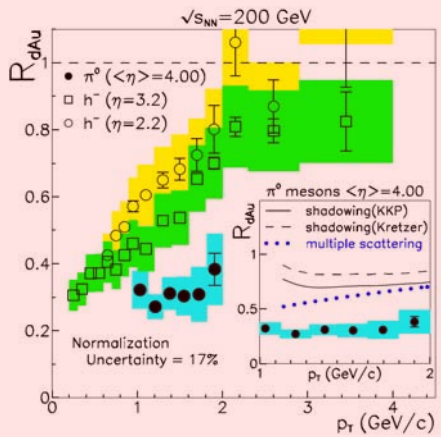


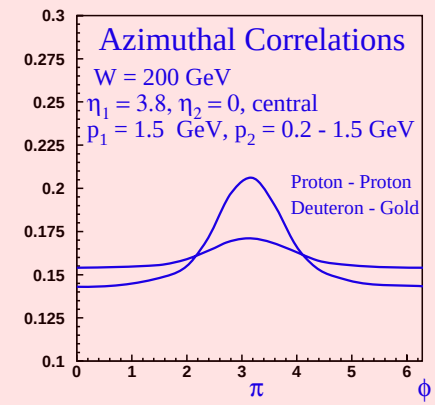


Summary - p+A and d+A Opportunities

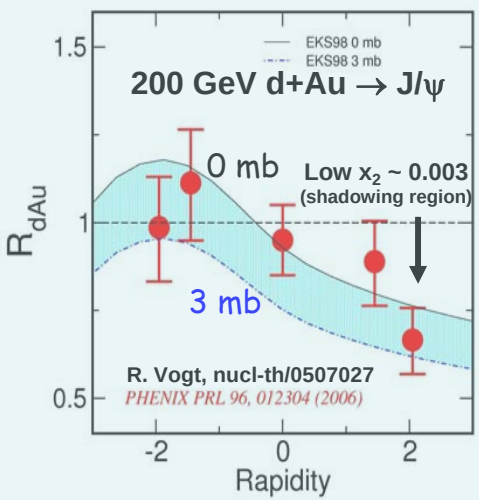


Is gluon saturation the source of forward-y (small-x) suppression?

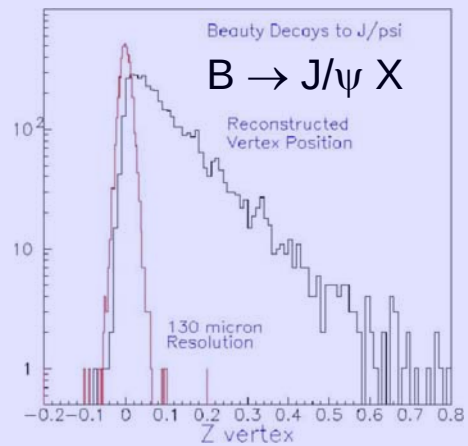




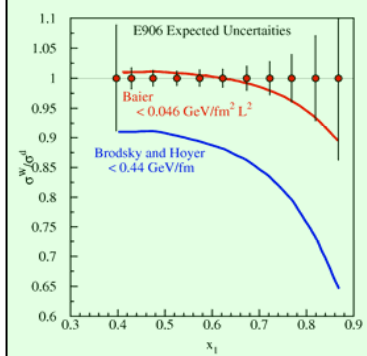
Forward hadron suppression.
Are there mono-jets?

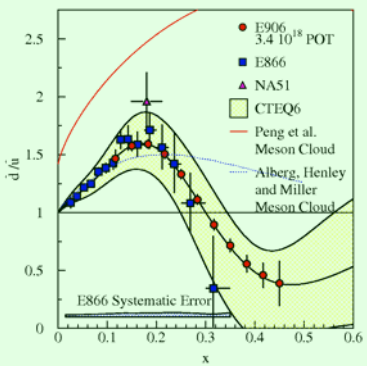


Solving the J/ψ CNM puzzle



Contrasting open-heavy with J/ψ & light hadrons; separating B's from D's





CNM dE/dx?
Source of the nucleon sea?