

# UC Davis – Activities and Interests

## Overview:

Faculty in Nuclear Physics: **Daniel Cebra** and **Manuel Calderon** (Ramona Vogt, adjunct)

Researcher Scientists and Postdocs in Nuclear Physics: none

Graduate Students involved in the EIC consortium → Sam Heppelmann (now resident at LBNL)

## Heavy Ion Experimental History:

EOS TPC (Bevalac)

E895 (AGS Heavy Ion Program)

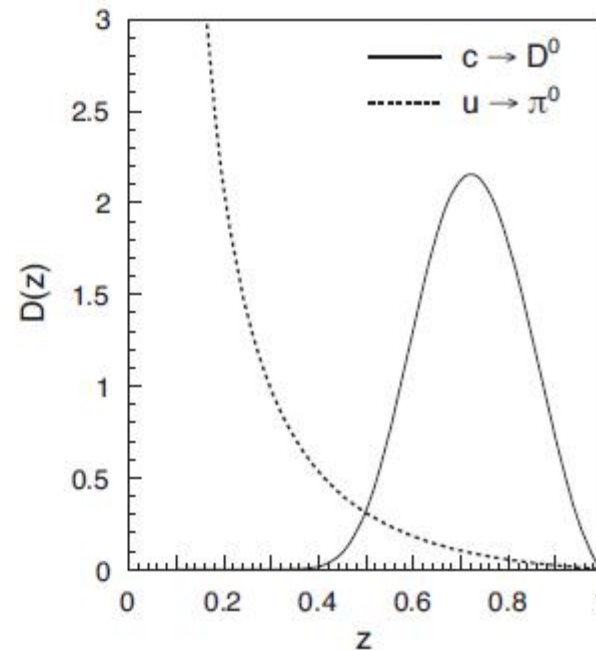
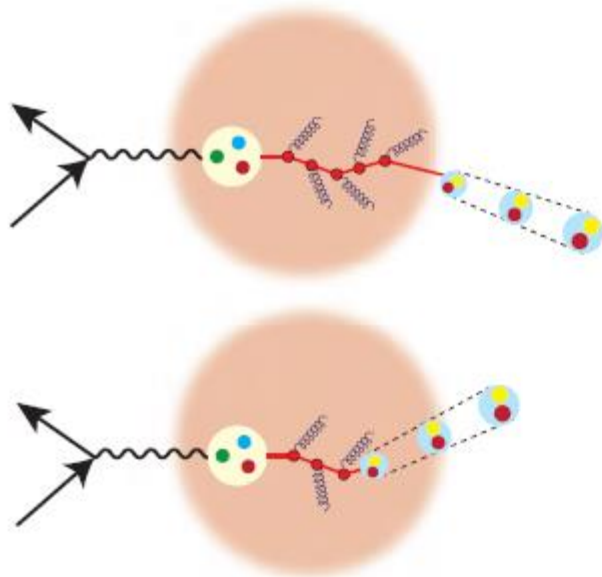
NA49 (SPS Heavy Ion Program)

STAR (RHIC Heavy Ion Program)

CMS (LHC Heavy Ion Program)

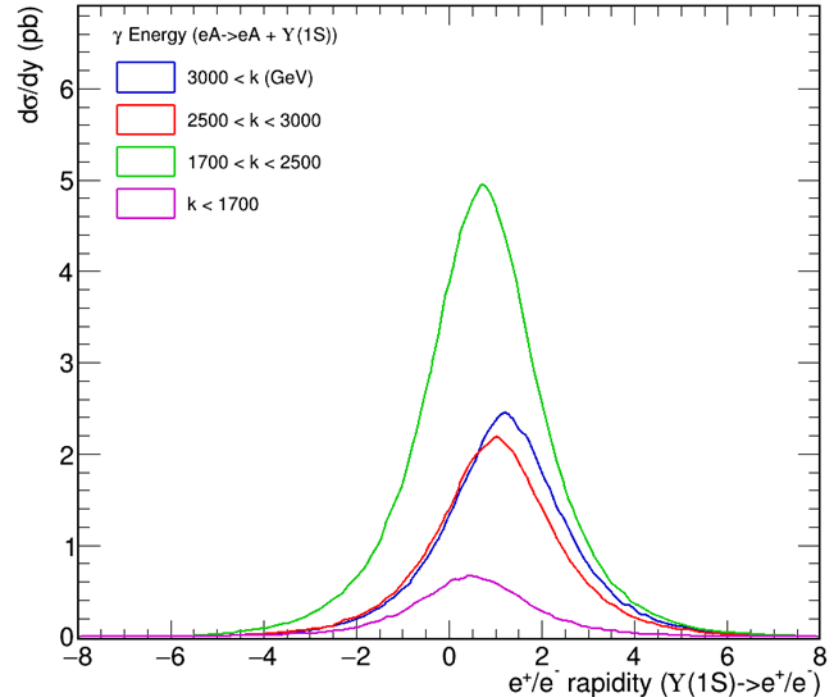
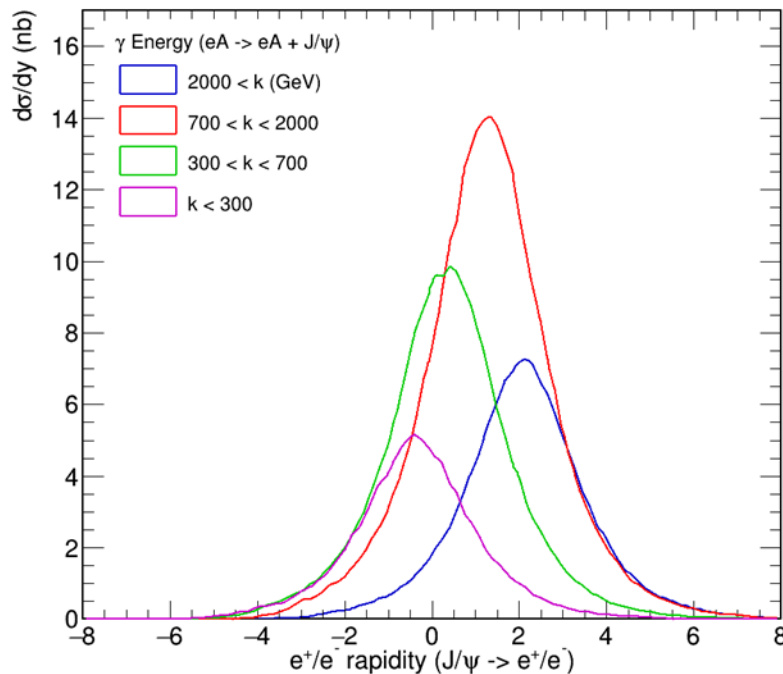
# UC Davis --- Physics Interests

- Heavy Flavor production in eA collisions → Primarily heavy flavor ( $J/\Psi$  and  $\Upsilon$ ) production
- Energy Loss in Cold Nuclear Matter
- Fragmentation and Hadronization



# UC Davis --- Activities

Sam Heppelmann has worked with Spencer Klein to learn how to run eSTARlight with the goal of getting an event generator to produce events with  $e+A \rightarrow e + A + Y(1s)$  and  $e+A \rightarrow e + A + J/\psi(1s)$ . (More plots in Spencer's talk)



# UC Davis --- Next Steps

- The next step is to evaluate relevant detector configurations to determine the efficiency for  $J/\Psi$  and  $Y$  reconstruction through the  $e^+e^-$  decay.
- Sam will be working with the UCB team to evaluate design for the silicon tracker versus a hybrid silicon and TPC tracker.
- Will also be interested in understanding if detector designs evolve in a manner in which UCDs technical capabilities could contribute

# UC Davis --- Summary

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- Physics interests in the EIC are developing, however primarily we see the EIC as a laboratory to refine and interpret the RHIC and LHC results specifically with respect to heavy flavor production.
- We have a talented senior grad student in place to contribute to the simulations and evaluations efforts.
- On a longer term, UCD is interested in evaluating our ability to make technical contributions.