Identification of Pions, Kaons, and Protons in Photonuclear Events at STAR

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In heavy ion collisions, a photonuclear event occurs when one ultrarelativistic nucleus emits a photon which collides with the other intact nucleus, similar to an $e+A$ collision except that the photon tends to have a much smaller virtuality. Comparing particle spectra from these $\gamma + A$ events to observations in $A + A$ collisions will allow us to distinguish between what effects come from nuclear structure and what effects are from the medium. These measurements are done at the STAR experiment for Au + Au data with $\sqrt{s_{NN}} = 54$ GeV and will show the π, K, and p spectra as a function of both p_T and η. Measurements of particle spectra in photonuclear events will help inform future measurements using particle identification at the EIC.

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