

Abstract Submitted  
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**Analysis of Neutral Rho Decays from Ultra-Peripheral Collisions in Deuteron-Gold Interactions** STEPHEN HANSEN, Creighton University, STAR COLLABORATION — This work will investigate the production of the neutral rho meson in ultra-peripheral collisions (UPCs) of deuteron and gold (dAu) nuclei. A UPC occurs when the impact parameter for the collision of two charged particles is greater than the sum of their radii. The resulting interaction is electromagnetic in nature. These nuclei are collided in the Solenoidal Tracker at RHIC (STAR), a particle detector at the Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory. I will present the kinematic variables of the produced rho mesons and compare them to Monte Carlo simulations. A ratio of rho production to direct pion production will also be presented. I will also show how Monte Carlo simulations can be used to determine the geometric acceptance and reconstruction efficiency and to help differentiate between coherent and incoherent production.

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