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Ultra-Peripheral Collisions with gold ions in STAR

Wednesday, April 13, 2016 10:00 AM (15 minutes)

In 2010 and 2011, the STAR Collaboration collected a large sample of triggers for ultra-peripheral collisions.In this talk, I will present several new results involving photonuclear interactions in ultra-peripheral relativistic heavy ion collisions (UPCs). I will present an analysis of 384,000 photoproduced pion pairs, coming from rho, omega and direct pion pair production.The omega component is clearly visible through its interference with the rho peak. Measurements of the relative amplitudes of the three components will be presented, along with the phase angle between the rho and omega components. The squared momentum transfer (t) spectrum shows coherent and incoherent components. The coherent component exhibits visible diffraction minima, characteristic of the gold target nucleus. The large data sample also allows us to explore higher mass final states.I will present measurements of J/psi photoproduction and of a high-mass dipion final state.

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