

# Interference in vector meson production in Au + Au Collisions at 200 GeV from STAR

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Photoproduction in Ultra Peripheral Collisions (UPCs) at the RHIC generates  $\rho$  mesons. This occurs when a photon from one nucleus fluctuates into a quark-antiquark pair and scatters off the second nucleus producing a vector meson. The  $t = pT^2$  spectrum of the produced  $\rho$  mesons, where  $t$  is the 4 momentum transfer squared, is sensitive to interference between the two possible production channels: the first nucleus emits a photon which scatters from the second nucleus, or vice versa. In this talk, the  $\frac{dN}{dt}$  spectrum for  $\rho^0$  production from the STAR detector will be presented. Correlations will be drawn between the degree of interference and the features of the spectrum. Systematic error studies will also be discussed.