

Abstract Submitted  
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**Phi Meson Photoproduction in Ultraperipheral Collisions at RHIC**<sup>1</sup> BARAK GRUBERG, Creighton University, STAR COLLABORATION<sup>2</sup>  
— We are studying ultraperipheral gold-gold collisions at 200 GeV/c collected with the STAR (Solenoidal Tracker at RHIC) detector. In these collisions, where the impact parameter is greater than twice the radius of the gold nuclei, the interactions are electromagnetic. We focus on  $\phi$  meson photoproduction through its decay channel into  $K^+$  and  $K^-$  mesons. Coherent photoproduction results in  $\phi$  mesons with transverse momentum less than 0.15 MeV/c. However, the decay products from these are not within STAR's acceptance.  $\phi$  mesons with momentum greater than 0.15 MeV/c, whose decay products are within STAR's acceptance, may come from incoherent photoproduction. We investigate the possibility of experimentally separating  $\phi$  mesons produced from incoherent photoproduction from those produced in hadronic interactions. We compare our data with STARlight, a Monte Carlo simulator of the physics of ultraperipheral collisions.

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