

Abstract Submitted  
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**Coulomb Corrections and Ion Finite Size Effects in  $\mu$  Pair Production at RHIC and LHC** ANTHONY BALTZ, Brookhaven National Laboratory — A higher order QED calculation of the ultraperipheral heavy ion cross section for  $\mu^+\mu^-$  pair production at RHIC and LHC is carried out. The so-called “Coulomb corrections” lead to an even greater percentage decrease of  $\mu^+\mu^-$  production from perturbation theory than the corresponding decrease for  $e^+e^-$  pair production. Unlike the  $e^+e^-$  case, the finite charge distribution of the ions (form factor) and the necessary subtraction of impact parameters with matter overlap are significant effects in calculating an observable ultraperipheral  $\mu^+\mu^-$  total cross section.

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