

UPC 2023: International workshop on the physics of Ultra Peripheral Collisions

Contribution ID: 19

Type: **not specified**

Lepton pair production in UPCs

Friday 15 December 2023 11:30 (30 minutes)

The coherent photons induced by relativistic heavy ions are highly linearly polarized, in close analogy to the linear polarization of gluons in a large nucleus. We proposed to measure the photon polarization through azimuthal asymmetries in dilepton production in ultraperipheral collisions. Our prediction for the asymmetries were soon confirmed by the STAR experiment with high precision. We refined our analysis recently by including the final state soft photon radiation effect beyond the double leading logarithm approximation. The azimuthal asymmetries and acoplanarity at relatively high transverse momentum provide unique opportunities to test the resummation formalism thanks to the extremely high photon flux in UPCs. Our results clearly show the feasibility to access the sub-leading resummation effects in UPCs at the RHIC and LHC.

Author: ZHOU, Yajin (Shandong University, China)

Presenter: ZHOU, Yajin (Shandong University, China)

Session Classification: Monte Carlo models

Track Classification: Session 5: EM and peripheral events