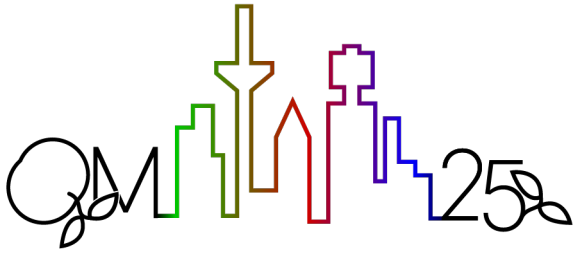

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Rho0 photoproduction in Ultraperipheral PbPb Collisions at 5.36 TeV with the CMS experiment

The coherently produced vector meson in ultraperipheral collisions (UPCs) at high energies serves as a powerful tool for probing the nuclear gluon density. We are studying the production cross section of ρ^0 mesons in PbPb UPCs at $\sqrt{s_{NN}}$ = 5.36 TeV, having an integrated luminosity of 1.68 μb^{-1}, with the CMS detector. The contributions from the continuum and the resonant part of the coherent production of pions will be shown. The differential cross-section $d\sigma/dy$ of ρ^0 is reported as a function of its rapidity for a wide window of $0 < |y| < 2.4$. The two-way ambiguity problem in such a symmetric Pb-Pb system is addressed by separating out the low and high energy photons using the neutron tagging mechanism. We will present the rapidity differential cross sections in these different forward neutron multiplicity classes and discuss its physics implications.

Category

Experiment

Collaboration (if applicable)

CMS

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