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Investigating electromagnetic dissociation in ultraperipheral heavy ion collisions within the QCD color dipole picture

In this work we analyze the vector meson photoproduction accompanied by electromagnetic dissociation (EMD) in ultraperipheral nucleus-nucleus collisions at the LHC and RHIC energies using the QCD color dipole formalism. An analytical dipole cross section is considered based on the double asymptotic scaling of the gluon distribution. It takes into account both the QCD evolution for small dipoles and gluon saturation for the large ones. The rapidity distributions for J/Psi and rho for coherent, 0n0n, 0nXn and XnXn neutron multiplicity classes are presented. In the numerical calculations the nOOn generator of forward neutrons for ultra-peripheral collisions has been used.

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