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First study of the initial gluonic fluctuations using UPCs with ALICE

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Incoherent J/ψ photoproduction is sensitive to fluctuations of the gluonic structure of the target. Thus, the measurement of J/ψ photoproduction off the colliding hadron sheds light on the initial state of QCD and provides important constraints on the initial conditions used in hydrodynamical models of heavy ion collisions. In this talk, we present the first measurement of the transverse momentum dependence of both coherent and incoherent J/ψ photoproduction in ultra-peripheral Pb-Pb collisions at mid-rapidity. These new results provide, for the first time, a clear indication of subnucleonic fluctuations of the lead target.

Category

Experiment

Collaboration (if applicable)

ALICE

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