

J/ψ photoproduction and polarization in peripheral Pb-Pb collisions with ALICE

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Ultrarelativistic heavy-ion collisions generate a powerful electromagnetic field that produces photonuclear reactions. Recently, coherent J/ψ photoproduction has been observed in nucleus–nucleus (A–A) collisions with nuclear overlap, based on the measurement of an excess of J/ψ production with respect to hadron-production expectations at very low p_T . In this context, a polarization measurement can confirm the electromagnetic origin of the very low p_T J/ψ yield excess, since the produced quarkonium is expected to inherit the transverse polarization of the incoming photon. ALICE can measure inclusive and exclusive quarkonium production down to $p_T = 0$. In this contribution, preliminary measurements of the y -differential cross section and the polarization analysis of coherently photoproduced J/ψ in peripheral Pb–Pb collisions will be presented together with recent results on coherent J/ψ photoproduction as a function of centrality. Comparison with models will be shown when available.

Category

Experiment

Collaboration

ALICE

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