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Charmonium production measurements in small systems at LHCb

Charmonium production in hadronic collisions is an important experimental observable that sheds light on the heavy quark interaction with the nuclear medium. While the bound quarkonium states undergo dissociation and recombination in PbPb collisions, in pPb collisions they can experience a combination of initial- and final-state effects such as shadowing and comover breakup. A full description of charmonia production from small to intermediate system is hence crucial to disentangle these from medium effects. LHCb recently measured the $\psi(2s)/J/\psi$ ratio as a function of multiplicity in pp collisions and forward and backward rapidities in pPb collisions. This measurement allows the study of small/large-x effects in the ratio and provides a better control of the time $\psi(2s)$ state spends along co-moving particles

Category

Experiment

Collaboration (if applicable)

LHCb

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