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Study of double charm hadron production in pPb collisions at 8.16 TeV with CMS

Multi parton interaction is an essential part of high energy heavy ion collision. In fact, the contribution of double parton scattering (DPS) in nuclear collision in the total charm cross section is significant in LHC energies. By studying double charm correlation, one can extract information about the contribution of DPS production. Also, the correlation from single scattering is used to better understand higher order contribution in initial $c\bar{c}$ production. In this study we present the double charm hadron production in pPb collision data, taken with the CMS detector in LHC run 2 pPb data. The study provides cross section and correlation studies of the double J/psi and D mesons. The results are compared with theories to explain both single $c\bar{c}$ pair production and DPS cross section in perturbative QCD framework.

Category

Experiment

Collaboration (if applicable)

CMS

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