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J/psi production as a function of charged particle multiplicity in ALICE at the LHC

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Details of charmonium production in hadronic collisions are still under active investigation in the scientific community. The event multiplicity dependence of J/psi production will give insight into the processes at the parton level. Multiple Parton Interactions (MPI) are thought to be a substantial source of hard scattering processes at LHC energies. Here, several inelastic scatterings occur at the partonic level in a single pp collision and lead to a strong correlation between particle production and the total event multiplicity. Therefore, MPI may contribute to charmonium production. The ALICE experiment has measured J/psi production as a function of charged particle multiplicity in pp collisions in the dimuon and the dielectron decay channels. A linear increase in J/psi production as a function of charged particle multiplicity is observed. Recently, ALICE has also performed similar kind of studies for pp collisions at √s = 13 TeV in the dielectron channel and also in p-Pb collisions at √sNN = 5.02 TeV in the dimuon channel. The results are compared with the perturbative Quantum Chromodynamics (pQCD) inspired models.

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