

Quarkonium production as a function of charged particles multiplicity in pp collisions measured by ALICE at the LHC

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In pp collisions at LHC energies, the production of heavy quarks proceeds dominantly from the hard scattering of two gluons. These quarks then hadronise in either open heavy-flavor hadrons or quarkonia (e.g. J/ψ , Υ). The study of quarkonium production as a function of the charged-particle multiplicity, therefore, naturally links soft and hard processes that occur in the collision and allows one to study their interplay. While a linear increase of quarkonium production as a function of the charged-particle multiplicity can be reasonably well understood in the context of multi-parton interactions, the observation of deviations with respect to a linear increase requires a more detailed description of the collision and the inclusion of additional mechanisms such as collective effects, color reconnection or percolation.

In this contribution, we will present the production of quarkonia as a function of the charged-particle multiplicity measured by ALICE in pp collisions at $\sqrt{s}=13$ TeV. These results will be compared to corresponding measurements performed for D mesons, as well as to model calculations.

Type

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