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Quarkonium production in pp collisions at $\sqrt{s}$=13.6 TeV with ALICE

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Quarkonia are bound states of a heavy quark and an antiquark of the same flavor. In pp collisions, such heavy quark masses require the quark pair to be produced in high-energy scatterings of partons in the colliding protons; once the quark and the antiquark are created, their binding into quarkonium states involves large spatial separations and low momentum scales. The whole production mechanism of quarkonia can therefore be factorized into two parts: the creation of the quark pair, which can be dealt with using a perturbative approach, and the binding of quarks into quarkonia, which is a high-coupling, intrinsically non-perturbative process. Precise measurements of quarkonium production cross sections in pp collisions are essential for enhancing the understanding of charmonium production mechanisms and for testing various theoretical models. Along with probing two different QCD regimes, these measurements provide fundamental benchmarks for investigating the properties of the quark-gluon plasma produced in nucleus-nucleus collisions and for evaluating cold nuclear-matter effects in proton-nucleus collisions. New ALICE measurement of quarkonia in pp collisions at $\sqrt{s}$=13.6 TeV will be presented.
The resonances are reconstructed via their dimuon and dielectron decay at forward and mid-rapidity, respectively.
Ratios of charmonia and bottomonia are discussed as a function of transverse momentum and are compared to the latest theoretical predictions.

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