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Open and hidden heavy-flavor production in small systems with ALICE

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Measurements of quarkonia and open-heavy flavor in hadronic collisions provide a unique testing ground for understanding quantum chromodynamics (QCD). Although recently there was significant progress, our understanding of hadronic collisions has been challenged by the observation in high-multiplicity proton-proton (pp) collisions of intriguing effects, such as collective phenomena.

The excellent particle identification, track and decay-vertex reconstruction capabilities of the ALICE experiment are exploited to measure quarkonia both at midrapidity and forward rapidity, as well as open-beauty hadron production at midrapidity, the latter accessed through different analyses strategies, some of them employing machine-learning techniques.

In this contribution, the first measurements of the elliptic flow (v_2) of J/ψ at high multiplicity as well as J/ψ pair production in pp collisions at $\sqrt{s} = 13$ TeV, will be shown. A comprehensive set of new measurements of quarkonium and open-beauty hadron production in pp and p-Pb collisions will also be discussed. Among the results, we will highlight the first measurement of non-prompt D^* polarization in pp collisions at 13 TeV, as well as the first measurement of non-prompt Λ_c in pp collisions and the latest measurements of b-tagged jets, non-prompt D mesons and non-prompt J/ψ in pp and p-Pb collisions, at different collision energies. Recently published inclusive quarkonium production cross sections at midrapidity and forward rapidity in pp collisions at 5 and 13 TeV will be presented as well. An overview of multiplicity dependent results in pp and p-Pb collisions, including the first analysis of non-prompt D meson fractions at midrapidity, ground and excited quarkonium states at forward rapidity, will be shown. The comparison of results with available models will also be discussed.

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