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Heavy-flavour correlations, jets and multiplicity dependent studies on heavy-flavour hadrons in small systems with ALICE

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In this contribution, the latest heavy-flavour results on the pp
and p–Pb data samples collected during the LHC Run 2 with ALICE at several center-of-mass energies will be presented.
A comprehensive study of the multiplicity dependent open heavy-flavour hadron production and quarkonium self-normalised yields in pp collisions at $\sqrt{s}$ = 13 TeV will be shown. Such measurements constitute a valuable tool to characterize Multi-Parton Interactions (MPI), as well as the interplay between hard and soft particle production mechanisms. In particular, these studies include ψ(2S) production at forward rapidity, while multiplicity dependent measurements at mid-rapidity will be discussed for D mesons, heavy-flavour decay electrons and inclusive J/ψ.
Moreover, the multiplicity dependent self-normalised yields of
heavy-flavour decay electrons at mid-rapidity, as well as v_2 measurements in high-multiplicity events for heavy-flavour decay muons at forward rapidity, will be discussed. Such studies aim to investigate possible collective effects in p—Pb collisions. In addition, measurements of heavy-flavor jet production and fragmentation and heavy-flavour correlations will be presented. These studies give direct access to the initial parton kinematics and allow us to characterize the heavy-quark fragmentation process, as well as to gain information on heavy-quark production mechanisms in pp collisions. Heavy-flavour jets studies are
extended to heavy-flavour hadron decay electrons and D-meson tagged charged jets measurements in pp and p–Pb collisions at $\sqrt{s} = 5.02$ and 13 TeV and $\sqrt{s_{\rm NN}} = 5.02$ TeV, respectively. The results of the jet-momentum fraction carried by the D meson at $\sqrt{s} = 5.02$ and 13 TeV and by the $\Lambda_{\rm c}$ baryon at $\sqrt{s} = 13$ TeV will be discussed as well. The angular correlations of D-mesons and charged particles in pp and p–Pb collisions at $\sqrt{s_{\rm NN}} = 5.02$ TeV will be shown and comparison with model calculations will be discussed.

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Secondary track (number)

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