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Heavy-flavour production as a function of event activity in pp collisions with the ALICE experiment

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Due to their large masses, the production of heavy quarks can be perturbatively computed, thus providing a powerful tool to test the corresponding QCD calculations. Additionally, heavy-flavour measurements are useful to reveal the details of heavy-quark fragmentation in pp collisions at LHC energies. Event-activity-dependent measurements of heavy-flavour production may shed light on the mechanisms of interplay between soft and hard processes such as the role of multi-parton interactions. The excellent tracking and vertexing capabilities of the ALICE detector, as well as its particle identification performance over a wide momentum interval, enable accurate measurement and identification of heavy-flavour particles down to low transverse momenta via reconstruction of their hadronic decay channels.

In this contribution, we present recent measurements of the ALICE experiment on charm production as a function of charged-particle multiplicity in pp collisions at various energies, including measurements of the charm baryon-to-meson production yield ratios. New results of D^0 production as a function of the transverse sphericity of the event, as well as of the transverse event-activity classifier R_T , are also presented.

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