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Heavy-flavour production in proton-proton collisions with the ALICE experiment

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The production of heavy-flavour hadrons in high-energy hadronic collisions is a unique source of information on various aspects of quantum chromodynamics (QCD). Due to their large masses, heavy quarks are produced almost exclusively in initial hard partonic scatterings and survive up to the later stages of the collision. Unexpected collective-like behaviours of heavy and light flavour particles have been observed in small systems, in events with high final state multiplicity, that are similar to collectivity in heavy-ion collisions where the quark-gluon plasma (QGP) is formed. Recent studies attribute this behaviour to semi-hard vacuum QCD effects such as of Multiple-Parton Interactions (MPI).

In this talk, we will present recent ALICE results of inclusive and multiplicity dependent production of heavy-flavour particles in pp collisions. Besides providing a reference for nuclear modification of heavy-ion collisions, these results give insight into the semi-hard QCD effects mentioned above.

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