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ALICE results on heavy-flavour production at the LHC

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In ultra-relativistic heavy-ion collisions, heavy quarks, i.e. charm and beauty, are of particular interest, since they are produced in the early stage of the reaction and coexist with the surrounding medium. Therefore the measurement of open heavy-flavour production in Pb-Pb collisions at the LHC gives access to the mechanisms of heavy-quark transport and energy loss in hot and dense QCD matter. The ALICE apparatus allows us to measure heavy-flavour particles down to low transverse momentum, using hadronic and electronic final states at central rapidity and muonic final states at forward rapidity. We first present results in pp collisions at centre-of-mass energies of 2.76 and 7 TeV. These measurements provide information on heavy-quark production at LHC energies and constitute the reference for heavy-ion studies. We focus then on the observation of the suppression and azimuthal anisotropy of heavy-flavour production in Pb-Pb collisions at 2.76 TeV.

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