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Heavy-flavour production in ALICE at the LHC

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Heavy quarks, charm and beauty, are excellent probes to investigate QCD processes in hadronic interactions, and to characterize the deconfined medium produced in high-energy heavy-ion collisions, the Quark-Gluon Plasma. They are produced dominantly through hard partonic scattering processes in the earliest stage of the hadronic collisions and thus they experience the whole history of the collision.

ALICE at the LHC is the experiment dedicated to study the physics of nucleus-nucleus collisions, and particularly the physics of heavy quarks. A selection of results from proton-proton, and from Pb-Pb collisions will be presented. Special attention will be given to semi-leptonic decays of heavy-flavor hadrons. In proton-proton collisions, the high precision measurements provide an important test of perturbative QCD predictions. Measurements in heavy-ion collisions provide information on the Quark-Gluon Plasma, via the energy loss of the heavy partons in the strongly interacting medium, and hints on the medium thermalization.