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Measurements of heavy-flavour production in pp and p-Pb collisions with ALICE at the LHC

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Heavy quarks (charm and beauty) are essential probes of the evolution of the medium created in heavy-ion collisions, because heavy-quark production in high-energy collisions occurs early compared to the formation time of the strongly-interacting partonic matter. To quantify medium effects in AA collisions, one needs to study pp collisions and p-A collisions as references. The measurements of heavy-flavour production in pp collisions can be also used to test pertubative QCD calculations of the production of heavy quarks with well controlled accuracy. Measurements in p-A collisions can be used to study cold nuclear matter effects, such as modifications to the parton densities in nuclei, kT broadening and energy loss in cold nuclear matter. In addition, heavy-flavour correlations in p-Pb collisions can be used to investigate a potential collective phenomena in such collisions. The ALICE detector is dedicated to the study of the strongly-interacting partonic medium, produced in heavy-ion collisions. Thanks to excellent tracking, vertexing and particle-identification capabilities provided by ALICE, we have been able to perform full reconstruction of hadronic D-meson decays at mid rapidity and measure electrons (muons) from semi- leptonic heavy- flavour hadron decays at mid (forward/backward) rapidity. In this talk, we present the results of heavy-flavour production in pp and p-Pb collisions, and the azimuthal correlation between heavy-flavour decay electrons and hadrons in p-Pb collisions.

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