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Studies of Λ_c production in pp and p-Pb collisions with ALICE at the LHC

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A Large Ion Collider Experiment (ALICE) was designed for the study of the strongly interacting medium created in heavy-ion collisions at LHC energies, the Quark-Gluon Plasma. Heavy quarks (charm and beauty) are very powerful probes to study this state of matter, since they are produced in the early stages of heavy-ion collisions and they traverse the QCD medium interacting with its constituents. Together with charmed mesons, the measurement of Λ_c in Pb-Pb collisions would address the baryon over meson enhancement in the heavy-quark sector, giving an insight into the hadronization mechanisms. The measurements of the Λ_c production in pp and p-Pb collisions provide the necessary baseline to understand the heavy-ion collision results and to measure the total charm cross section. In this poster we will present the status of the charmed baryon Λ_c analyses in pp collisions at $\sqrt{s} = 7$ TeV and p-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV, via the reconstruction of the decay channels $\Lambda_c \rightarrow pK\pi$ and $\Lambda_c \rightarrow pK0S$. Furthermore, we will discuss the perspectives for future measurements of Λ_c . In particular, with the ITS upgrade (after the second long LHC shutdown) which will improve the track impact parameter resolution, the tracking efficiency and the pT resolution, the Λ_c could be measured for the first time in Pb-Pb collisions.

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