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Studies of Λc 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 Λc 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 Λc 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 Λc analyses in pp collisions at √s = 7 TeV and p-Pb collisions at √sNN = 5.02 TeV, via the reconstruction of the decay channels Λc → pKπ and Λc → pK0S. Furthermore, we will discuss the perspectives for future measurements of Λc. 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 Λc could be measured for the first time in Pb-Pb collisions.

Primary author: MENINNO, Elisa (Unversity of Salerno and INFN)

Presenter: MENINNO, Elisa (Unversity of Salerno and INFN)

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