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Open charm via D mesons using the ALICE detector at CERN-LHC

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Charm and bottom quarks have been proposed as probes to study hot quark matter produced in high-energy heavy-ion collisions. The detailed understanding of the charm cross-section in proton-proton collisions as well as the production mechanisms is of considerable interest as QCD test tool and as reference calibration for heavy-ion studies. Measurements of D mesons yield in minimum bias proton-proton collisions can be used to extract the charm cross-section. In this contribution we present latest results on performance studies of the reconstruction of D_0 , D and D^+ mesons in proton-proton collisions at $\sqrt{s} = 7$ TeV using the ALICE central detector. The D_0 meson is reconstructed through the hadronic channel $D_0 \rightarrow K\pi^+$ while the D meson is reconstructed through the hadronic decay sequence $D^{*+} \rightarrow D_0\pi^+$ and $D_0 \rightarrow K\pi^+$ (and their charge conjugate channels). The D^+ is reconstructed through the channel $D^+ \rightarrow K\pi^+\pi^+$. A preliminary discussion on possible sources of systematic is done.

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