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## Open-charm meson measurements in pp and Pb-Pb collisions at central rapidity with ALICE

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Heavy quarks (charm and beauty) are interesting probes for the study of the properties of the hot and dense matter created in ultra-relativistic heavy-ion collisions, known as the Quark-Gluon Plasma. Indeed, being mainly produced at the early stage of the collision, they experience the whole collision history. For this purpose, the production of several heavy-flavour mesons,  $D^0$ ,  $D^+$ ,  $D^{*+}$  and  $D_s^+$ , has been measured by ALICE over a wide transverse momentum range. In this presentation, an overview of the main ALICE results on open-charm mesons at central rapidity will be given for pp and Pb-Pb collisions recorded at LHC Run I energies. Recent measurements of the nuclear modification factor and elliptic flow will be presented and will be compared with theoretical model predictions. An emphasis will be put on the discussion on the theoretical predictions of  $D_s^+$  with respect to other D mesons. Finally, prospects for future open-charm studies will be discussed.

### Summary

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