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Analysis of heavy-flavour particles in ALICE with the O2 analysis framework

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Precise measurements of heavy-flavour hadrons down to very low pT represent the core of the physics program of the upgraded ALICE experiment in Run 3.
These physics probes are characterised by a very small signal-to-background ratio requiring very large statistics of minimum-bias events.
In Run 3, ALICE is expected to collect up to 13 nbˆ{-1} of lead–lead collisions, corresponding to about 1e11 minimum-bias events.
In order to analyse this unprecedented amount of data, which is about 100 times larger than the statistics collected in Run 1 and Run 2, the ALICE collaboration is developing a complex analysis framework that aims at maximising the processing speed and data volume reduction.
In this paper, the strategy of reconstruction, selection, skimming, and analysis of heavy-flavour events for Run 3 will be presented.
Some preliminary results on the reconstruction of charm mesons and baryons will be shown and the prospects for future developments and optimisation discussed.

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