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## D-meson production as a function of transverse sphericity in pp collisions at $\sqrt{s} = 13$ TeV with ALICE

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Measurements of the production of heavy-flavour hadrons in proton-proton collisions provide the baseline for the observations of hot-medium effects in heavy-ion collisions, as well as tests of perturbative QCD calculations. Moreover, measurement of charm-hadron production in hadronic collision systems allow investigating the charm-quark hadronization mechanisms.

Measurements based on event shape observables allow isolating events according to their topologies, dominated by soft and hard processes. They provide information about the energy distribution in an event and provide tools to study the perturbative as well as non-perturbative aspects of the QCD. The event shape observables permit to isolate jetty-like (high- $p_T$  jets) and isotropic (partonic scattering with low  $Q^2$ ) events.

In this contribution, recent results on open-charm meson production measured by the ALICE Collaboration in pp collisions at  $\sqrt{s} = 13$  TeV from the Run 2 of the LHC will be presented. Measurements of the averaged self-normalized yield as a function of transverse sphericity ( $S_{\{0\}}$ ) at midrapidity for  $D^{*++}$ ,  $D^+$  and  $D^0$  mesons will be shown. The self-normalized yield will be calculated in different multiplicity, transverse sphericity and  $p_T$  intervals. In addition, comparison with measurements performed at  $\sqrt{s} = 7$  TeV will be shown and comparison with models will be discussed.

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