

Heavy-flavour production in heavy-ion collisions at the ALICE experiment

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Heavy-flavour (beauty and charm) quarks are produced almost exclusively in initial hard processes, and their yields remain largely unchanged throughout a heavy-ion reaction. Nevertheless, they interact with the nuclear matter in all the stages of its evolution. Thus, heavy quarks serve as ideal self-generated penetrating probes of the strongly interacting Quark-Gluon Plasma (QGP). Complementary measurements of the nuclear modification factor R_{AA} and the azimuthal anisotropy parameter v_2 , compared to different model calculations, reveal the properties of heavy quark transport, provide information about energy loss mechanisms and also about the participation of heavy quarks in the collective motion within the QGP. Recent R_{AA} and v_2 measurements of D mesons and heavy-flavour hadron decay electrons at mid-rapidity, as well as heavy-flavour hadron decay muons at forward rapidity, will be overviewed in this talk, including Pb-Pb collisions at $\sqrt{s_{NN}}=2.76$ TeV and new preliminary results at $\sqrt{s}=5.02$ TeV from the Run-2 phase.

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