

## Open heavy-flavour production in heavy-ion collisions with ALICE at the LHC

The LHC heavy-ion physics program aims at investigating the properties of QCD matter at high temperature and energy density, where a deconfined partonic state of matter called Quark-Gluon Plasma (QGP) is formed. Measurements of open heavy-flavour production in ultra-relativistic nucleus-nucleus collisions are expected to provide essential information about the QGP properties since heavy quarks interact strongly with the medium throughout its evolution.

The nuclear modification factor ( $R_{AA}$ ) is a key observable of the parton energy loss in the medium. Elliptic flow ( $v_2$ ) is sensitive to the degree of thermalisation of the quarks and to the path-length dependence of energy loss at low and high transverse momentum, respectively.

Proton-ion collisions are fundamental to disentangle hot and cold nuclear matter effects, like shadowing, transverse momentum broadening, energy loss. High precision data in pp collisions serve as crucial test for several competing models of hadro-production and provide the reference for the measurements in heavy-ion collisions.

In this talk a selection of the recent results on open heavy flavour obtained by ALICE during LHC-Run1 will be presented, focusing mainly

on Pb-Pb and p-Pb collisions. Measurements obtained from

LHC-Run2 in Pb-Pb data taking will be shown as well.

The comparison with theoretical calculations will also be discussed.

### I intend to submit my contribution for the proceedings

Yes

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