

## **Collective flow of open heavy flavour in heavy ion collisions at the LHC energies with CMS**

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The measurement of heavy flavour production and collective flow is a powerful tool to study the properties of the high-density QCD medium created in heavy-ion collisions as heavy quarks are sensitive to the transport properties of the medium and may interact with the QCD matter differently from light quarks. In particular, the comparison between the nuclear modification factors (RAA) of light- and heavy-flavour particles provides insights into the expected flavour dependence of in-medium parton energy loss. Furthermore, azimuthal anisotropy coefficient ( $v_n$ ) of heavy-flavor particles provide insights into the degree of the thermalization of the bulk medium at low  $p_T$ , and unique information about the path length dependence of heavy quark energy loss at high  $p_T$ . Using the large statistics heavy ion data samples collected during the 2015 and 2016 LHC runs, high precision open charm and beauty measurements are performed with the CMS detector in a wide transverse momentum range. This allows us to set an important milestone in our understanding of the interactions between heavy quarks and the medium. In this talk, the most recent results of  $v_2$  and  $v_3$  of  $D_0$  mesons in PbPb collisions at 5.02 TeV are presented and compared to the same results for charged hadrons at the same energy. Latest results on nuclear modification factor of  $D$  and  $B$  mesons in pPb and PbPb collisions are also presented.

### **List of tracks**

Hydrodynamics

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