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D meson v_n harmonics in PbPb collisions at 5.02 TeV with CMS

Because of their large mass, heavy quarks are produced primarily at early stages of heavy-ion collisions, and therefore experience the full evolution of the system and carry information about the extent of thermalization of the QGP. Azimuthal anisotropy parameters (v_n) of charm and bottom hadrons provide unique information about the path length dependent interactions between heavy quarks and the medium. At low p_T , the extent to which heavy quarks flow with the medium is a good measure of the interaction strength. At high p_T , the v_2 and v_3 values resulting from path length dependent energy loss mechanisms provide a powerful tool to study these mechanisms with respect to heavy quarks. With the large PbPb data sample at $\sqrt{s_{NN}}$ = 5.02 TeV collected by the CMS detector during the 2015 LHC run, azimuthal anisotropy v_2 and v_3 coefficients of D^0 mesons are measured over a wide p_T range and at different centralities. In this talk, results of D^0 meson v_n parameters are presented and compared to the charged hadron v_n results at the same energy and to theoretical calculations.

Preferred Track

Open Heavy Flavors

Collaboration

CMS

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