

Abstract Submitted
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Elliptic flow of prompt D^0 meson via multi-particle correlations in PbPb collisions at 5.02 TeV LIUYAO ZHANG, WEI LI, YOUSEN ZHANG, Rice University, CESAR BERNARDES, DENER SOUZA, Universidade Estadual Paulista, CMS COLLABORATION — Measurements of the flow harmonic v_2 of prompt D^0 and \bar{D}^0 mesons are presented via the hadronic decay channels $D^0 \rightarrow K^- \pi^+$ and $\bar{D}^0 \rightarrow K^+ \pi^-$ PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV per nucleon pair, using high statistics data sample collected by the CMS detector during the 2018 LHC Run. A four-particle cumulant technique is employed to measure D^0 v_2 for the first time in PbPb collisions. These results strength the evidence of collective phenomena in large hadronic collision systems. Furthermore, the specific variation of the $v_2\{4\}/v_2\{2\}$ ratios with respect to transverse momentum and centrality, which are compared to some theoretical predictions, is also studied in the context of heavy flavor.

Liuyao Zhang
Rice Univ

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