

Quark Matter 2019 - the XXVIIIth International Conference on Ultra-relativistic Nucleus-Nucleus Collisions



Contribution ID: 500

Type: Oral Presentation

Collectivity of heavy flavor hadrons in pp and pPb collisions with the CMS detector

Tuesday, 5 November 2019 08:40 (20 minutes)

Measurements of long-range, collective azimuthal correlations involving heavy-flavor quarks provide a powerful tool for unraveling the origin of the collectivity observed in small collision systems. In particular, these measurements are sensitive to the early stages of the collisions. As compared to those for light flavor hadrons, large azimuthal anisotropy signals have been observed by CMS for charm hadrons, including prompt D^0 and J/Ψ particles, in high multiplicity pPb collisions. With data collected by the CMS experiment at the LHC in 2016 and 2018, the multiplicity and transverse momentum dependence of the elliptic azimuthal anisotropy (v_2) of prompt D^0 meson in 8.16 TeV pPb and 13 TeV pp collisions are presented over wide rapidity ($|y| < 2$) ranges. The analysis is based on long-range, two-particle correlations. Results for nonprompt D^0 mesons from B meson decay are also presented to explore the possible collective flow of bottom quarks. These results provide key insights to the heavy quark collectivity developed in high-multiplicity pp and pPb systems.

Primary author: BATY FOR THE CMS COLLABORATION, Austin Alan (Rice University (US))

Presenter: BATY FOR THE CMS COLLABORATION, Austin Alan (Rice University (US))

Session Classification: Parallel Session - Small systems I

Track Classification: Small systems