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Type: Poster

Anisotropic flow in ultra-central Pb-Pb collisions at $\sqrt{s_{\text{NN}}} = 5.36$ TeV with ALICE

Anisotropic flow measurements in heavy-ion collisions are sensitive to the spatial distribution of the initial state, and QGP transport properties such as the shear viscosity to entropy density ratio (η/s). Hydrodynamic models successfully describe such flow measurements over a wide centrality range. However, the hydrodynamic description of anisotropic flow deviates from the data in ultra-central collisions. An octupole deformation of the $\{208\}\text{Pb}$ nuclei has been proposed as a remedy to improve the modeling of the measured $v_3\{2\}/v_2\{2\}$ ratio. Such a deformation should manifest in triangular flow fluctuations via measurements of the $v_3\{4\}/v_3\{2\}$ ratio.

In this poster, we present multi-particle elliptic flow measurements of the coefficient $v_n\{m\}$ in Pb-Pb collisions with LHC Run 3 data over the full centrality range. We will also present measurements from ultra-central collisions and discuss whether there is experimental evidence for an octupole deformation.

Category

Experiment

Collaboration (if applicable)

ALICE

Author: LIKMETA, Iris (University of Houston (US))

Presenter: LIKMETA, Iris (University of Houston (US))

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