

Strangeness in Quark Matter 2019



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Measurement of elliptic and triangular flow of light (anti-)nuclei with ALICE at the LHC

Thursday 13 June 2019 16:30 (20 minutes)

The measurement of the elliptic and the triangular flow of (anti-)nuclei is a powerful tool to have insight into the production mechanisms of particles in heavy-ion collisions.

Namely, it will help to distinguish between coalescence and hydrodynamic models.

The coalescence approach predicts light nuclei formation as the result of coalescence of nucleons which are close enough in the phase space, thus the elliptic and triangular flow are expected to scale with the number of constituent hadrons. On the other hand, if light nuclei are produced thermally at the phase boundary in heavy-ion collisions together with all the other hadrons, the evolution with transverse momentum of the elliptic and triangular flow can be describe by hydrodynamic models.

In this presentation, new results on the measurement of the elliptic and the triangular flow of deuteron and ³He produced in Pb–Pb collisions at $\sqrt{s_{NN}} = 5.05$ TeV will be presented and they will be compared to the lower energy results and to the expectations from coalescence and hydrodynamic models.

Collaboration name

ALICE Collaboration

Track

Hydrodynamics, chirality and vorticity

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