



Contribution ID: 261

Type: Poster

Measurement of (anti-)³He production in p–Pb collisions and of (anti-)³He elliptic flow in Pb–Pb collisions with ALICE at the LHC

Tuesday, May 15, 2018 7:10 PM (30 minutes)

The formation of light nuclei and their antiparticles in high-energy hadronic and heavy-ion collisions can be described by two phenomenological models: the statistical hadronization model and the coalescence approach. The former assumes that light nuclei, as well as other hadrons, are produced thermally at the phase boundary in heavy-ion collisions, while the latter describes the light nuclei formation as the result of coalescence of nucleons which are close in the phase space.

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In this poster, results on the production yields of (anti-)³He in p–Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV and elliptic flow measured in Pb–Pb collisions at $\sqrt{s_{NN}} = 2.76$ and $\sqrt{s_{NN}} = 5.02$ TeV for different centrality classes are presented.

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The attempt is to provide additional constraints to the coalescence model, thus contributing to an improved understanding of the process of formation of light nuclei in high-energy collisions. Integral part of this effort is the comparison of results in different collision systems such as p–Pb and Pb–Pb.

The measurement of the elliptic flow of (anti-)³He in Pb–Pb collisions complements the picture obtained from the elliptic flow measurements of (anti-)protons and (anti-)deuterons.

Content type

Experiment

Collaboration

ALICE

Centralised submission by Collaboration

Presenter name already specified

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Session Classification: Poster Session

Track Classification: Collective dynamics