Quark Matter 2023



Contribution ID: 380

Type: Oral

Measurements of (anti)(hyper)nuclei with ALICE

Wednesday 6 September 2023 08:50 (20 minutes)

The investigation of the production mechanism of light (anti)(hyper)nuclei in ultrarelativistic hadronic collisions is one of the main topics in modern nuclear physics. The ALICE Collaboration has significantly contributed to this specific field of research with systematic measurements of the production of (anti)(hyper)nuclei in different collision systems and centre-of-mass energies provided by the Large Hadron Collider. Measurements of the properties of hypernuclei, such as their lifetimes and binding energies, provide information on the hadronic interaction between hyperons and nucleons, which is complementary to that obtained from correlation measurements.

In this contribution, recent results on the production of (anti)(hyper)nuclei measured with ALICE during the LHC Run 2 in different collision systems will be presented. These results will be discussed within the context of the statistical hadronization model and baryon coalescence. For the first time, the observations of the (anti)hyperhydrogen-4 and (anti)hyperhelium-4 in Pb–Pb collisions at 5.02 TeV will be shown. Moreover, new results on (anti)(hyper)nuclei measurements obtained using the LHC Run 3 data will also be presented.

Category

Experiment

Collaboration (if applicable)

ALICE

Primary author:VOROBYEV, Ivan (CERN)Presenter:VOROBYEV, Ivan (CERN)Session Classification:Light Flavor

Track Classification: Light and strange flavor