LXX International conference "NUCLEUS –2020. Nuclear physics and elementary particle physics. Nuclear physics technologies"

Contribution ID: **277** Type: **Plenary report**

Latest results on (anti-)hypernuclei production at the LHC with ALICE

Wednesday 14 October 2020 12:45 (35 minutes)

Heavy-ion collision experiments offer a unique opportunity to study the production of (anti-)hyperon-baryons bound systems, called (anti-)hypernuclei. ALICE at the LHC measured the production of (anti-)hypertriton analyzing data collected in Pb-Pb collisions at the two center-of-mass energies of 5.02 and 2.76 TeV. The analysis was performed by exploiting the excellent particle identification performance of the ALICE detector, by measuring the energy loss of the charged tracks in the Time Projection Chamber. In addition, the Inner Tracking System was used to separate (anti-)hypertriton's weak decay daughters from primarily produced tracks through the precise determination of secondary vertices.
The results on (anti-)hypertriton production will be discussed and compared to model predictions, based on coalescence and statistical hadronization approaches, and to experimental results obtained at lower energies. The latest results of the (anti-)hypertriton lifetime measurement will be shown as well. Plans for the future LHC Run 3, scheduled to start in 2021, with the improvements in statistics and precision will be also presented.

Author: BORISSOV, Alexander (National Research Nuclear University MEPhI (RU))

Presenter: BORISSOV, Alexander (National Research Nuclear University MEPhI (RU))

Session Classification: Plenary

Track Classification: Section 1. Experimental and theoretical studies of the properties of atomic nuclei.