Contribution ID: **67** Type: **Oral**

Measurement of light (anti)nuclei production in jets with ALICE

Friday 5 September 2025 11:50 (20 minutes)

The mechanism responsible for (anti)nuclei production in ultrarelativistic hadronic collisions remains a subject of active scientific debate. Two leading frameworks, the statistical hadronisation model and the coalescence model, are commonly employed to interpret experimental data. In the coalescence scenario, multi-baryon states are produced when baryons that are close in phase space at kinetic freeze-out coalesce. Since jets emit nucleons in a highly collimated fashion, the restricted phase space is expected to favour the formation of nuclear states via coalescence within jets, resulting in an enhanced yield compared to the underlying event. In this contribution, measurements of the coalescence parameter B_2, which quantifies the likelihood of deuteron formation, are presented for both in-jet and out-of-jet regions in pp and p–Pb collisions. These results provide important new insights into nuclei production mechanisms in small collision systems, and are compared to theoretical predictions from the coalescence model.

Author: Dr KHUNTIA, ARVIND (INFN BOLOGNA)

Presenter: Dr KHUNTIA, ARVIND (INFN BOLOGNA)

Session Classification: Plenary Session