



Contribution ID: 493

Type: Poster

Light hypernuclei production in small collision systems with ALICE

Hypernuclei are objects composed of nucleons and hyperons. Measuring their properties and production provides insights into the force that binds strange hadrons to ordinary nucleons, which is poorly known. Additionally, measuring hypernuclei production in high-energy hadronic collisions offers a critical test for nucleosynthesis models, such as statistical hadronization and coalescence approaches. The difference between these two models is expected to be significant in pp and p-Pb collisions, as the wave function radii of the hypernuclei are larger than the size of the colliding systems. Therefore, the system size is crucial in yield determination within the two pictures. This contribution presents the new results on $A=3$ and $A=4$ hypernuclei measured in pp collisions collected by ALICE during the LHC Run 3. The results are consistent with the expectations from state-of-the-art coalescence models, warranting the comparison with measurements of heavier states. Finally, the first ALICE measurement of the hypertriton ${}^3_{\Lambda}\text{H}$ two-to-three body relative branching ratio is shown, providing an additional constraint to the ${}^3_{\Lambda}\text{H}$ properties.

Category

Experiment

Collaboration (if applicable)

ALICE

Authors: COLLABORATION, ALICE; REETZ, Carolina Anna (Heidelberg University (DE))

Presenter: REETZ, Carolina Anna (Heidelberg University (DE))

Session Classification: Poster session 2

Track Classification: Light and strange flavor physics & nuclei