

# Measurements of the hypertriton production and properties with ALICE

*Thursday, 8 June 2023 15:24 (18 minutes)*

The hypertriton is the lightest known hypernucleus composed of a proton, a neutron, and a  $\Lambda$  hyperon. This extremely loosely bound system has a radial extension of its wave function of about 10 fm. Measurements of its lifetime and binding energy provide information on the hadronic interaction between hyperons and nucleons which is complementary to that obtained from correlation measurements. Precise modeling of this interaction is a fundamental input for the calculation of the equation of state of high-density nuclear matter inside neutron stars. Moreover, given its large wave function, measurements of its production rate in small collision systems are useful to constrain nucleosynthesis models, such as the statistical hadronization model and baryon coalescence.

In this talk, the most precise measurements of the hypertriton lifetime and lambda separation energy performed by the ALICE Collaboration will be presented. These results will be discussed in the context of state-of-the-art calculations which describe the hypertriton internal structure.

Furthermore, recent results on hypertriton production in pp and p-Pb collisions will be presented and their implications for the available phenomenological models will be extensively discussed.

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**Session Classification:** Hypernuclei and kaonic atoms

**Track Classification:** Hypernuclei and kaonic atoms