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Insights in nuclei and hypernuclei production in Pb-Pb collisions with ALICE

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Nuclear collisions at LHC energies are a unique opportunity to study hadronization mechanisms and the possible formation of exotic states. The excellent capability of the ALICE experiment to identify hadrons in a wide momentum range represents a great advantage in detecting hypernuclei, nuclear and exotic QCD bound states originating from a medium of deconfined QCD matter.
The data collected so far allow to search for such states in several collision systems and energies, thus providing a closer look at hadronization mechanisms and strong force interaction among baryons. In particular, the study of the properties of multi-baryon
states containing hyperons gives information on the hyperon-nucleon interactions that is complementary to correlation measurements.
Furthermore, the future upgrade of the ALICE experiment, namely ALICE3, will enlarge the physics reach of nuclei, hypernuclei and exotica measurements, allowing for the detection of heavy hadrons and exotica containing charm and beauty quarks.
This contribution presents the experimental results on nuclei and hypernuclei measured by the ALICE collaboration together with searches for exotic bound states. The perspectives for new measurements after the upgrade of the experiment will also be provided.

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