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Type: **Poster**

Search for a Lambda nn bound state in Pb-Pb collisions with ALICE at the LHC

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The extreme energy densities reached at LHC lead to the production of a significant amount of baryons and strangeness. Such a regime allows for an increased production of potentially existing exotic QCD bound states containing nuclei and strange hadrons. An interesting measurement for the phenomenology of the nuclear interaction is the presence of a neutral bound state constituted by one Λ and two neutrons. The excellent particle identification, tracking and vertexing performance of the ALICE experiment allow for the search of this exotic bound state in the decay channel $\Lambda nn \rightarrow \pi t$ in Pb-Pb collisions. In order to improve the detection of this state within a big combinatorial background, the extraction of the signal is performed by means of a multivariate approach with the TMVA (Toolkit for Multivariate Data Analysis with ROOT). So far the indication for the existence of the Λnn state was reported only by one Collaboration, so the observation by ALICE would crucially contribute to the study of such an exotic state.

Content type

Experiment

Collaboration

ALICE

Centralised submission by Collaboration

Presenter name already specified

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