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## Demystifying the interior of neutron stars with femtoscopy at ALICE

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The study of the nuclear equation of state (EoS) plays a pivotal role in the quest of understanding the core of neutron stars. For this, a comprehensive knowledge of the strong interaction among hadrons is crucial, especially those which contain strange quarks. Indeed, recent model calculations show that both two-body and three-body forces between hyperons and nucleons are important for the study of the nuclear EoS under extreme conditions. However, probing these interactions in scattering experiments is challenging due to the unstable nature of hyperon beams and thus, the available experimental data is scarce.

In recent years, the study of hadronic interactions has been greatly extended with ALICE at the LHC by utilizing the femtoscopy technique. With this, it became feasible to probe the interactions of unstable hadrons in vacuum at short distances (of a few femtometers) and down to zero relative momenta. In this talk, recent results from the ALICE Collaboration for two-body and three-body interactions between hyperons and nucleons in pp collisions at  $\sqrt{s} = 13$  TeV are presented. Among the presented results are the p- $\Lambda$ , p-p-p and p-p- $\Lambda$  correlations together with their implications on state-of-the-art theoretical models. Included are the most recent results from the ongoing LHC Run 3 data taking campaign.

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