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Brief Review on Omega Correlation Function Measurement

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The study of the nucleon–nucleon (NN), hyperon–nucleon (YN) and hyperon–hyperon (YY) interactions is very important in understanding strong interactions, heavy-ion-collisions and neutron stars. Because of their unstable nature, it is hard to extract interactions between like N-Ξor N-Ω, and high energy collisions offer us a chance to further knowledge of those interactions by measuring correlation functions via femtoscopy.

In this talk I will give a brief review on Ω-related correlation function measurement: p-Ω in pp collision at $\sqrt{s} = 13\mathrm{TeV}$ by ALICE in year 2020 and p-Ω in Au-Au collision by STAR at $\sqrt{s_{NN}} = 200\mathrm{GeV}$ in 2019. The source size, interaction type, and underlying bound state in p-Ω correlation are discussed. The results are also used to comparing with theoretical prediction made by HAL QCD, but more precise data is still needed to make a better constraint, to understand deeper Ω and also hyperon interactions.

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