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Baryon-baryon correlations

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The analysis of two-particle correlations provides a powerful tool to study the properties of hot and dense matter created in heavy-ion collisions at ultra-relativistic energies. Applied to identical and non-identical hadron pairs, it makes the study of space-time evolution of the source in femtoscopic scale possible. Baryon femtoscopy allows extraction of the radii of produced sources which can be compared to those deduced from identical pion studies, providing complete information about source characteristics. By analyzing the momentum correlations it is possible to access information about source characteristics which cannot be measured directly. Identical baryon correlations reflect the properties of the quantum statistics (QS) and of the final state interactions (FSI): Coulomb and strong. Non-identical baryon pairs are sensitive to the final state interactions only. The correlation functions obtained for identical and non-identical baryon pairs are planned to be presented. The results will be compared to theoretical predictions as well.

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