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## Studying the proton source in Pb–Pb collisions at $\sqrt{s_{NN}} = 5.36$ TeV

*lundi 4 novembre 2024 12:00 (15 minutes)*

Space–time properties of particle–emitting sources created in heavy-ion collisions can be studied with femtoscopic techniques using momentum correlations based on quantum statistics, Coulomb and strong interactions. In this talk, we present the most recent results of femtoscopic analysis of identical proton pairs in Pb–Pb collisions at  $\sqrt{s_{NN}} = 5.36$  TeV based on data collected by ALICE during the ongoing Run 3. Experimental correlation functions were obtained for several centrality ranges and one-dimensional proton source sizes were extracted by using a modified Lednicky’s model. The radii exhibit a  $k_T$ -dependence that is similar to the one observed with pion and kaon femtoscopy and typical for heavy-ion collisions. These results extend the study of the dynamics of the particle–emitting sources in heavy-ion collisions providing more details about the baryon source.

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