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Lambda-Kaon Femtoscopy in Pb-Pb Collisions at $\sqrt{s_{NN}} = 2.76$ TeV with ALICE

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Abstract

We present results from a femtoscopic analysis of Lambda-Kaon correlations in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV by the ALICE experiment at the LHC. The femtoscopic correlations are the result of strong final-state interactions, and are fit with a parametrization based on a model by R. Lednicky and V. L. Lyuboshitz[1]. This allows us to both characterize the emission source and measure the scattering parameters for the particle pairs. We observe a large difference in the ΛK^+ and ΛK^- correlations in pairs with low relative momenta ($k^* \lesssim 100$ MeV). The results suggest an effect arising from different quark-antiquark interactions in the pairs, i.e. $s\bar{s}$ in ΛK^+ and $u\bar{u}$ in ΛK^- .

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