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Pion and kaon femtoscopy in Pb-Pb collisions at 2.76 TeV in comparison with the EPOS 3 model prediction

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Femtoscopy provides information on size and dynamics of the system created in heavy-ion collisions. At ultra-relativistic energies, such as those obtained at the LHC, significant production of pions and kaons enables femtoscopic measurements for these particles. In particular, a decreasing dependence of system size on increasing pair momentum and particle mass could be interpreted as an evidence of the strong collective flow. Such phenomena are naturally modeled by hydrodynamics. We present calculations within the EPOS 3 hadronic interaction model, which is based on a (3+1)D viscous hydrodynamical evolution and employs the UrQMD cascade to describe the hadronic phase, corresponding to Pb-Pb collisions at $\sqrt{s_{\rm NN}} = 2.76$ TeV. The model femtoscopic radii are considered as a function of pair transverse momentum and collision centrality and compared with the experimental data provided by the ALICE collaboration. The obtained results show the importance of the hadronic rescattering phase at LHC energies.

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