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Identical-particle (pion and kaon) femtoscopy in Pb–Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV with Therminator 2 modeled with (3+1)D viscous hydrodynamics

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Femtoscopy is a technique that can be used to measure the space-time characteristics of the particle-emitting source created in heavy-ion collisions using momentum correlations between two particles. In this report, the two-pion and two-kaon femtosopic correlations for Pb–Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV within the framework of (3+1)D viscous hydrodynamics combined with THERMINATOR 2 code for statistical hadronization. The femtosopic radii or the source size for pions and kaons are estimated as a function of pair transverse momentum and centrality in all three pair directions. The radii seems to be decreasing with pair transverse momentum and transverse mass for all centralities which signals to the presence of strong collectivity in the system. Moreover, an effective scaling of radii with pair transverse mass was observed for both pion and kaons.

In-person participation

No

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