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PRODUCTION AND CORRELATIONS OF STRANGE MESONS AND BARYONS AT RHIC AND LHC IN HYDROKINETIC MODEL

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The recent results on the theoretical analysis of particle production and correlation in relativistic heavy-ion collisions at the LHC and RHIC within the hydrokinetic model (HKM) and its extended version —integrated hydrokinetic model (iHKM) are addressed. The study of strange K meson spectrum and femtoscopy scales is discussed along with the pion ones for the case of LHC Pb+Pb collisions at the energy 2.76 TeV per nucleon pair. The m_T-dependence of spectra and longitudinal femtoscopy scales at the LHC, obtained in HKM simulations, is compared with the results given by simple analytical formulas including the effective temperature at the hypersurface of maximal particle emission, emission proper time, and transverse flow intensity. The influence of K*(892) resonance decays and hadron re-scatterings at the afterburner stage of the collision on the interferometry radii is analyzed. The related problem of K*(892) effective identification and reliable yield measurement in view of hadron re-scatterings is also investigated for RHIC and LHC energy cases. The application of the FSI formalism with account for residual correlation effect to modeling of the p-Lambda and p-Cascade correlation functions is also considered.

List of tracks

Femtoscopy in A+A, p+p , p+A and e+-e- collisions at relativistic, intermediate and low energies

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