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HBT in collisions of Au(1.23A GeV)+Au measured with HADES@SIS18

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We present first results on identical pion intensity interferometry (HBT) studied in collisions of Au$(1.23A\mathrm{GeV})$+Au. The data are taken with the HADES spectrometer at SIS18/GSI Darmstadt. We study the dependence of the space-time extent of the pion emitting source on the pair transverse momentum and on the collision centrality. We compare our femtoscopic findings taken at an available energy of $\sqrt{s_{NN}} = 2.4$ GeV to similar results derived at higher collision energies, both with fixed-target and collider experiments. A surprising uniformity of the three-dimensional (Bertsch-Pratt parameterized) source is found, extending now over three orders of magnitude in collisions energy from LHC over RHIC, SPS, and AGS down to the virtually lowest one at SIS18.

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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