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Characterizing quark gluon plasma by lepton interferometry

Content :

The mass dependence of the dilepton interferometry in relativistic heavy-ion collision has been proposed as an efficient tool to characterize the quark-gluon phase. In a first such calculations, we show that the mass dependence of radii extracted from the virtual photon (dilepton) interferometry provide access to the development of collective flow with time. It is argued that the non-monotonic variation of HBT radii with invariant mass of the lepton pairs signals the formation of quark gluon plasma in heavy ion collisions. It is shown that the ratio, $R_{\text{out}}/R_{\text{side}}$ for dileptons can be used to estimate the average life times of the partonic as well as the hadronic phases.

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