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PHENIX results on three-dimensional Bose-Einstein correlations in $\sqrt{s_{NN}} = 200$ GeV Au+Au collisions

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The Bose-Einstein correlation of identical bosons may give information about the space-time structure of the sQGP created at the ultrarelativistic heavy ion collisions. Previous measurements have shown that, instead of the Gaussian-type of source, one should rather consider a more general Levy-type source, which gives a better description of the data. Moving to three dimensions from one-dimensional measurements gives insight into the nature of the expanding system by measuring the parameters of a Levy-type source in three (out, side, long) directions. We can also measure the deviation from the Gaussian source in three dimensions. In this poster we present the transverse mass dependence of the Levy source parameters. The shape parameter (α) describes the stability of the source. The HBT-radii (R_{out} , R_{side} , R_{long}) measure the physical size of the source, and the correlation strength (λ) measures the ratio of pions originated from resonance decays. The measurement is being done on Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV for $\pi\pi$ pairs.

Content type

Experiment

Collaboration

PHENIX

Centralised submission by Collaboration

Presenter name already specified

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