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Centrality dependent Lévy HBT analysis in $\sqrt{s_{NN}} = 5.02$ TeV PbPb collision at CMS

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Investigation of the femtoscopic correlation functions in heavy ion collisions is an important tool to access the space-time structure of the hadron production of the sQGP. The description of the measured correlation functions is often assumed to be Gaussian or exponential, but a detailed analysis reveals that the statistically correct assumption is a generalized Gaussian, the symmetric alpha-stable Lévy distribution. One of the resulting source parameters, the Lévy stability parameter α , describing the shape of the source, may be related to anomalous diffusion in the final state. In this poster we present measurements of two-particle, Bose-Einstein correlation functions in $\sqrt{s_{NN}} = 5.02$ TeV PbPb collisions at CMS. We investigate the centrality and transverse mass dependence of the parameters of the correlation functions: the strength or the intercept parameter λ , the HBT scale parameter R and the stability parameter α .

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