

Two-pion Bose-Einstein correlations in Au+Au collisions at $\sqrt{s_{NN}} = 3$ GeV in the STAR experiment

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1 The correlation femtoscopy technique makes it possible to estimate the geo-
2 metric dimensions and lifetime of the particle emission region after the collision
3 of ions. Measurements of the emission region characteristics not only at midra-
4 pidity, but also at the backward (forward) rapidity can provide new information
5 about the source and make it possible to impose constraints on the heavy-ion
6 collision models.

7 This work is devoted to revealing the dependence of the spatial and temporal
8 parameters of the emission region of identical pions in Au+Au collisions at
9 $\sqrt{s_{NN}} = 3$ GeV on the fixed-target program of the STAR experiment. The
10 extracted femtoscopic radii ($R_{out}, R_{side}, R_{long}, R_{out-long}^2$) and the correlation
11 strength, λ , are presented as a function of collision centrality, pair rapidity
12 and transverse momentum. Physics implications will be discussed.

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