

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

Anna Kraeva^{1,2} (for the STAR Collaboration)

¹National Research Nuclear University MEPhI, Moscow, Russia

²Joint Institute for Nuclear Research, Dubna, Russia

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 spatio-temporal structure of source and make it possible to impose
6 constraints on heavy-ion collision models.

7 This study is aimed to measure the femtoscopic parameters of identical-
8 pion emission region in Au+Au collisions at $\sqrt{s_{NN}} = 3$ GeV by the STAR
9 experiment. The extracted radii ($R_{out}, R_{side}, R_{long}, R_{out-long}^2$) and correlation
10 strength (λ) are presented as a function of collision centrality, pair rapidity
11 and transverse momentum. Physics implications will be discussed.

12
13
14
15
16
17
18