Femtoscopy Results in Au+Au collisions at $\sqrt{s_{NN}} = 3$ GeV from STAR

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One of the main tasks of relativistic nuclear physics is the search for signs of formation, quantitative evaluation and description of the properties of quark-gluon matter (QGM). Collisions of heavy ions at colliders present a unique opportunity to study QGM in the laboratory. One of the important parameters characterizing quark-gluon matter is the size, shape, and lifetime of the particle emission source, which can be estimated using the method of correlation femtoscopy.

In this report, will be presented the results of measurements of femtoscopic correlations of proton-proton, proton-deuteron, deuteron-deuteron and identical pions pairs produced in Au+Au collisions at $\sqrt{s_{NN}} = 3$ GeV recorded by the STAR experiment at RHIC.