

Direct Photon Interferometry in Bi-Bi Collision at $\sqrt{s_{NN}} = 9.2 \text{ GeV}$

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Bose-Einstein interferometry of identical hadrons are known to be one of the key experimental tool to study space-time properties of the hot and dense nuclear matter (fireball) in heavy-ion collisions. However, hadron correlations capture the space-time evolution of the source at the freeze-out stage, when final-state hadrons are formed. On the other hand, direct photon correlation are expected to provide important information on the space-time evolution of the fireball on its earliest stages, as direct photons are emitted from the fireball center. Thus, transverse and longitudinal radii of the fireball and their k_T -dependence due to fireball radial extension before freeze-out might be measured using two one-dimensional photon-photon correlation functions. The Multi-Purpose Detector (MPD) of the Nuclotron-based Ion Collider facility (NICA) is designed to study the baryon-rich region of the QCD phase diagram, and Bose-Einstein interferometry is an important component of MPD experimental program. In this talk, the possibility to perform measurements of Bose-Einstein photon-photon correlations in Bi-Bi collision at $\sqrt{s_{NN}} = 9.2 \text{ GeV}$ at MPD using UrQMD model are reported.

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