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Feasibility of thermal photon measurements in heavy ion collisions at NICA energies

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Thermal photons serve as valuable probes of the hot and dense medium produced in heavy ion collisions. The effective thermal photon temperature measured at RHIC and LHC energies far exceeds the temperature predicted for the phase space transition into the deconfined state of quarks and gluons, known as quark-gluon plasma (QGP). Direct photon measurements in heavy ion collisions at the future NICA collider may help to measure the effective temperature of the produced medium at lower energies and trace the transition from QGP to the hadron gas state. In this contribution, we present feasibility studies on the thermal photon measurements in Au-Au collisions using the photon conversion method in the MPD experiment at NICA.

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