

Interference of thermal photons from quark and hadronic phases in relativistic collisions of heavy nuclei

We explore the intensity correlations for thermal photons having $K_T \leq 2$ GeV/ c , for central collisions of heavy nuclei at RHIC and LHC energies. These photons get competing contributions from the quark and the hadronic phases. This competition gives rise to a unique structure, especially in the outward correlation function, due to the interference between the photons from the two sources. The temporal separation of the two sources provides the life time of the system and their strengths provide the relative contribution of the two phases. The results are found to be quite sensitive to the quark-hadron phase transition temperature and the formation time of the plasma.

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