

Electromagnetic radiation as a probe of the initial state in relativistic nuclear collisions and of viscous hydrodynamics

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The penetrating nature of electromagnetic signals makes them suitable probes to explore the properties of the strongly-interacting medium created in relativistic nuclear collisions. This study investigates thermal electromagnetic radiation production using a 3+1D viscous hydrodynamic simulation (MUSIC). We study the thermal dilepton/photon emission of the medium by using both pQCD and hadronic scattering (and decay) processes. We will examine the effects of the initial conditions, viscosity, and event-by-event fluctuations on the flow coefficients of electromagnetic probes.

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