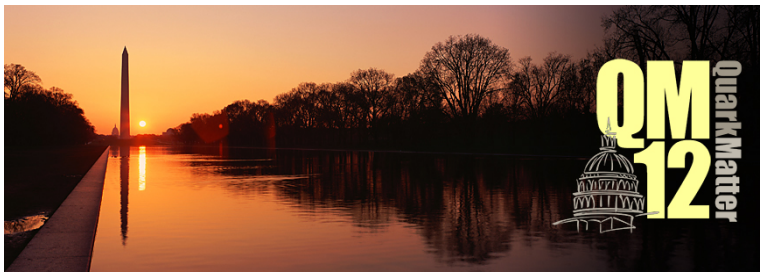

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Thermal dileptons in high-energy heavy ion collisions with 3+1D relativistic hydrodynamics

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The penetrating nature of dileptons makes them suitable probes to explore the properties of the strongly-interacting medium created in relativistic nuclear collisions. This study investigates thermal dilepton production using MUSIC (a Monotone Upstream-centered Scheme for Ion Collisions): a 3+1D hydrodynamic simulation with or without shear viscosity. We utilize dilepton emission rates that are derived from in-medium hadronic spectral functions, and from pQCD. In addition to the invariant mass and momentum distributions, the elliptic flow of lepton pairs is calculated, and the effects of a finite shear viscosity coefficient are also analyzed. We present results appropriate for measurements by the PHENIX and STAR collaborations, and make predictions for the LHC.

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