

Dielectron continuum measurements in $\sqrt{s_{NN}}=200$ GeV Au+Au and Cu+Cu collisions at PHENIX

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The dielectron continuum is rich in physics signals including vector meson decays, hadron Dalitz decays, correlated semi-leptonic heavy flavor decays and direct virtual photon emission. It is sensitive to modifications due to the QCD phase transition, particularly chiral symmetry restoration and mass shifts or broadening of the rho meson. Comparison between the PHENIX Au+Au continuum spectra in different centrality classes and the new Cu+Cu continuum spectra allows an investigation of surface area and volume effects on all dilepton signals. The more central Au+Au spectrum suggests an excess over the expected reference cocktail of known hadronic sources, in contrast to the peripheral Au+Au spectrum. The Au+Au analysis will be compared to a superposition of meson decays and theoretical predictions including those with and without medium modification of the rho meson. The status of the Cu+Cu analysis will also be presented.