A unique parameterization of all secondary dilepton and photon spectra observed at CERN-SPS energies

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Abstract

A unique parameterization of thermal dilepton and photon yields in heavy-ion experiments at CERN-SPS is presented. This parameterization resembles a thermal $q\bar{q}$ annihilation rate and is supported by the "dual" description of hot, strongly interacting matter within either a hadronic or partonic basis. Adding the thermal yield and the background contributions (hadronic cocktail, Drell-Yan, correlated semileptonic decays of open charm) the spectral shapes of the CERES/NA45, NA38, NA50, HELIOS/3 and WA98 data from experiments with lead and sulfur beams can be well described.