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The production of low mass dielectrons in Au+Au collisions at $\sqrt{s_{NN}} = 27$ GeV from STAR

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Dileptons in the low mass region, ($M_{ll} < 1.1 \text{ GeV}c^{-2}$), retain information about vector mesons that originated in the strongly interacting matter created by relativistic heavy-ion collisions. Linking these vector mesons to an in-medium broadening of their spectral functions may suggest chiral symmetry restoration[1]. Measurements at SPS and RHIC energies have been made in the low mass region that are consistent with in-medium modification of the ρ meson spectral function. By using RHIC's beam energy scan (BES) program and its high-purity, large-acceptance electron identification, STAR has been systematically studying the production of low mass dielectrons as a function of collision energy. We present the preliminary results of the low mass dielectron production in Au+Au collisions at $\sqrt{s_{NN}} = 27$ GeV. The study is focused on the comparison of the spectra with the expected hadronic contributions and with models that include production from ρ with an in-medium modified spectral function and medium radiation. In addition, the results will be compared with previously presented measurements from other BES energies ($\sqrt{s_{NN}} = 19.6, 39, \text{ and } 62.4$ GeV) and projections for future BES-2 measurements will be presented.

[1] R.Rapp and J.Wambach, *Advances in Nuclear Physics* 25(2000).

On behalf of collaboration:

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