

Abstract Submitted
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Measurements of the dilepton continuum in p+p collisions at the PHENIX experiment at RHIC TORSTEN DAHMS, Stony Brook University, PHENIX COLLABORATION — Among other penetrating probes, electromagnetic probes are ideal tools to investigate the full time evolution and dynamics of the hot and dense matter produced in high energy heavy ion collisions, as they undergo no interaction in the final state. In the dilepton continuum Dalitz decays of light hadrons and direct decays of vector mesons, which might be modified in the medium, add to hard processes, such as correlated charm production and to direct thermal photons, emitted as a blackbody radiation from the plasma. PHENIX has measured the dielectron continuum in heavy ion reactions at $\sqrt{s_{NN}} = 200$ GeV. Compared to peripheral collisions, which agree well to the cocktail of known hadronic sources, with more central collisions show indications of an enhanced yield in the low mass region. The intermediate mass region on the other hand hints at a suppression of the yield increasing with centrality which adds additional information to the charm medium modifications. A measurement of p+p reactions is crucial to provide a baseline reference necessary to interpret the signals in heavy ion collisions. The results of this analysis will be presented and compared to the results from heavy ion collisions.

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