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Dilepton Spectra from Open-Charm Decays in Heavy-Ion Collisions JIA SHEN, Saint Mary's College of California; Cyclotron Institute at Texas A&M University, RALF RAPP, Cyclotron Institute at Texas A&M University — In heavy-ion collisions at ultra-relativistic energies, light quarks are quickly thermalized and lose their originally imprinted information while heavy quarks, such as charm quarks, take longer to thermalize. Thus, by studying charm quark spectra, we will be able to better understand the interactions in the quark-gluon plasma. In this project we have focused on di-electron invariant-mass spectra from correlated charm decays. We first generated a realistic distribution for the transverse-momentum (pt) spectra of charm and anti-charm quarks. Then we generated the histogram of invariant-mass distributions of electrons and positrons which result from the decay of charm-anti-charm pairs. We tested the sensitivity of the dilepton spectra to slopes in the charm pt spectrum and to different angular distributions of charm pairs. The goal is to analyze how the interactions of single charm quarks reflect themselves in the di-electron invariant-mass spectrum.

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