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Charm study via electron hadron azimuthal correlations SOTIRIA BATSOULI, OakRidge National Labs, PHENIX COLLABORATION — PHENIX data on single electron production in central and minimum bias Au + Au collisions at $\sqrt{s_{NN}} = 130$ and 200 GeV indicate an excess of electrons over known light hadronic sources that has been attributed to open charm. The electron data from open charm decay are consistent with two different scenarios. One is the creation of a medium completely transparent to heavy quarks. The other is the creation of a highly opaque medium with the heavy quarks rescattering and hadronizing in the system. If the excess electrons do indeed come from open charm then one would expect a peak near the electron direction in the azimuthal correlation between electrons and hadrons originating from semileptonic decays of the D mesons. In addition, if the medium is transparent to heavy quarks then a clear back-to-back correlation between the electrons and charm jet hadrons is expected, independent of system size. However if the medium is highly opaque then such away-side correlation would not be expected in Au-Au central collisions. Current status of this analysis for p-p, d-Au $\sqrt{s_{NN}} =$ 200 GeV PHENIX data will be presented.

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