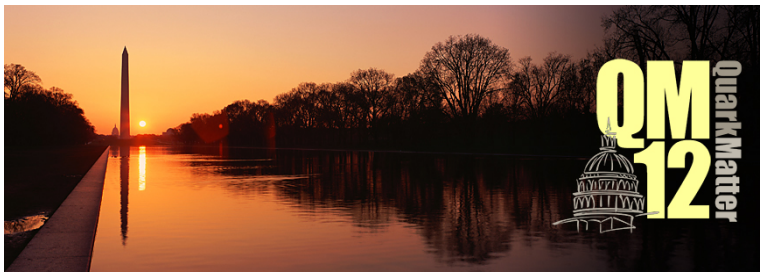

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$\omega(782)$ and $\phi(1020)$ mesons from di-leptonic decay channels at the STAR experiment

Saturday 18 August 2012 10:10 (10 minutes)

Hadronic resonances can play a pivotal role in providing experimental evidence for partial chiral symmetry restoration in the deconfined quark-gluon phase produced in high energy nucleus-nucleus collisions. Their lifetimes, which are comparable to the lifetime of the fireball, make them a valuable tool to study medium modifications to the resonant state due to the chiral phase transition signatures of mass shifts and/or width broadenings. This can be done via the leptonic decay of resonances with relatively small interaction of leptonic daughter particles with dense hadronic medium, however hadronic regeneration of resonances feeds into this signature as well.
Particle identification based on the STAR upgraded Time-of-Flight detector in conjunction with energy-loss (dE/dx) from the Time Projection Chamber is used for a clean electron and positron identification.
We will present the measurement of masses, widths, transverse momentum spectra, and yields of $\omega(782)$ and $\phi(1020)$ mesons at mid-rapidity in Au+Au collisions at \sqrts{s_{NN}} = 200 GeV and compare the $\phi(1020)$ result to those from the hadronic decay channel.

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