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## Estimating dilepton rates and electric conductivity from vector current correlation functions in quenched QCD

*Tuesday, 15 June 2010 09:50 (20 minutes)*

We report on a continuum extrapolation of the vector current correlation function for light valence quarks in the deconfined phase of quenched QCD. The vector meson correlator is calculated at  $T=1.5 T_c$  at four values of the cut-off on lattices up to size  $128^3 \times 48$ . We determine the first three, non-vanishing thermal moments of the vector meson spectral function. We find that ratios of thermal moments agree with those for free, massless quarks within 1% accuracy, while the correlator at the midpoint,  $t=1/2T$  is about 8% larger than the free vector correlation function. We discuss resulting constraints on the electric conductivity and the thermal dilepton rate in a quark gluon plasma.

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talk

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