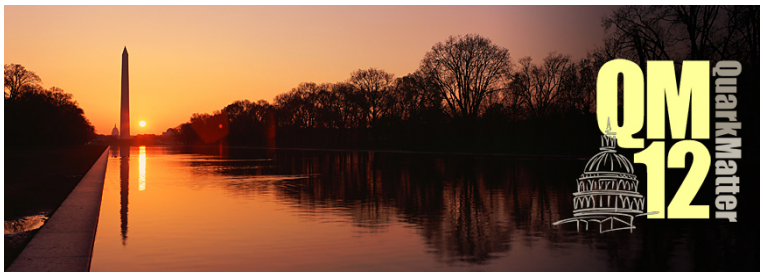

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Charm production in the early phase and the charm baryon-to-meson ratios at LHC energies

Thursday, August 16, 2012 4:00 PM (2 hours)

The charm quark production will be reasonably large at LHC energies, both in p+p and Pb+Pb collisions. In heavy ion collisions even quark coalescence channels will strongly influence the charmed baryon and meson production. Furthermore, the formation of an intense coherent gluon field in Pb+Pb collisions results in additional heavy quark-antiquark pairs. Thus the primary charm quark momentum distribution will be modified, as well as the final state hadron distributions and the baryon-to-meson ratios in different momentum windows. We performed calculations with time dependent strong color fields and studied the charm quark-antiquark pair production and charmed hadron production in the intermediate- and high-pT windows at LHC energies. The obtained numerical results are presented and discussed.

P. Levai, V.V. Skokov:
Nonperturbative enhancement of heavy quark-pair production in strong SU(2) color field
Phys. Rev. D82 (2010) 074014.

P. Levai, D. Berenyi, A. Pasztor, V.V. Skokov:
Anomalous baryon production and its interplay with jet energy loss at RHIC and LHC energies
J. Phys. G38 (2011) 124155.

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