Abstract Submitted
for the APR13 Meeting of
The American Physical Society

Light-front holography and the light-front coupled-cluster method[1] JOHN HILLER, University of Minnesota Duluth — We explore a combination of light-front holographic QCD and the nonperturbative light-front coupled-cluster (LFCC) method in the context of a quark model for mesons. The LFCC method converts the meson eigenstate problem of QCD into an effective eigenproblem in the valence quark-antiquark Fock sector. Light-front holography then provides an analytically solvable model for the valence sector, which can be used as a starting point for the solution of the LFCC eigenproblem. Within this context, we extend the holographic eigenproblem for mesons to include massive quarks and a calculable longitudinal wave function. Results are compared with those obtained with the Brodsky-deTeramond ansatz.

[1]Work supported in part by the US Department of Energy and the Minnesota Supercomputing Institute

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Date submitted: 11 Jan 2013 Electronic form version 1.4