

Abstract for an Invited Paper
for the APR05 Meeting of
The American Physical Society

Search for Medium Modifications of Vector Meson Properties

CLARISSE TUR, University of South Carolina

The properties of vector mesons, such as their mass and width, are predicted to be modified in dense medium such as a nucleus. This modification, if proven to exist, could be related to more fundamental physics such as a partial restoration of chiral symmetry at high density. The g7 (or E01-112) experiment has been designed to look for medium effects on the properties of the light vector mesons (ρ , ω , and ϕ) in photoproduction, through their rare leptonic decay into e^+e^- . This decay channel has been preferred to the two pion channel to avoid distorting the information by strong final interaction. The data for this experiment was taken in the fall of 2002 using the CLAS detector at the Jefferson Lab. A bremsstrahlung photon beam was sent on a target containing a liquid deuterium cell and several nuclear targets: C, Fe, Ti, and Pb. First results will be presented.