

Abstract Submitted
for the DNP06 Meeting of
The American Physical Society

Photoproduction of the $\phi(1020)$ Meson Near Threshold¹ DAVID TEDESCHI, University of South Carolina, CLAS COLLABORATION — The differential cross section for the photoproduction of the $\phi(1020)$ near threshold ($E_\gamma = 1.57$ GeV) is sensitive to production mechanisms other than diffraction. Moreover, at large momentum transfer, the production of ϕ -mesons becomes a test of quark and gluon degrees of freedom. We have performed a measurement of ϕ -meson photoproduction on the proton at The Thomas Jefferson National Accelerator Facility using a liquid hydrogen target and the CEBAF Large Acceptance Spectrometer (CLAS). The energy of the tagged, bremsstrahlung photons ranged from ϕ -threshold to 3.6 GeV, and the $\phi(1020)$ was identified in the channels $\phi \rightarrow K^+K^-$ and $\phi \rightarrow K_s K_L$. Preliminary differential cross sections ($d\sigma/dt$) will be presented. An analysis of the energy dependence of the cross section at low and high momentum transfer will also be discussed.

¹Supported by NSF Grant No. 0555604

David Tedeschi
University of South Carolina

Date submitted: 29 Jun 2006

Electronic form version 1.4