Abstract Submitted for the HAW09 Meeting of The American Physical Society

The extraction of $\phi - N$ total cross section from $d(\gamma, pK^+K^-)n$ process¹ XIN QIAN, Duke University, CLAS COLLABORATION — In this talk, we will report on the first measurement of the differential cross section of ϕ -meson photoproduction for the $d(\gamma, pK^+K^-)n$ exclusive reaction channel. The experiment was performed using a tagged-photon beam and the CEBAF Large Acceptance Spectrometer (CLAS) at Jefferson Lab. We carried out a combined analysis to extract the $\phi - N$ total cross section, $\sigma_{\phi N}$, using data from the $d(\gamma, pK^+K^-)n$ channel and those from a previous publication on coherent ϕ production on the deuteron. The extracted $\phi - N$ total cross section favors a value above 20 mb. This value is larger than the value extracted using vector-meson dominance models for ϕ photoproduction on the proton.

¹This work is supported in part by DE-FG02-03ER41231.

Xin Qian Duke University

Date submitted: 26 Jun 2009

Electronic form version 1.4