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Preliminary Analysis to Extract the ω-N and ϕ-N Total Cross Sections M.H. WOOD, University of Massachusetts, Amherst, R. NASSERIPOUR, C. DJALALI, University of South Carolina, D.P. WEYGAND, Jefferson Lab, CLAS COLLABORATION — There is a scarcity of data for the ω-N and ϕ-N total cross sections. Such measurements are useful as inputs to theoretical models describing many-nucleon interactions as in the case of Relativistic Heavy Ion collisions. Furthermore, when applied to an optical model, the data can set limits on the broadening of the intrinsic width of the vector mesons in a nuclear medium. Due to the impracticality of building ω- and ϕ-meson beams, these cross sections can be accessed through secondary interactions. An experiment was completed in Hall B at Jefferson Lab with the proper conditions where the ω- and ϕ-mesons were produced from a tagged photon beam off various nuclear targets ranging from deuterium to Pb. The vector mesons were detected through their rare decay to e^+e^- in order to eliminate final state interactions of the decay particles. Preliminary normalized yields will be shown as a function of the target atomic number, A, from which the total cross sections will be extracted.

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