Abstract Submitted for the APR18 Meeting of The American Physical Society

A study of Lambda-nucleon scattering using the CLAS detector¹ JOSEPH ROWLEY, KENNETH HICKS, Ohio Univ, JOHN W. PRICE, Cal State Univ Dominguez Hills, CLAS COLLABORATION — Previous data for the elastic scattering of Lambda hyperons from the nucleon dates back to the bubble chamber era of the 1970s. Data for ΛN scattering is very limited in comparison with other elastic scattering processes, such as NN or πN . Using the high luminosity photon beam incident on a long (40 cm) liquid hydrogen target at Hall B of Jefferson Lab, the CLAS detector was used to identify a final state with a proton in coincidence with a scattered Lambda baryon. The Λ , before elastic scattering, was produced via the $\gamma p \rightarrow K^+\Lambda$ reaction, for which the cross section is well known. This allows us to determine the flux of Λ particles, with which we can then measure the Λp elastic scattering cross section in the momentum range between 0.5 and 1.0 GeV/c. Preliminary results from the analysis of this reaction will be presented. Future directions of related possibilities for measuring hyperon-nucleon scattering at CLAS will be discussed.

¹Supported by NSF Grant PHY-1714008

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Date submitted: 12 Jan 2018

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