

Abstract Submitted  
for the DNP19 Meeting of  
The American Physical Society

**A Study of Lambda-Nucleon scattering using the CLAS detector**

JOSEPH ROWLEY, KEN HICKS, Ohio University, CLAS COLLABORATION — Elastic scattering of Lambda baryons with protons is important to know, in part because these reactions might take place in the center of a neutron stars. Current  $\Lambda N$  elastic scattering data comes primarily from bubble chamber experiments. The richness of  $\Lambda$  production in modern day accelerators has thus never been realized.  $\Lambda N$  data is very limited compared to other elastic scattering processes, such as  $NN$ ,  $KN$  and  $\pi N$ . Data was mined from existing experiments from the g12 run of the CLAS detector in Hall B of Jefferson Lab. A high luminosity photon beam incident on a 40 cm liquid hydrogen target allows for a  $\Lambda$  beam to be created inside the target. We look at the reaction  $\gamma p \rightarrow K^+ \Lambda$  to generate the  $\Lambda$  beam. The created  $\Lambda$  then proceeded to scatter elastically with a second proton in the target. The  $K^+ \Lambda$  cross section is well known, which allows us to determine the flux of the  $\Lambda$  beam. From this, preliminary results for the  $\Lambda N$  cross section will be presented along with new data for its angular distribution.

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Date submitted: 01 Jul 2019

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