

Abstract Submitted  
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**Measurement of the spectral function of Argon and Titanium through the (e,ep) reaction** HONGXIA DAI, Virginia Tech , THE JEFFERSON LAB HALL A COLLABORATION — In order to achieve high precision measurement in the neutrino oscillation experiments, a more accurate description of nuclear structure of targets employed in neutrino oscillation detectors is urgently needed. In the upcoming short baseline neutrino experiments at Fermilab and CERN and in the deep underground neutrino experiment (DUNE), Liquid Argon Time Projection Chambers (LArTPCs) will be used as detector technology and argon will be used as neutrino target, therefore it has become of vital importance to obtain a more reliable nuclear model capable of describing the neutrino-nucleus interaction in a wide range of kinematics. Spectral function is an example of such model and it has the potential to significantly improve the accuracy of the neutrino energy reconstruction in neutrino experiments. In light of these needs, an electron-argon experiment, E12-14-012, conducted at Jefferson Lab was recently proposed and took data in Spring 2017. The E12-14-012 collected data for (e,ep) and (e,e) processes, on both argon and titanium targets. In this talk we will present the latest progress on the analysis, and the first measurement of inclusive cross section of titanium and argon.

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