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Updates on Analysis of Kinematically Complete Measurements of Three-body Photodisintegration of 3He[1] FORREST FRIESEN, Duke University, TUNL, MOHOMMAD AHMED, North Carolina Central University, TUNL, ALEX CROWELL, Duke University, TUNL, ARNAS DELTUVA, Vilnius University, CALVIN HOWELL, COLLIN MALONE, RONALD MALONE, WERNER TORNOW, Duke University, TUNL, HENRYK WITALA, Jagiellonian University
— We report updates on the analysis of our cross-section data for the 3He(γ,pn)p, 3He(γ,pp)n, and 3He(γ,p)np three-body (3B) photodisintegration reactions. The measurements were performed at the High Intensity γ-ray Source (HIGS) with a 15 MeV linearly polarized photon beam. The beam-target luminosity was determined in-situ using the 3He(γ,p)d reaction. The experimental setup consisted of a collinear set of gas targets flanked by arrays of neutron detectors and collimated silicon strip detectors, allowing for measurements of a variety of kinematic configurations in 3B photodisintegration. The data are compared to ab-initio three-nucleon calculations via GEANT4 simulations of the experiment that include modeling neutron interactions in the liquid scintillator detectors.

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Forrest Friesen
Triangle Universities Nuclear Laboratory

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