Parameterization of Polarized ^{3}He Quasi-Elastic Scattering Cross Sections OCTAVIAN GEAGLA, University of Virginia, JEFFERSON LAB HALL A COLLABORATION — Radiative corrections are important steps when extracting scattering cross sections from data. In order to apply radiative corrections to the ^{3}He nucleus, an accurate parameterization of these cross-sectional data in a wide kinematic range are needed. There exist no world parameterizations for the polarized quasi-elastic scattering cross-sections for the ^{3}He nucleus, but instead data from other nuclei are combined with theoretical predictions for the polarized ^{3}He nucleus. However, ^{3}He nuclear effects are neglected. This can lead to large uncertainties in the results. In order to perform the parameterization, various computational methods were used to create a physical model of the scattering which would not neglect the ^{3}He nuclear effects. The Jefferson Lab National Accelerator Facility data were fit to various nonlinear distribution models and the best fits were found for each beam energy. A global fit was created by fitting the parameters of these distributions. These results can be used to predict polarized quasi-elastic cross sections for unmeasured kinematics and for applying radiative corrections where such parameterizations are needed.

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