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Four-Body Interactions in Excitation-Ionization A.L. HARRIS, D.H. MADISON, Missouri University of Science and Technology, S. BELLM, J. LOWER, E. WEIGOLD, Australian National University, I. BRAY, D.V. FURSA, Curtin University of Technology, K. BARTSCHAT, Drake University, J. COLGAN, Los Alamos National Laboratory — The process of electron impact excitation-ionization of helium has recently been of interest in order to better understand four body processes. Calculations of the 4 body distorted wave model (4DW) and the 2^{nd} order R-matrix with pseudostates (DWB2-RMPS) model for this process show discrepancies when compared with absolute experiment. The original experimental measurements were presented as cross section ratios for ionization plus excitation relative to ionization without excitation. New cross-normalized experimental data now allow for a comparison of the individual triple-differential cross sections (TDCS) used in the ratios. These experimental results are compared with the 4DW and DWB2-RMPS models, allowing for more accurate investigation into the physics involved in the four body process.

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