Abstract Submitted
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Calculations of non-coplanar ionization of helium ALLAN STAUFFER, York University, Toronto, TIMJAN KALAJDZIEVSKI, York University, Toronto, Canada — Nixon et al [1] have measured the triple differential cross sections for electron ionization of the noble gases in the case where the direction of the incident electron is perpendicular to the plane containing the outgoing electrons which have equal energies. Miller et al [2] have carried out non-relativistic distorted-wave Born approximation calculations in these cases. In preparation for a study of all of these cases we have carried out calculations of the ionization of helium using a relativistic distorted-wave model. The evaluation of the relativistic distorted waves representing the outgoing electrons is based on a program [3] which produces relativistic coulomb waves which has been modified to take account of the finite size of the helium nucleus. The calculations are based on an integral equation approach as given in [4] and an asymptotic correction has been applied to account for the integration over an infinite interval. Convergence in the sum over partial waves has been obtained and a preliminary evaluation of the explicit inclusion of post-collision interaction has been carried out. [1] K. L. Nixon, A J. Murray and C. Kaiser, J. Phys. B 43 085202 (2010) [2] F. K. Miller, H. R. J. Walters and C. T. Whelan, PRA 91 012706 (2015) [3] F. Salvat, J. M. Fernandez-Varea and W. Williamson, Jr. CPC 90 151 (1995) [4] T. Zuo, R. P. McEachran and A. D. Stauffer, JPB 24 2853 (1991)

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