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Experimental and Theoretical Fully differential cross sections for electron impact ionization of phenol molecules[1] ESAM ALI, Missouri University of Science & Technology, D. JONES, G. SILVA, L. CHIARI, R. NEVES, School of Chemical and Physical Sciences, Flinders University, Australia, M. LOPES, Departamento de Física, UFJF, Juiz de Fora, MG, Brazil, M. BRUNGER, School of Chemical and Physical Sciences, Flinders University, Australia, C. NING, Tsinghua University, Beijing 100084, People's Republic of China, D. MADISON, Missouri University of Science & Technology — Experimental and theoretical Fully Differential Cross Sections (FDCS) are presented for 250 eV electron impact ionization of the highest and next highest occupied molecular orbitals (HOMO and NHOMO). Theoretical results are compared with experiment for in plane scattering with projectile scattering angles of 5°, 10°, and 15°. Different theoretical models are examined - the molecular 3 body distorted wave (M3DW), and the distorted wave Born approximation (DWBA), with the effects of the post collision interaction (PCI) treated either exactly or with the Ward-Macek approximations. These approximations show good agreement with experimental data for binary peaks. However, for the recoil peak region, experiment finds a noticeable peak while theory predicts no peak. No recoil peak suggests no (or very weak) nuclear scattering, so we have investigated the importance of nuclear scattering by moving the nuclei closer to the center of mass.

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