Abstract Submitted
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Polarized orbitals obtained from scattering calculations used as pseudo states HARI SAHA, University of Central Florida, Orlando — The polarized orbitals are obtained from an ab-initio calculation of elastic scattering of electrons from atoms at zero kinetic energy using the single channel MCHF *method*[1]. These orbitals are deterimined by optimizing both the excited bound orbitals responsible for the polarization of the target atom and the scattering electron orbital at zero kinetic energy of the scattered electron. As reported earlier, these orbitals give very accurate dipole polarizability of *atoms*[2,3]. It is shown that these polarized orbitals can be used as pseudo states in the scattering of electrons from atoms. As a test case, we will show the contribution of these pseudo states to the elastic and inelastic scattering of electrons from hydrogen atoms using the recently extended MCHF method for multiopen *channels*[4]. Comparison will be made with other similar calculations.

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