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Effect of Removing Occupied Orbitals Under the Single-Active-Electron Approximation<sup>1</sup> J.V. HERNÁNDEZ, B.D. ESRY, J. R. Macdonald Laboratory, Kansas State University — We present the results of using the singleactive-electron approximation to treat multi-electron atoms in intense laser fields. In particular, we investigate the effect of not removing the occupied orbitals on the above threshold ionization spectrum, as well as the effect of how the occupied orbitals are removed. The occupied orbitals are eliminated from the system by various methods such as: a soft repulsive core [1],  $\ell$ -dependent pseudopotentials [2,3], and exactly in a basis set expansion. Special attention is paid to the high energy (>27 eV) portion of the spectrum where back-scattering occurs and the details of the atomic core are more strongly probed.

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