

In this thesis we construct and examine a two-electron model of interatomic Coulombic decay (ICD). We base this model on an unperturbed hamiltonian with closed-form stationary solutions with a potential consisting of two finite square wells. The Coulombic interaction mediating the decay between the electrons is incorporated via time-dependent perturbation theory. We then examine the dependence of the decay widths on the inter-well distance, the depth of the right well and the energy of the ICD electron. The model correctly describes the inter-well dependence for high energy ICD electrons.