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Resolving Divergences for Electron-electron Scattering in QED JARED COLEMAN, SCOTT GLASGOW, DEVIN MCGHIE, BYU — We begin with the Quantum Electrodynamic Hamiltonian, with specific emphasis on the Coulomb term. Given a system containing two electrons, we proceed to solve the Schrodinger equation using non-perturbative methods. For greater ease in computation, we constrain the system to one dimension. Additionally, since the Coulomb term contains an integral over an inverse square, we introduce a mollifier to produce numerically computable solutions. Lastly, we investigate the behavior of the eigen-energies and the dynamics of the system in the limit in which our mollifier approaches zero.

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