

Abstract Submitted
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Dynamics of nonrelativistic quantum mechanics SPYROS EFTHIMIADES, Fordham University — We show that the wavefunction of an electron interacting with an electric potential is accurately represented by the superposition of plane waves that fulfills the total energy relation. As a result, we explicitly derive the Schrödinger, Pauli, Klein-Gordon, and Dirac equations. While the traditional nonrelativistic quantum dynamics is based on postulates, the dynamics we introduce is theoretically justified, in agreement with experimental measurements, and consistent with the fundamental theory of quantum electrodynamics.

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