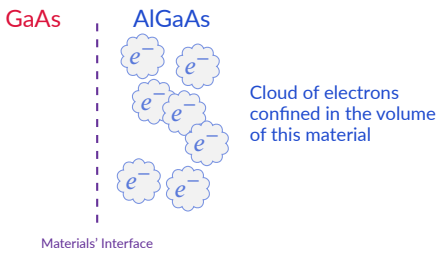
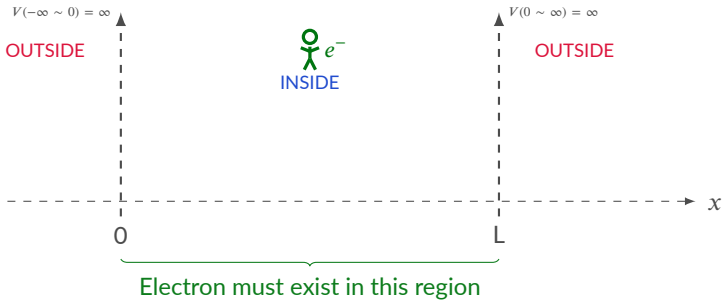
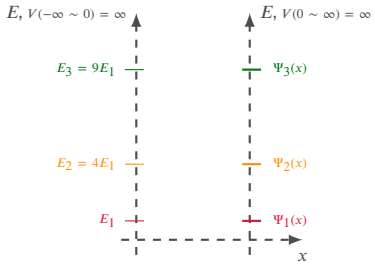
1 Confinement

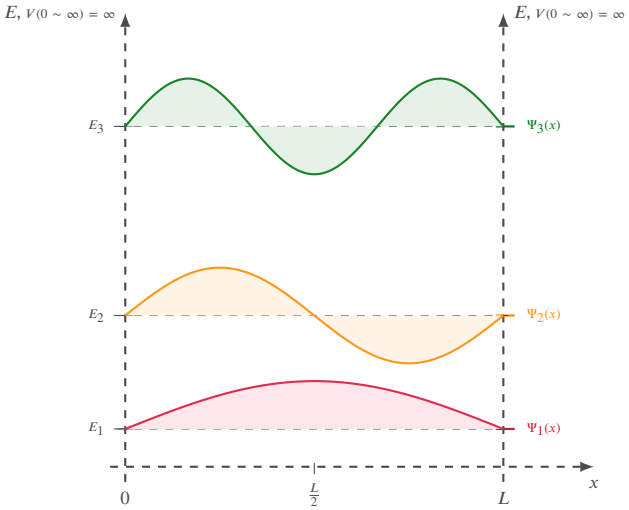


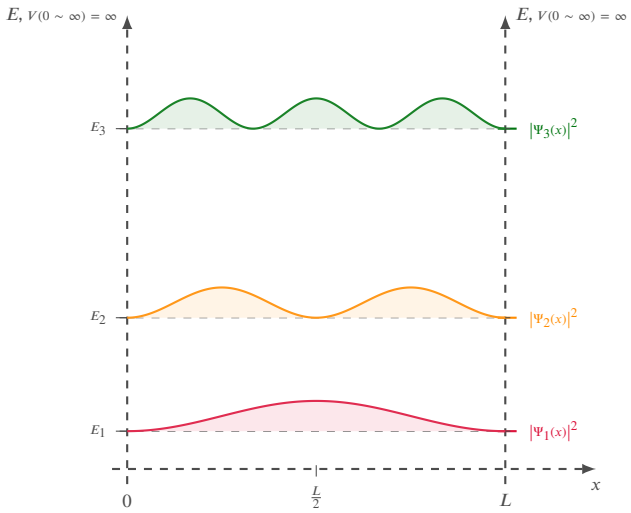
1.1 Confined Particles in 1D



1.1.1 The Quantum Well







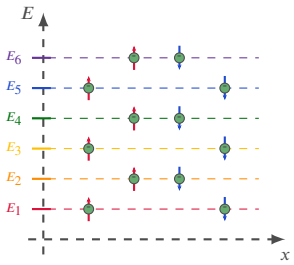
1.1.2 Using the S.E., Eigen, and Wave Functions to Find Solutions to observables

1.1.3 Conditions

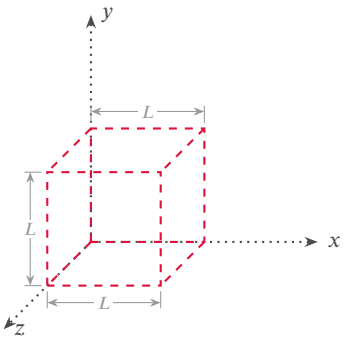
1.1.4 Superposition of Solutions

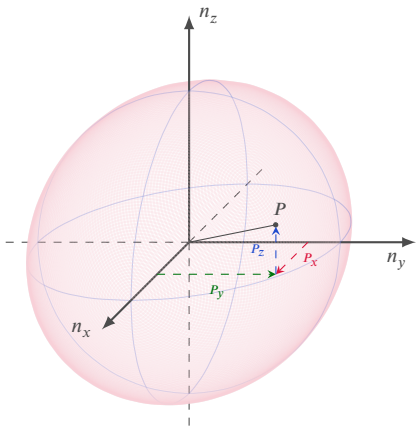
1.2 Hisenburg Principle

1.3 Paul Exclusion Principle



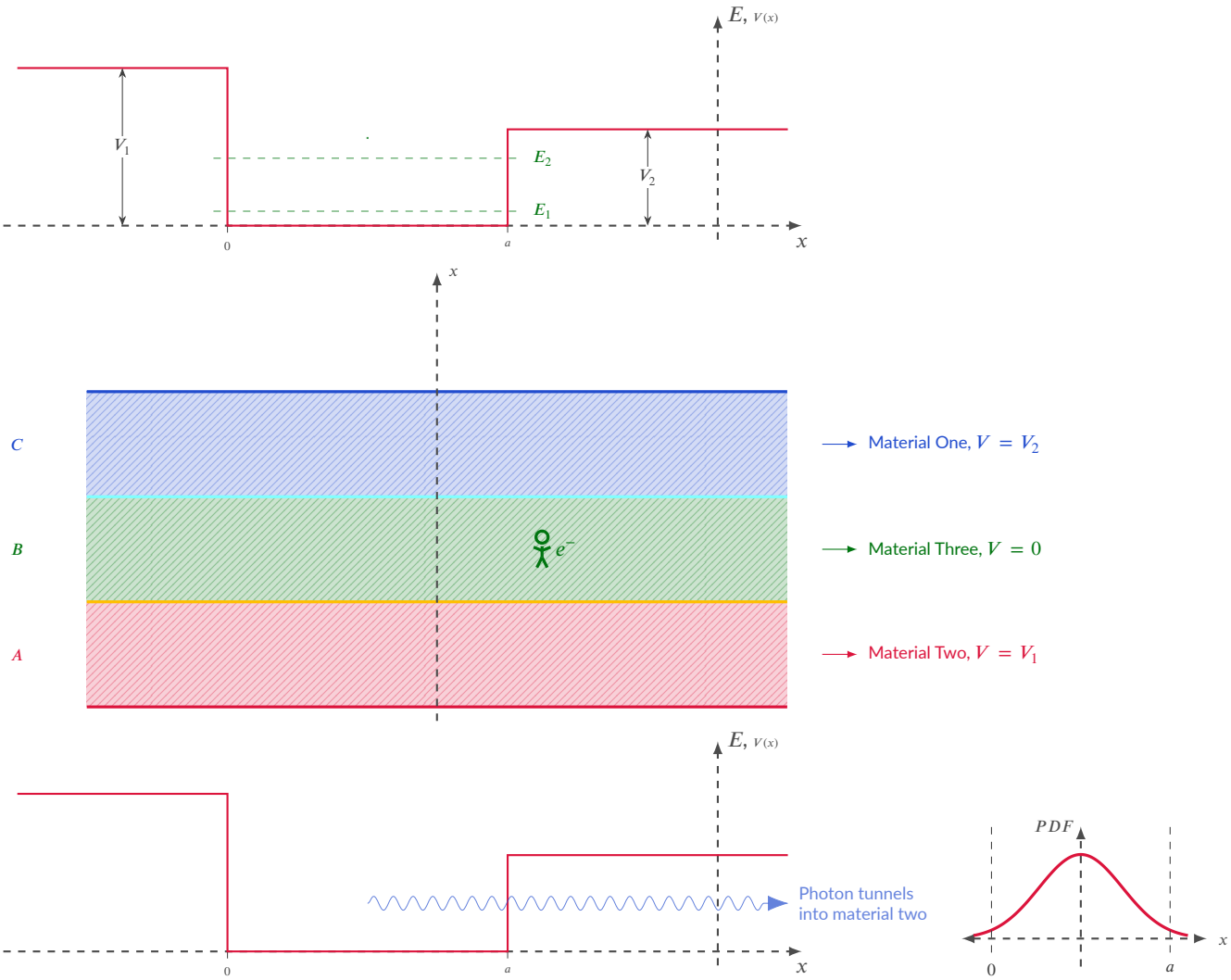
1.4 Confined Particles in 3D



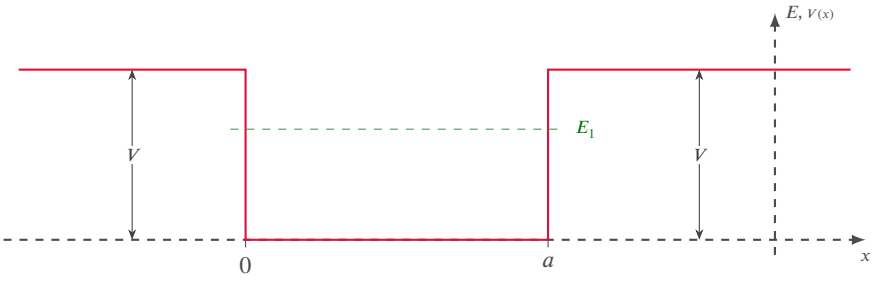


1.5 The Fermi Level

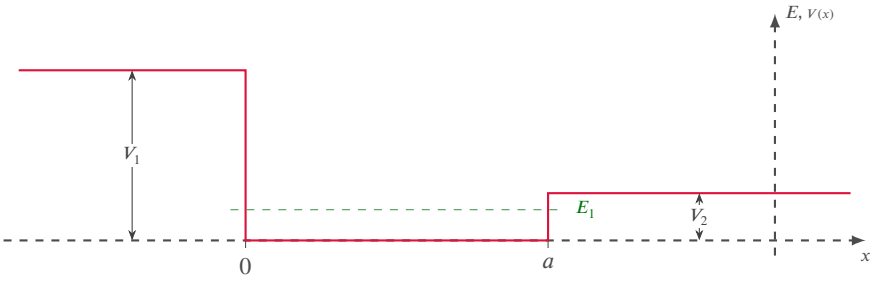
1.6 Confined Particles in 1D - Realistic (Finite Potential) Boundaries



1.6.1 Symmetric QW

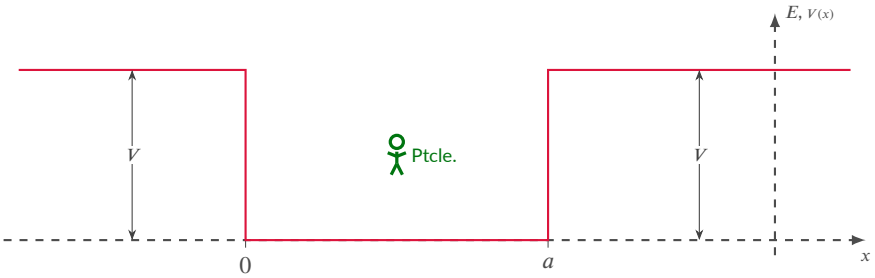


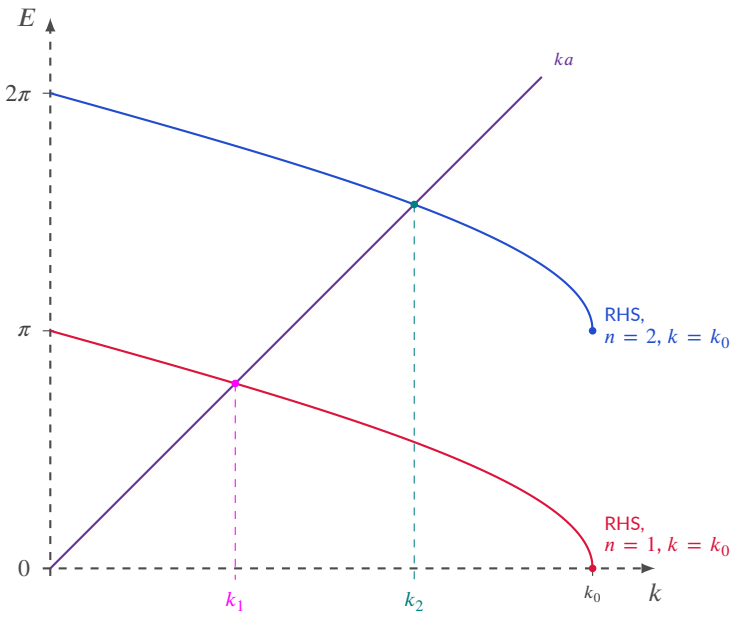
1.6.2 Asymmetric QW

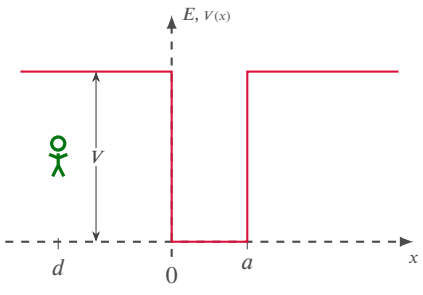


1.6.3 The Wave Vector

1.6.4 Examples







1.7 Quantum Tunnelling

1.7.1 General Example and Solution for Tunneling Across a 1D Boundary

1.7.2 Electron Microscope

1.8 Quantum Oscillators - Parabolic QW/Confinement