

Exercise 2.1-1 Free Electron Gas with Constant Boundary Conditions



Consider the free electron gas model but let the boundary conditions be: $\psi(\mathbf{0}) = \psi(\mathbf{L}) = \mathbf{0}$, i.e. we have fixed boundary conditions.

- Derive the solution to the Schrödinger equation and the density of states for this case.
- Show that the number of states is the same as for the periodic boundary conditions as given in the backbone



Link to the [solution](#)