

## Quantum Physics

# Pedagogical applications of the one-dimensional Schrödinger's equation to proximity effect systems: Comparison of Dirichlet and Neumann boundary conditions

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Proximity effect systems in superconducting films can be modeled by a one-dimensional Schrödinger equation. Several systems are studied using Dirichlet and Neumann boundary conditions. It is observed that the two boundary conditions have a dramatic effect on the lowest eigenstate allowed in these systems, and points to unusual behavior for solutions of Schrödinger's equation in certain potential wells and proximity effect systems.

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