Eigenstates of a particle in an array of hexagons with periodic boundary condition

A Nemati¹, A Shirzad¹, ³, and S A Jafari², ³

1. Department of Physics, Isfahan University of Technology, Isfahan, Iran
2. Department of Physics, Sharif University of Technology, Tehran, Iran
3. School of Physics, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran
E-mail: a.nemati@ph.iut.ac.ir

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Abstract

In this paper the problem of a particle in an array of hexagons with periodic boundary condition is solved. Using the projection operators, we categorize eigenfunctions corresponding to each of the irreducible representations of the symmetry group \( D_6 \). Based on these results, the Dirichlet and Neumann boundary conditions are discussed.

Keywords: potential well, hexagon, Schrödinger equation, symmetry group, character table, irreducible representation, projection operator

For full article, refer to the Persian section