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Schrödinger Equation with Position-Dependent Mass: Staggered Mass Distributions

Authors : J. J. Peña, J. Morales, J. García-Ravelo, L. Arcos-Díaz

Abstract : The Point canonical transformation method is applied for solving the Schrödinger equation with position-dependent mass. This class of problem has been solved for continuous mass distributions. In this work, a staggered mass distribution for the case of a free particle in an infinite square well potential has been proposed. The continuity conditions as well as normalization for the wave function are also considered. The proposal can be used for dealing with other kind of staggered mass distributions in the Schrödinger equation with different quantum potentials.

Keywords : free particle, point canonical transformation method, position-dependent mass, staggered mass distribution
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