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Position dependent effective mass effect on the quantum wells with three-parameter modified Manning potential

By: Kasapoglu, E (Kasapoglu, E.) [1]; Duque, CA (Duque, C. A.) [2]

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from solving the problem by using the finite element method. Both methods of solving the differential equations report results with excellent agreement between them and the possibility of achieving the desired precision in the spectrum energy and the wave functions and the calculated observable. The results presented here are useful for studying isolated and multiple quantum wells where interdiffusion effects are involved in the interfaces. The findings demonstrate the versatility of the modified Manning potential since, by properly manipulating its three parameters, it is possible to tune the spectrum of energies with potential applications in next-generation optoelectronic devices.

Keywords

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Author Information

Corresponding Address: Duque, C. A.(corresponding author)

Univ Antioquia UdeA, Inst Fis, Fac Ciencias Exactas & Nat, Grp Mat Condensada UdeA, Calle 70 52-21, Medellin, Colombia

Addresses:

[1] Sivas Cumhuriyet Univ, Dept Phys, Fac Sci, TR-58140 Sivas, Turkey

[2] Univ Antioquia UdeA, Inst Fis, Fac Ciencias Exactas & Nat, Grp Mat

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