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Exact solutions of the Dirac equation with scalar and vector Hartmann potentials. (English)

Zbl 1145.81352

Phys. Lett., A 339, No. 3-5, 283-287 (2005).

Summary: Exact solutions of the Dirac equation with Hartmann potentials are studied under the condition that the scalar potential is equal to the vector potential. The exact energy expressions and the spinor wave functions for bound states are presented.

MSC:

81Q05 Closed and approximate solutions to the Schrödinger, Dirac, Klein-Gordon and other equations of quantum mechanics

Cited in 16 Documents

Keywords:

Hartmann potential; Dirac equation; bound states; exact solutions

Full Text: DOI

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