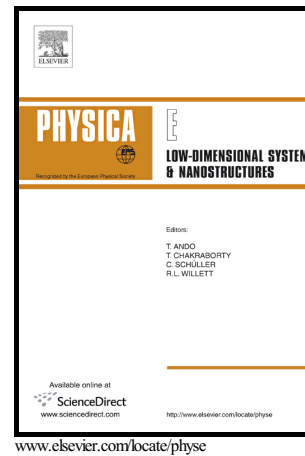


Donor impurity-related photoionization cross-section in parabolic quantum wires: Effects of intense laser field and applied electric field

U. Yesilgul



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**Donor impurity-related photoionization cross-section in parabolic quantum wires:
Effects of intense laser field and applied electric field**

U. Yesilgul¹

¹Cumhuriyet University, Faculty of Technology, Department of Optical Engineering,
58140 Sivas, Turkey

Abstract

Within the effective mass approximation, the effects of the electric and intense laser fields on the binding energy and the photoionization cross-section of shallow-donor impurities in GaAs/GaAlAs parabolic quantum wires are investigated theoretically by using a variational method. The numerical results show that the electric and intense laser fields lead to significant changes in the binding energy and photoionization cross-section.

Keyword: Parabolic quantum wires; Impurity; Photoionization.

Corresponding Author: Ünal Yeşilgul

E-mail: uyesilgul@cumhuriyet.edu.tr

Phone: +90-346-2191010-2337

Fax: +90-346-2191186

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