2005 Vol.44 No.5 pp.925-928 DOI:

Binding Energies of a Positively Charged Exciton in a Quantum Disc

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(Received: 2005-3-23; Revised:)

Abstract: The binding energies of the lowest singlet and triplet states of positively charged excitons confined to a quantum disc are studied using exact diagonalization techniques. We investigate the dependence of the binding energies on the confinement strength and on the effective electron-to-hole mass ratio. The results we have obtained show that the binding energies are closely correlated to the strength of the confinement potential and the effective electron-to-hole mass ratio.

PACS: 71.35.Pq, 73.21.La, 21.45.+v

Key words: semiconductors, quantum dots

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