iopscience.iop.org

Home Search Collections Journals About Contact us My IOPscience

Localization and Band Gap Pinning in Semiconductor Superlattices with Layer Thickness Fluctuations

This content has been downloaded from IOPscience. Please scroll down to see the full text.

1995 Europhys. Lett. 31 107

(http://iopscience.iop.org/0295-5075/31/2/008)

View the table of contents for this issue, or go to the journal homepage for more

Download details:

IP Address: 128.138.41.170
This content was downloaded on 14/07/2015 at 11:53

Please note that terms and conditions apply.

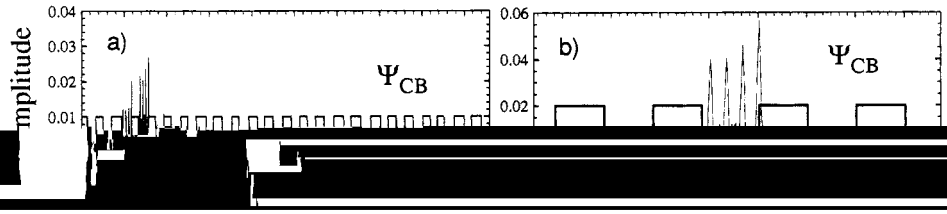
EUROPHYSICS LETTERS 10 July 1995

Europhys. Lett., **31** (2), pp. 107-112 (1995)

Localization and Band Gap Pinning in Semiconductor

several hundreds of atoms [14]. The novel empirical pseudopotentials used here [10] have been tested extensively for AlAs/GaAs bulk materials, short-period superlattices, and random alloys. The results [10] compare well with experiment and with state-of-the-art

one-dimensional effective-mass model (dashed lines [15] in fig. 1) completely misses the strong non-monotonic variations of SL energy levels with layer thickness.


amplitude
0.04
0.03
0.02
0.01
a)
Ψ_{CB}
0.06
0.04
0.02
b)
Ψ_{CB}