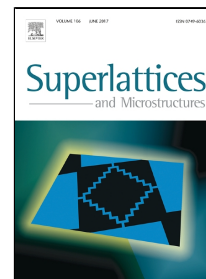


# Accepted Manuscript

Electronic structures of uncapped In(Ga)As nanoislands grown on GaAs(001) pit-patterned substrate

Hongyu Chai, Han Ye, Zhongyuan Yu, Yumin Liu, Yinfeng Li



PII: S0749-6036(17)30514-1

DOI: 10.1016/j.spmi.2017.04.040

Reference: YSPMI 4968

To appear in: *Superlattices and Microstructures*

Received Date: 02 March 2017

Revised Date: 22 April 2017

Accepted Date: 23 April 2017

Please cite this article as: Hongyu Chai, Han Ye, Zhongyuan Yu, Yumin Liu, Yinfeng Li, Electronic structures of uncapped In(Ga)As nanoislands grown on GaAs(001) pit-patterned substrate, *Superlattices and Microstructures* (2017), doi: 10.1016/j.spmi.2017.04.040

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

### Highlights

1. The In(Ga)As nanoislands in pit are modeled based on experimental observations.
2. The shallow pit introduces red-shift to interband transition in InAs nanoisland.
3. The composition profiles are obtained by optimizing free energy or strain energy.
4. The Indium segregation modifies the localization of electron and heavy-hole.
5. The strain relaxations induced by pit and composition profiles are demonstrated.

Download English Version:

<https://daneshyari.com/en/article/7940173>

Download Persian Version:

<https://daneshyari.com/article/7940173>

[Daneshyari.com](https://daneshyari.com)