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Interface phonons of quantum dots in InAs/(Al,Ga)As heteroepitaxial system: A Raman study

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**Abstract**

Periodical structures with InAs quantum dots in an (Al,Ga)As matrix and AlAs dots embedded in InAs were studied by Raman spectroscopy focusing on the interface phonons. Experiments on asymmetric GaAs/InAs/AlAs quantum dot structures allowed distinguishing between the phonons of corrugated dot/matrix interfaces and those of planar wetting layer/matrix interfaces. The observed positions of the interface phonons are compared with the dielectric continuum model calculations taking into account the preferential dot shape derived from transmission electron microscopy. © 2005 American Institute of Physics.

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