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Journal Name:	Physical Science International Journal
Manuscript Number:	Ms_PSIJ_37435
Title of the Manuscript:	Multi-Phonon Raman Scattering in GaAs/Al0.28Ga0.72As Super-lattice
Type of the Article	

General guideline for Peer Review process:

This journal's peer review policy states that <u>NO</u> manuscript should be rejected only on the basis of '<u>lack of Novelty'</u>, provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agre highlight that part in t write his/her feedbac
Compulsory REVISION comments		
	 presented spectrum is not in agreement with [Nakayama, Masaaki, et al. "Photoreflectance and Resonant Raman Scattering of Above-Barrier Transitions in a GaAs/AlGaAs Superlattice." <i>Japanese Journal of Applied Physics</i> 34.S1 (1995): 80.] 	
	- poor information about Raman system(laser energy, spectrometer parameters)	
	- no prove the measured sample is a superlattice (HRTEM, TEM XRD experiments)	
	- authors claim that 782 nm laser interacts strongly with LO phonon based they have similar wave vector. Resonance Raman effect is based on similar energy of scattered light and some transitions in the sample (what is truth in this case), not based on similar wave vector [Sood, A. K., et al. "Resonance Raman scattering by confined LO and TO phonons in GaAs-AIAs superlattices." <i>Physical review letters</i> 54.19 (1985): 2111.]	
	-267cm-1, 290cm-1, 584cm-1 peaks are characteristic for GaAs first order and second order scattering what has nothing in common with superlattice [Sood, A. K., et al. "Second-order Raman scattering by confined optical phonons and interface vibrational modes in GaAs-AlAs superlattices." <i>Physical Review B</i> 32.2 (1985): 1412]. Only 876 cm-1 peak is not easy to connect with bulk material.	
	-if there is GaAs/AlGaAs some other peaks should be seen [Sood, A. K., et al. "Second- order Raman scattering by confined optical phonons and interface vibrational modes in GaAs-AlAs superlattices." <i>Physical Review B</i> 32.2 (1985): 1412]	
	-the whole article is based on one Raman spectrum - it is too little data	
	-necessary to publish the article is to prove the measured sample is indeed superlattice and in the Raman spectrum some of the basic superlattice band are visible. So the sample is a superlattice and the measured spectrum is a spectrum of the superlattice	
Minor REVISION comments	 - calculation based on linear chain in bulk materials- it may not be correct. More proper may be: [A. K. Sood, J. MenCndez, M. Cardona, and K. Ploog, "Resonance Raman scattering by confined LO and TO phonons in GaAs-A1As superlattices," Phys. Rev. Lett., vol. 54, pp. 2111-2114, 1985] [S. K. Yip and Y. C. Chang, "Theory of phonon dispersion relations in semiconductor superlattices," Phys. Rev. E, vol. 30, pp. 7037- 7059; 1984] [B. Djafari-Rouhani, J. Sapriel, and F. Bonnouvrier, "Bulk and surface phonons in superlattices of diatomic crystals," Superlattices and Microstructures, vol. 1, 1985, pp. 29-34] as it was shown in: [Klein, M. V. "Phonons in semiconductor superlattices." <i>IEEE journal of quantum electronics</i> 22.9 (1986): 1760-1770]. Authors should prove this point of view is correct -Fig. 1 Y-axe of spectrum should be named -Fig. 3 the first part should be shown near fig. 1 to show what the experimental configuration in 	
	configuration is	

eed with reviewer, correct the manuscript and the manuscript. It is mandatory that authors should ck here)

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Optional/General comments	

Reviewer Details:

Name:	Kacper Grodecki
Department, University & Country	Institute of Solid State Physics, Military University of Technology, Poland