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Title

Inhomogeneous Broadening Effect in THz Acoustic Cavities

Source

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Abstract

What is the lifetime of a cavity confined acoustic phonon in the relevant THz range, and what are its limiting factors, are questions of importance both from fundamental and device application perspectives. We present a model to study the effects of inhomogeneous broadening in planar acoustic cavities, separating the relative contributions of the superlattices and the cavity spacer. We contrast this model with ultra-high resolution Raman experiments in 1 THz semiconductor acoustic cavities and propose possible explanations for the discrepancies. (35 References).