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The Extended Hybrid Model For Optical Phonon Confinement

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Abstract: The theory of optical phonons and their confinement in heterostructures is reviewed with analogies made to the theory of acoustic phonons. The dielectric continuum (DC) model is obtained when bulk dispersion is ignored and the hybrid model is found when dispersion is included. The issue of boundary conditions is investigated and the solutions are shown with comparisons made using electron-phonon scattering.

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