

Pesquisa - A quantum mechanical expression for the lattice contribution to the total dielectric function of semiconductors

Notícias

Postado em: 23/11/2018 10:11

Artigo do Professor Dr. Antônio Vieira de Andrade Neto, pesquisador do Departamento de Física

Artigo de Professor Pesquisador do Departamento de Física.

Pesquisador: Prof. Dr. Antonio Vieira Andrade Neto

Artigo: A quantum mechanical expression for the lattice contribution to the total dielectric function of semiconductors

Link: <https://www.sciencedirect.com/science/article/abs/pii/S0577907318303459>

Abstract: Effects of electron-electron and electron-phonon optical interactions on the lattice dielectric function of the doped polar semiconductors are investigated. A new expression for the lattice contribution to the dielectric function is derived using the remarkable Zubarev double-time Green function. A numerical calculation for the case of GaN is done to highlight the accuracy of the model. The results obtained are in agreement with the available experimental data and reproduce the main features observed in Raman scattering spectra.