عنوان مقاله:

Investigating the longitudinal optical conductivity in three-layer graphene systems with composes Mono-Bi-Bi and Bi-Mono-Bi and Bi-Bi-Mono

محل انتشار:

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خلاصه مقاله:

The longitudinal optical conductivity is the most important property for graphene-based devices. So investigating this property for spatially separated few-layer graphene systems analytically and numerically is the main purpose of our study. Each layer can be mono- or bi-layer graphene. The density-density correlation function has been screened by the dielectric function using the random phase approximation, which includes the inter-layer Coulomb coupling. By using Kronecker delta and dielectric tensors The optical conductivity, is calculated, and plotted as a function of photon energy for three-layer graphene systems with composes mono-bi-bi, bi-mono-bi, and bi-bi-mono in different broadening widths. In the presence of the potential function between the layers, the carrier densities in each layer can be tuned respectively. In these two dimensional layered structures, the main contributions to the optical conductivity .are from the intra- and inter-band transition channels in a same layer

کلمات کلیدی:

Optical conductivity, Fermi Energy, Electron density, Three-layer Graphene