عنوان مقاله:

Effect of Axial Magnetic Field on Electrostatic Waves in Partially Carbon Nanotubes Plasma Filled

محل انتشار:

پنجمین کنگره بین المللی نانو و فناوری نانو (ICNN2014) (سال: 1393)

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خلاصه مقاله:

The effects of axial magnetic field on the electrostatic waves propagating through partially Single walledcarbon nanotubes (SWCN) using the linearized quantum hydrodynamic model (QHD) is theoretically explored. Recently,we have theoretically computed in order for excitation quantum electrostatics modes in a CNT in axial magnetic fieldwhich is filled with electron, wavelength between microwave and visible spectrum can be utilized. In this paper, bydrawing the dispersion relations (for different ratios of radii), we have noticed how model of quantum hydrodynamic andmagnetic field can effect on excitation of acoustic and optical waves. Also, for all magnetic fields to excite .quantumoptical waves, one may use wavelength between microwave and visible spectrum

کلمات کلیدی:

Electrostatic waves; Quantum Hydrodynamics model; Carbon Nanotube; Axial magnetic field