

Abstract Submitted
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Effect of Magnetic Field in Carbon Nanotubes ANDREW KINCHEN, RUSSELL SELVA, YURIY MALOZOVSKY, Southeastern Louisiana University — We study the effect of longitudinal magnetic in the armchair carbon nanotubes (CNT). We model the carbon nanotube as a tubule with electrons confined to the surface of the tubule by an attractive delta-function potential. We derived the dynamic pair interaction potential between two electrons in the tubule in the presence of magnetic field. Dispersion of plasmon modes at different values of angular momentum, and single-particle excitations in the presence of the magnetic field are derived as well. We also evaluate the self-energy part due to the interaction of an electron with plasma modes in magnetic field.

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