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Effect of Short-Range Electron Correlation in Nanotubes AN-DREW KINCHEN, RUSSELL SELVA, YURIY MALOZOVSKY, Southeastern Louisiana University — We study the effect of short-range electron correlation in the zigzag and armchair carbon nanotubes (CNT). We derived the dynamic pair interaction potential between two electrons in the tubule incorporating Hubbard type local field factor. The dispersion of plasma modes at different values of angular momentum, and chirality angle and single-particle excitations are derived as well. We also evaluate the self-energy part due to the interaction of an electron with acoustic mode.

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