Supplementary Information:

We present here a simplified model to estimate the effect of dielectric screening on energy levels in carbon nanotubes.. For our calculation, we treat the SWNTs as 2-nm dielectric cylinders with a dielectric function of $\varepsilon = 10$. We solve numerically for the Coulomb potential produced by a thin disk of charge either in an isolated nanotube or in a nanotube with another nanotube adjacent to it.. Shown in Fig. 1 are the electrostatic potentials produced along the axis of the nanotube for each of the two cases. We find that the effect of screen by an adjacent nanotube is to reduce the Coulomb potential by approximately 20 percent compared to the case of an isolated nanotube.
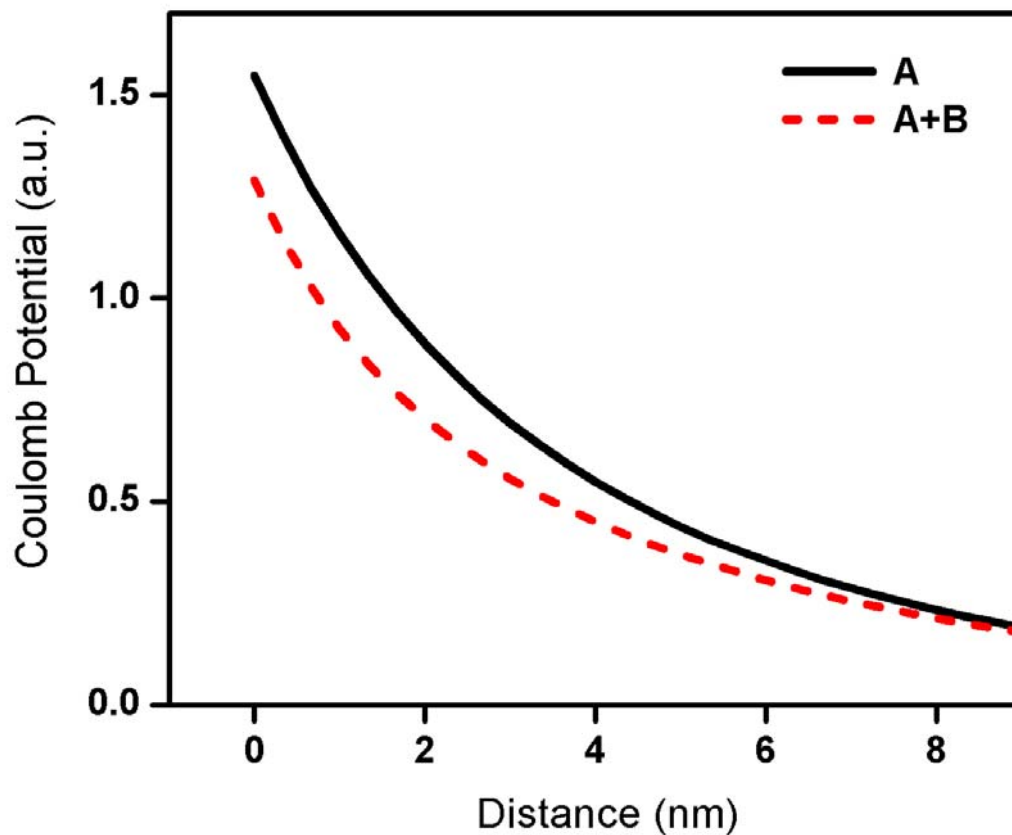

Figure 1. The Coulomb potential along the axis of a nanotube produced by disk of charge placed at the origin of the coordinate system. The nanotube is approximated as a cylinder with dielectric constant of 10 and diameter of 2 nm. The solid (dashed) curve corresponds to the potential in a nanotube without (with) an adjacent tube.