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Title:An FDTD thin-wire model for modeling carbon nanotube dipoles at THz regime
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Abstract:This letter presents an effective model for the numerical simulation of carbon nanotube (CNT) antennas by finite-difference time domain (FDTD). The formulation is based on the classical Holland's thin-wire model, which includes the electromagnetic parameters of the CNT. Those parameters are derived by applying the electron-fluid model, acceptable up to the far-infrared regime. The results have been validated for both scattering and radiation problems, through a comparison of previously reported experimental measurements and numerical simulations based on integral equations. © 2011 IEEE.
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