

Abstract Submitted
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Capacitance of nanostructures¹ JUNQIANG LU, JONATHAN GONZALEZ, CARLOS SIERRA, YANG LI, University of Puerto Rico at Mayaguez — Modeling capacitance of nanostructures in nanoscale circuits presents particular challenge because of contribution from electrodes, which can usually be neglected in modeling conductance, or even capacitance of macrodevices. We present a model of capacitance of a nano-gap configuration and applied to calculate capacitance of a carbon nanotube nano-gap and effective capacitance of a buckyball inside the nano-gap. The capacitance of the carbon nanotube nano-gap increases with length of electrodes, which shows the important contribution from the electrodes in dynamic transport properties of nanoscale circuits.

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