

Abstract Submitted
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Controlled Placement of Carbon Nanotubes using Massively Parallel Indirect Dielectrophoresis¹ BRIAN DAVIS, HIRAM CONLEY, DAVID JONES, CALEB HUSTEDT, LAWRENCE BARRETT, DEAN R. WHEELER, MATTHEW R. LINFORD, ADAM T. WOOLEY, JOHN N. HARB, ROBERT C. DAVIS, Brigham Young University — Dielectrophoresis has been used to place nanotubes, nanorods, nanowires, and other nanostructures between surface patterned metal electrodes. This technique can deposit a varying number of structures between each set of electrodes. We have developed a method to control the number of deposited singled-walled carbon nanotubes by tuning the impedance of capacitively-coupled electrodes through parameters such as electrode geometry and AC driving frequency. Controlled placement of nanotubes at high yield is a prerequisite for the use of carbon nanotube devices in modern integrated circuitry.

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