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Substrate Effects on the Electroplating of Carbon Nanotube Forests BERG DODSON, DALLIN BARTON, GUOHAI CHEN, MARCUS FINLINSON, RICHARD VANFLEET, ROBERT DAVIS, Brigham Young University — Metal electroplating of carbon nanotube forest is a new approach to fabricating metal MEMS devices. Recent success involves direct electrical connection to an interconnected CNT forest structure. Electrical connection through patterned leads on the substrate may allow better control in the metal fabrication process. This research focuses on the effects of using different metal substrates in the process of creating electroplated carbon nanotube structures. These structures are prepared by depositing a thin film of metal onto a silicon wafer by electron beam evaporation. Fabrication of the carbon nanotube structures involves photolithography, catalyst deposition, and CNT growth by CVD. The CNT growth is impacted by the choice of substrate. Electroplating takes place in a Ni(II)Cl solution. We will report on the current status and recent results.

Berg Dodson
Brigham Young University

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