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Nickel Infiltration of Vertically Aligned Carbon Nanotube Forests via Pulsed Electro Deposition LAWRENCE BARRETT, STEVEN NOYCE, ROBERT DAVIS, Brigham Young University — Carbon nanotube forests have been used as a template for building micro-scale high aspect ratio devices. Vertically aligned carbon nanotube forests are grown on a patterned catalyst, but these structures are extremely fragile. So we then infiltrate them with another material. For some devices, such as micro-filters for liquid and gas and micro-scale antennas the forest must be infiltrated with a metal, and we have developed a process using pulsed electro deposition of nickel to infiltrate these forests. We will present on mechanical and electrical characterization of the composite material and show device structures.

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