

Abstract Submitted
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Transfer of Patterned Arrays of Oriented Carbon Nanotubes by Electron Emission Assisted Sublimation RASHMI NANJUNDASWAMY, MEI ZHANG, University of Texas at Dallas, ALEX ZAKHIDOV, Moscow State University, ANVAR ZAKHIDOV, SERGEY LEE, MIKE SAMPSON, University of Texas at Dallas — Spark light emission was recently reported by us detected above certain threshold electron emission currents from oriented arrays of multiwalled carbon nanotube arrays. We would like to report the unusual phenomenon of mass transfer of patterned and un-patterned arrays of MWNT forests. These transferred NT's retain their alignment and structure on the anode. Both SEM imaging and Raman spectra confirmed this. We have been successful in transferring these nanotubes onto metals such as Al and Cu, on which it is inherently difficult to grow the tubes. We expect this phenomenon to resolve a considerable number of technological problems. These re-deposited tubes are found to be able to emit electrons when in turn used as cathodes that also prove that the nanotubes did not transform to amorphous carbon upon field-induced sublimation. The re-deposition of the tubes was performed using DC as well as AC electric fields.

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