

Abstract Submitted
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Patterned Carbon Nanotube Applications for Transmission Electron Microscopy KYLE ZUFELT, JONATHAN ABBOTT, ROBERT DAVIS¹, RICHARD VANFLEET², Brigham Young University - Provo — Transmission electron microscopy is a method for observing and characterizing thin films and other nanoscale samples. Carbon nanotubes were patterned and grown to function as disposable grids for transmission electron microscopy research. Patterned nanotube forests were infiltrated with carbon by chemical vapor deposition to provide greater strength. Carbon and polymer support films have been deposited in a batch process to provide a substrate for samples to be observed in the microscope. Grids are released from silicon wafer substrates by chemical etching. Carbon grids represent a significant improvement over traditional copper grids, which are not robust and must be individually coated in support films. These carbon support grids are also superior for use in spectroscopy applications (EELS, EDX) because of the low background signal.

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