A Review on Micro-Patterning Processes of Vertically Aligned Carbon Nanotubes Array (VACNTs Array)

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Abstract

Vertically Aligned Carbon Nanotubes array which is also sometimes labeled as carbon nanotubes forests has many applications in several engineering fields for its remarkable mechanical, electrical, optical, and thermal properties. The Vertically Aligned Carbon Nanotubes array is often employed in developing microdevices such as pressure sensor, angle sensor, switches, etc. To successfully integrate carbon nanotubes forest to the micro-electro-mechanical systems based devices, micropatterning of the carbon nanotubes forest is required. There are several methods available to realize micropatterning of Vertically Aligned Carbon Nanotubes array, from in-situ patterning during the growth process to post-patterning process. Each has its advantages and disadvantages. This paper will discuss elaborately different patterning processes of the carbon nanotubes forest and their different characteristics.

Keywords

Author Keywords: Micro-patterning; CNT forest; VACNT Array; CNT; MWCNT; mu EDM; laser
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