

Fabrication of highly uniform SWCNT thin films controlled by a dewetting velocity

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The development of effective coating processes for uniform thin films is a critical issue for fabricating transparent conductors. As a new class of thin film coating process, meniscus-dragging deposition(MDD) technique can offer the precise control of thin film thickness and the large-scale formation of conducting thin films by using a tiny volume of coating solution. The thin films formed with surfactant-stabilized SWCNTs showed a film rupturing because of secondary-flow in the aqueous layer. Here, we report that highly uniform and conducting thin films with surfactant-stabilized SWCNTs can be achieved by controlling a dewetting velocity during the MDD process.