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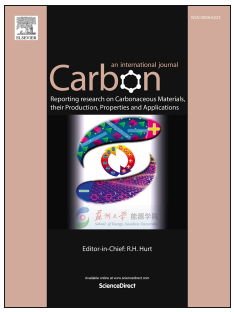

Fabrication of Three Terminal Devices by ElectroSpray Deposition of Graphene Nanoribbons

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Fabrication of Three Terminal Devices by ElectroSpray Deposition of Graphene Nanoribbons

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Abstract

Electrospray deposition (ESD) in ambient conditions has been used to deposit graphene nanoribbons (GNRs) dispersed in liquid phase on different types of substrates, including ones suitable for electrical transport. The deposition process was controlled and optimized by using Raman spectroscopy, Scanning Probe Microscopy and Scanning Electron Microscopy. When deposited on graphitic electrodes, GNRs were used as semi-conducting channel in three terminal devices showing gate tunability of the electrical current. These results suggest that ESD technique can be used as an effective tool to deposit chemically synthesized GNRs onto substrates of interest for technological applications.

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