Dokumenttyp: Konferenzbeitrag


Titel des Beitrags: Fabrication, characterization and modeling of flexible electronic components based on CNT networks

Abstract: In this contribution, we will present a modeling approach based on a stochastic algorithm that can generate non-rigid solid objects in a three-dimensional space, emulating with high fidelity the typical fabrication processes involved (i.e. spray-coating). A randomly generated set of tube segments and tube junctions is converted into a netlist and the overall electrical behavior is computed via a SPICE software. The theoretical results agree well with experimental data and provide valuable details on the operation mode of the fabricated devices. In addition, we will discuss the characteristics of CNT films prepared by scalable spray deposition as well as inkjet printing onto rigid and flexible substrates. The performance of a variety of devices (e.g. pressure, temperature and gas sensors; FETs) will be described.

Stichworte: thin film transistors, inkjet printing, sensors, spray deposition

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