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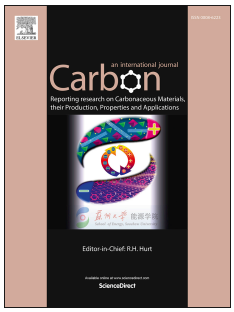

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Abstract

Electrostatic loading is widely used for sensing and actuation in miniaturized electromechanical systems, yet classical designs involve geometric patterning of solid materials such as silicon and metal films. Conductive nanoporous materials for electrostatics may enable engineering of new functionalities arising from their compliance, internal surface forces, and high surface area. Toward this end, we investigate the response of vertically aligned carbon nanotube (CNT) "forests" to DC and AC electrostatic loads. First,