

Abstract Submitted
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Solution Processed Carbon Nanotube /PMMA Nano Composite Infrared Photodetectors YI LIU, LIWEI LIU, PAUL STOKES, QUN HUO, SAIFUL I. KHONDAKER, University of Central Florida, NANOSCIENCE TECHNOLOGY CENTER, DEPARTMENTS OF PHYSICS & CHEMISTRY, UNIVERSITY OF CENTRAL FLORIDA TEAM — Solution processable nanostructured materials are of great interest for electronic and optical devices because of their enhance functionality, easy processibility, flexibility, and low cost of fabrication. We tested multi walled carbon nanotube networks dispersed in poly (methyl methacrylate) (PMMA) matrix for use as the infrared (IR) photodetectors at room temperature in ambient condition. Our study reveals both negative and positive infrared response depending upon the dark conductivity of the composite. The temperature dependence of resistance, photo intensities and bias voltages dependence of IR response will be presented. This work shows promising novel route for the fabrication of infrared bolometric photo detector based on solution-processed carbon nanotube/PMMA composites.

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