Abstract Submitted
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Polyaniline-Carbon Nanotubes Composite Actuators[1] SABRINA ROSA, University of Puerto Rico at Humacao, Humacao, Puerto Rico, CARLOS CAMARGO, Centre Nacional de Microelectronica, Barcelona, Spain, EVA CAMPO, University of Pennsylvania, PA, JAUME ESTEVE, Centre Nacional de Microelectronica, Barcelona, Spain, IDALIA RAMOS, University of Puerto Rico at Humacao, Humacao, Puerto Rico — The understanding of photoactuation in Carbon Nanotubes (CNT)-polymer composites can contribute to the development of micro- and nano-optical-mechanical systems for applications that include intracellular motors, artificial muscles, and tactile displays for blind people. The integration of CNTs into polymers combines the good processability of polymers with the functional properties of CNTs. CNTs-polymer composite fibers were fabricated using the electrospinning technique. electrospinning process orients the CNTs along the precursor stream and can contribute to enhance photo actuation properties. The addition of polyaniline, an electroactive conductive polymer is expected to enhance the actuation strain of the composite. aim of this research is to study photoactuation in MWCNT-Polyanilile electrospun fibers. fibers were characterized using Scanning Electron Microscopy, Atomic Force Microscopy, and X-Ray Diffraction. Results demonstrate evidence of photo-actuation after irradiating the fibers with visible light. tests are being conducted to understand the mechanisms of the composites response to light stimulation.

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