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Wet-spun carbon nanotubes for soft robotic applications

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Actuators are smart materials that convert light, heat, or electricity into motion and can be attractive in areas as diverse as biomedical surgery, sensing, and robotic. However, the practical applications of these actuators are limited by defective combination of the high generated force, fast response and large motion. Normally, actuators show large displacement with small force, such as polymeric devices, or display much less motion with a higher force, such as the alloy NiTi. Short operation time and slow reflexion are another weaknesses of current actuators. This study has demonstrated that a structure of carbon nanotube filaments, can represent long operation life time as well as quick and large bending actuation, in the absence of electrolytes.

Biography

Bijan Nasri Nasrabadi has completed his BSc at Azad University of Shahreza (Iran) in the field of Polymer Engineering and then moved to Isfahan University of Technology (Iran) where he obtained his master degree in the same field. In 2016, he was awarded Deakin University Postgraduate Research Scholarship (DUPR) and moved to Australia. He is working on soft actuator applications of carbon nanotubes as his PhD study. He has published papers on his postgraduate research.

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