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Nanogenerators fabricated from polyurethane and poly (vinylidene fluoride-hexafluoropropylene)

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Power harvesting density has been observed for polyurethane (PU) with different aggregations of hard segments. It is promising for energy conversion in a low frequency range. Poly(vinylidene fluoride-hexafluoropropylene) or P(VDF-HFP) is comparatively studied with PU. However, P(VDF-HFP) is more attractive in view of cost (≈ 0.3 USD/g). Its potential for mechanical-electrical energy conversion without external voltage source has been discovered. Electrostriction is a key phenomena for both PU and P(VDF-HFP). The electric-field induced strain has been explored and discussed mainly in this presentation in order to promote the fabrication and applications of these smart polymers as nanogenerators.

Biography

Nantakan Muensit received her BSc degree from Prince of Songkla University in 1983 and MSc degree from Chulalongkorn University in 1986. In 1999, she obtained a PhD degree in Material Physics from Macquarie University, Sydney, Australia. She has been a faculty member at Prince of Songkla University since 1987 and became an Associate Professor in 2004. Her research interest is about the piezoelectric materials and their challenging applications. Her publications including books and patents comprise more than 100 papers in various refereed journals and conference proceedings. A group of multidiscipline researchers and graduate students under Center of Excellence in Nanotechnology for Energy has been guided by her since 2013.

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