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A discharge approach to ferroelectret nanogenerators- research into novel methods for charging IoT/wearable devices and smart clothing

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Triboelectric/Ferroelectret nanogenerators have attracted our interest after works done by Xi and Sepulveda, where seminal production processes of implementing PTFE into working devices are presented. The material setup and complexity of those processes inhibit widespread adoption of nanogenerator-type of devices. In this work, research into low-cost, PET-based hybrid patterned nanogenerators is presented. A novel structure for the optimization of power retrieval from the electret material is presented with numerical analysis, first

experiments and total cost overview, being a combination of discharge and generative effects. An outlook into cheap manufacturing of such materials is presented as conclusion.

Speaker Biography

Piotr Słupski had been involved in several research projects, ranging from holography to electromagnetic defense apparatus.

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