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Printed Graphene Electronics

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Graphene, emerging as a true 2-dimensional material, has received increasing attention due to its unique physicochemical properties (high surface area, excellent conductivity, high mechanical strength, and ease of functionalization and synthesis). Printed Electronic also is a new wave of large-area electronics and flexible electronics manufactured by printing technology. The fusion of these two emerging technologies created the new opportunity to invent variety of novel electronic devices with low cost including nanosensors. Recent development on printed sensors based on graphene and graphene hybrid composite at TOPIC are comprehensively presented. Printed graphene based biosensors exhibited promising properties with good reliability suitable for commercial applications such as food pathogen sensors, biomedical sensors etc. Moreover, the application of printed graphene-based electronic devices researched at TOPIC will be presented including graphene-based electroluminescent light sheet, touch switch and supercapacitors for energy storage applications.

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