Performance enhancement of graphene based electrodes using machine learning techniques

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Abstract

Advanced flexible electronics applications like optoelectronics and sensors demand for high performance of flexible conducting electrodes. Taking advantage of the fast development and application of machine learning in various fields, such techniques can be incorporated into flexible electronics to achieve smart and improved performance. In this work, a demonstration of the enhancement of performance of flexible conducting electrodes based on graphene is shown with the assistance of machine learning methods. The obtained improved performance in applications like electrothermal heater and touch panels will be presented. Graphene based flexible conducting electrodes with improved performance will have an edge over their counterparts in technical applications.

References

[1] R. K. Govind, A. Sunil, A. Sureshkumar, H. Rejani, S. Shibu Yamuna and A. James, IEEE Journal on Flexible Electronics, 4, 3 (2025) 117-125.

Figures

Figure 1: Smart applications of graphene based flexible conducting electrodes achieved by the integration of machine learning methods