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Recent Developments in Van der Waals Interaction-Based Sensors: Beyond Graphene

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Message from the Guest Editors

With the discovery of graphene and its powerful electrical, optical and mechanical properties, extensive studies have been carried out in order to apply these properties to optoelectronic devices as well as in various sensors. However, due to the lack of a bandgap, graphene is unable to fully control the off current during the operation of electronic devices. On the other hand, extensive studies conducted on graphene for over a decade have triggered researches to examine other van der Waals force-based two-dimensional (2D) nanomaterials. Dissimilar to graphene, van der Waals force-based 2D nanomaterials have high charge carrier mobilities, tunable band gaps, excellent magnetic properties, and high piezoelectric properties. These unique van der Waals force-based 2D nanomaterial properties have been utilized in various sensor applications. In this Special Issue, sensor-related applications of not only graphene, but also van der Waals force-based electronic devices (especially sensors), are dealt with based on the principles behind physically layered structures and chemically atomic compositions. In addition, comprehensive research trends concerning these materials are introduced



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Message from the Editor-in-Chief

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