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Carbon-Based Multifunctional Nanomaterials: Synthesis, Properties and Application

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Message from the Guest Editors

Carbon is known to form distinct solid-state allotropes with diverse structures and properties, such as sp^2 -bonded graphite and sp^3 -bonded diamond. Novel carbon nanomaterials composed entirely of sp^2 -hybridized carbon atoms have been developed in dimensionalities ranging from zero-dimensional (0D) fullerenes and one-dimensional (1D) carbon nanotubes (CNTs) to two-dimensional (2D) graphene in past decades. Generally, the atomic structures and interfacial interactions of carbon nanomaterials with materials in other phases has an important influence on the properties of the carbon nanomaterials. Therefore, the design and functionalization of carbon nanomaterials from a nanoscale perspective has become a popular strategy to achieve desirable properties for particular applications.

- carbon-based nanomaterials
- multifunctional composites
- theoretical calculation
- processing and forming of carbon-based materials
- carbon-based thermal conductive composites
- carbon-based energy composites
- carbon-based structural materials



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Message from the Editor-in-Chief

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