

Special Issue

Stacking Engineering in 2D Materials and Van der Waals Heterostructures

Message from the Guest Editor

Assembling two-dimensional (2D) monolayer blocks in a 3D stack layer-by-layer in a precisely chosen sequence/angle can effectively alter the crystal structures, finely tune the electronic properties, significantly increase conductivity, and modify the lifetime of carriers in the stacking heterobilayer. Since unconventional superconductivity was achieved in magic-angle graphene, the stacking idea has been further extended to graphene-like systems, and increasing theoretical/experimental research focuses on exotic quantum phenomena and rich physics, which opens up a new realm of 'twistronics'. The purpose of the present Special Issue is to collect crucial research on stacking engineering in 2D materials and van der Waals heterostructures from a fundamental and application perspective. We aim to summarize and discuss controllable fabrication methods, state-of-the-art characterization techniques, exotic optical and optoelectronic properties, and the latest theoretical achievements. In addition, we would like to provide an outlook on its potential applications for future photoelectric and electromagnetic devices.

Guest Editor

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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