



Advanced Two-Dimensional Materials: Characterization, Defect-Engineering, and Applications

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

This Special Issue focuses on the state-of-the-art research progress in the field of two-dimensional (2D) materials. Designing new 2D structures to unlock novel functionalities, laying the groundwork for the next-generation devices, is of particular interest. Several approaches are exploited to this end, ranging from the manipulation of these materials' natural properties via structural defect engineering or assembling and mixing 2D materials in homo- or heterostructures, e.g., band structure tuning via altering the lattice structure or via twisting the atomic planes in vertical heterostructures; tuning optical and electronic properties by mixing different materials; generating photon sources via defect-based color centers; and enhancing surface chemical reactivity via structural defect engineering.

The present Special Issue is primarily devoted to novel experimental studies on 2D materials that explore property characterization, property tuning via materials assembling and defect engineering (design, methodology control, and characterization), and their applications in device physics.





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Message from the Editor-in-Chief

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