



Ultrathin Transition Metal Dichalcogenides and Other 2D Materials

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Message from the Guest Editor

Dear Colleagues,

In the past decade, researchers have been actively looking for alternative 2D materials to overcome the difficulties related to the absence of a bandgap in graphene. Transition metal dichalcogenides (TMDCs), with a structure in the form of $X-M-X$, where M is a transition metal element from groups 4–7 and 10, while X is a chalcogen (S, Se, Te), have promptly emerged as promising materials.

The aim of this Special Issue is to provide a platform for both experimental and theoretical studies on the fundamentals and applications of 2D transition metal dichalcogenides.

Topics of interest to this special issue include, but are not limited to:

- Transition metal dichalcogenide
- Synthesis: Exfoliation, chemical vapor deposition, molecular beam epitaxy
- Structure ; Transport properties ; Radiation effect
- Mobility engineering ; Mechanical properties ; Strain engineering
- Electronic bandstructure: Bandgap, spin–orbit, and spin–valley coupling
- Semiconductor devices: Heterostructures, transistors, photodetectors, memories, high-frequency applications
- Optical properties: Emission, absorption, excitons





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Message from the Editor-in-Chief

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