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First-Principles Calculations of 2D Magnetic Materials

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Message from the Guest Editors

Dear Colleagues,

Spintronics, which uses the electron's spin for information processing, is considered one of the most promising information technologies. Among various functional spintronics materials, two-dimensional (2D) intrinsic ferromagnetic (FM) materials, including semiconductors and half-metals, integrating low dimensionality, ferromagnetism, high integration density, and magnetic anisotropy, have been considered ideal candidates for pure spin generation, injection, and transport in high-integration-density spintronic devices. Among them, the family of atomically thin 2D magnetic materials has been quickly expanding following the discovery of graphene, such as CrI₃, Cr₂Ge₂Te₆, VS₂, and other Van der Waals magnetic materials, thus opening up a vast field of low-dimensional magnetism. Some of the foreseen topics to be treated in the Special Issue will be:

- Discovery of 2D magnetic materials;
- Heterostructures combining 2D magnetic materials with other materials;
- Defect modulated magnetism in 2D and layered materials;
- Optical/electronic properties and novel perspectives;
- First-principles characterization;
- Computational methods in the field of magnetism.



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Special Issue



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Message from the Editor-in-Chief

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