Special Issue

Layered Chalcogenide Materials Synthesis, Energy and Emerging Anisotropic Applications

Message from the Guest Editors

Two-dimensional (2D) chalcogenides are a class of materials composed of transition metals or post-transition metals bonded with chalcogen elements (S, Se, or Te). These materials exhibit unique electronic, optical, and mechanical properties, making them highly attractive for applications in nanoelectronics, optoelectronics, energy storage, and catalysis.
The goal of this Special Issue is to focus on the synthesis, emerging application of anisotropic 2D chalcogen materials, and heterostructures for photonic and optoelectronic devices, including emerging quantum applications.
This Special Topic includes, but is not limited to, the following:
i) Mechanism and technology for growth and fabrication.
ii) In-plane anisotropy: electrical transport, magneto-transport, optoelectronic, thermoelectric, ferroelectric, and piezoelectric properties.
iii) Low-symmetry 2D materials.
iv) Optoelectronic properties of anisotropic materials.
v) Optoelectronic devices and sensors.
vi) Theoretical analysis of anisotropic materials with low symmetry: modeling and simulation.
vii) Anisotropic/isotropic and isotropic/anisotropic heterostructures.
viii) Spintronics and quantum applications.

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About the Journal

Message from the Editor-in-Chief

Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

Editor-in-Chief

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