Special Issue

Low-Dimensional Materials: Growth and Applications

Message from the Guest Editors

As silicon-based CMOS technology is approaching its limits in scaling, two-dimensional (2D) materials with atomically thin natures and outstanding physical properties have attracted rapidly growing interest in recent years. Following the boom of graphene, a family of 2D materials with a variety of physical properties has been revealed, including insulators (e.g., h-BN), semiconductors (e.g., MoS2), and semimetals (e.g., PtTe2). As well as pristine 2D materials, due to their dangling-free surfaces, LEGO-like vdW heterostructures are appealing for the realization of enhanced applications.

This Special Issue aims to address the recent advancements in the growth and applications of 2D materials. The corresponding material systems in this Special Issue include, but are not limited to, 2D materials, including 1D semiconductor nanowires; 2D transition metal dichalcogenides (TMDCs) materials; perovskite; oxides; and related vdW heterostructures. We believe this Special Issue can provide a comprehensive presentation of the latest research findings and promote the practical applications of 2D materials.

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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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