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Advanced Semiconductor Materials and Films: Properties and Applications

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Deadline for manuscript submissions:
closed (27 December 2024)

Message from the Guest Editors

Dear Colleagues,

One-dimensional (1D) semiconductor nanostructures, 2D materials, and thin films are of particular interest with respect to their potential applications in highly integrated devices and systems. Especially, on-nanostructure bandgap modulation, thin film heterostructures, artificial optical systems (fabricated via CVD, MOCVD, MBE, and ALD), solution-based process, and sputtering, etc., may provide material platforms for potential applications in photovoltaics, solid-state lighting, as well as highly integrated photonic and optoelectronic devices.

Authors are invited to submit original research articles, critical review articles, or short communications focused on, but not limited to, these topics:

1. On-structure synthesis of 1D or 2D materials with radially or axially modulated compositions along a single structure;
2. Innovative technical for the realize the bandgap engineering on a single nanowire or 2D materials;
3. Recent advances in thin films and optoelectronic applications;
4. Fabrication and physical properties of semiconductor materials;
5. Semiconductor-metal interactions or light-mater interactions.

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Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.

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