Special Issue

Recent Advances in Graphene Epitaxial Growth: Aspects of Substrate Surface Modification Using Coatings

Message from the Guest Editor

Due to the features of the energy spectrum of carriers, graphene exhibits specific, in contrast to other two-dimensional systems, electrophysical properties. Graphene has high hardness, thermal conductivity, and charge mobility, which makes it a promising material for use in a variety of applications, especially in the field of nanoelectronics. This Special Issue will collect articles on the following concepts:

- Promising methods of preparation and mechanisms of self-organization of epitaxial graphene and shape dynamics.
- The role of substrate surface modification for graphene epitaxy: surface engineering, creation of growth centers, etching, suppression of inhomogeneous segregation, structure transformation, use of buffer layers.
- The role of catalysts in the efficiency of the nucleation of large graphene domains.
- New ideas and knowledge of mechanisms for obtaining graphene with unique properties (multilayer graphene, suspended graphene, free-standing graphene, two-layer graphene with magic angle, etc.)
- Theoretical aspects of studying the properties of epitaxial graphene.

Guest Editor

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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.
Coatings is a well-established, peerreviewed, online journal dedicated to the vibrant field of surface science and engineering. Coatings publishes original research articles that report cutting-edge results and review papers that make the point on the hottest research topics.

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