

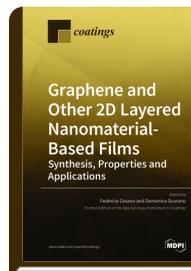
Special Issue Reprint

Graphene and Other 2D Layered Nanomaterial-Based Films

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This book is dedicated to highlighting some relevant advances in the field of thin films and coatings based on two-dimensional crystals and layered nanomaterials. Due to their layered structure, graphene and a variety of new 2D inorganic nanosystems, called “graphene analogues”, have all attracted tremendous interest due to their unprecedented properties/superior performance, and may find applications in many fields from electronics to biotechnology. These two-dimensional systems are ultrathin and, hence, tend to be flexible, also presenting distinctive and nearly intrinsic characteristics, including electronic, magnetic, optical, thermal conductivity, and superconducting properties. Furthermore, the combination of different structures and synergetic effects may open new and unprecedented perspectives, making these ideal advanced materials for multifunctional assembled systems. As far as the field of coatings is concerned, new layered nanostructures may offer unique and multifunctional properties, including gas barrier, lubricant, conductive, magnetic, photoactive, self-cleaning, and/or antimicrobial surfaces. This book contains new findings on the synthesis and perspectives of multifunctional films that are at the forefront of the science and coating technologies.

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