

Special Issue

Epitaxial Thin Films: Properties and Applications

Message from the Guest Editor

Epitaxial growth of thin films of materials has played a crucial role in a wide range of applications in electronics, optoelectronics, and magneto-optics. Among the various epitaxial growth techniques, liquid-phase epitaxy (LPE), metal organic chemical vapor deposition (MOCVD) and molecular beam epitaxy (MBE), and most recently low temperature atomic layer epitaxy (ALEp) have been developed to deposit epitaxial films. These epitaxial films find a variety of applications in electronic, magneto-optic, optoelectronic, superconducting, ferroelectric, and pyroelectric and numerous other devices. These epitaxial growth techniques are also used to produce multilayer structures or superlattices with atomic-layer control, which is fundamental to nanoscale engineering. Suitable combinations are needed in microelectronics, optoelectronics, solar cells, thermophotovoltaics, thermo-electric, semiconductor electrochemical devices, magnetic/magneto-optical devices, and microelectromechanical systems. This Special Topic on Epitaxial Growth of Thin Films and Applications highlights the forefront of research in this interdisciplinary area spanning physics and material science.

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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