Special Issue

Silicon Carbide: From Fundamentals to Applications (Volume II)

Message from the Guest Editor

Silicon carbide is an irreplaceable material as a substrate for creating heterostructures based on wide-gap semiconductors such as gallium and aluminum nitrides. On heterostructures based on gallium nitride compounds grown on SiC substrates, it is possible to create transistors with high charge carrier mobility, high-power LEDs, and blue lasers.

The topic of this Special Issue covers a range of areas within the study of both fundamental and applied aspects of the mechanisms of nucleation and growth of crystals and thin films of silicon carbide, the formation of growth defects, and the mechanisms of charge carrier transport. Special attention will be paid to the growth of silicon carbide layers on silicon, since the combination of these two materials makes it possible to integrate silicon carbide and films of such wide-gap materials as GaN, AlN, and others grown on its surface with the main material of modern micro and optoelectronics—silicon. The particular relevance of the materials mentioned is due to the wide range of applications of semiconductor structures based on them in technology and industry.

Guest Editor

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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