Special Issue

Silicon Carbide: From Fundamentals to Applications

Message from the Guest Editor

Silicon carbide is the only binary compound of silicon and carbon that exists in the solid phase under normal conditions. The topic of this issue covers a wide range of questions devoted to the study of fundamental and applied aspects of the nucleation and growth mechanisms of crystals and thin films of silicon carbide, to the formation of growth defects, and transport mechanisms of charge carriers. Particular attention will be paid to the growth of silicon carbide layers on silicon, since the combination of these two materials allows integration of silicon carbide, as well as films of wide-bandgap materials (such as GaN, AlN, Ga2O3) grown on its surface, with silicon—the main material of modern micro- and optoelectronics. Particular attention will also be paid to the growth processes and properties of crystals, thin films, nanocrystals, and nanostructures of wide-bandgap semiconductors (such as GaN, AlN, and Ga2O3) grown on SiC. These materials are especially relevant due to the wide range of applications of semiconductor structures based on them that are relevant in the world industry. It is my pleasure to invite you to submit a manuscript for this Special Issue.

Guest Editor

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Deadline for manuscript submissions

closed (31 December 2020)

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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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