Special Issue

Wide Bandgap Semiconductor Materials and Devices

Message from the Guest Editors

Wide bandgap (WBG) devices, e.g., silicon carbide (SiC) and gallium nitride (GaN)-based diodes, metal-oxide field-effect transistors (MOSFETs), junction gate field-effect transistors (JFETs), bipolar junction transistors (BJTs), insulated gate bipolar transistors (IGBTs), gate turn-off thyristors (GTOs), high-electron-mobility transistors (HEMTs), etc., are poised to change the landscape of power electronics industry. But to achieve the expected superior system performance with WBG devices, innovations are needed in materials and devices. Therefore, this Special Issue of Materials is aimed at providing a collection of papers focusing on wide bandgap semiconductor material and device technologies. The topics of interest include, but are not limited to:

- Heteroepitaxial and bulk materials growth
- Semiconductor defect inspection and analysis
- Gate dielectrics and surface passivation
- Device structures and fabrication techniques
- Device characterization and modeling
- SOAs including short-circuit, spike, and transient tolerance
- Harsh environment (e.g. high temperature) operation and reliability
- Packaging, power modules, and Ics

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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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