Special Issue

Advances in GaN- and SiC-Based Electronics: Design and Applications

Message from the Guest Editor

The RF and power electronics industry promote the development of the world's economy, facilitate highly efficient utilization of energy, and allow convenience in daily life. As the typical representative of wide-bandgap technology, GaN- and SiC-based electronic devices contribute to high-efficiency power conversion and advanced, high-efficiency RF communication systems.

The development of advanced GaN- and SiC-based electronics, relying on overall optimization from materials, manufacturing technology, device design, and application development. There are several scientific issues that need to be addressed in order to overcome the limits of GaN and SiC materials. Some issues include the following: (1) the development of low-defect growth methods; (2) advanced device structure optimization for high performance; (3) the optimization of device processing and passivation, with the aim of maximizing device performance; (4) advanced methodologies for driving and thermal management; (5) application-driven integration on both circuit and system levels; (6) reliability analysis and reliability-enhanced technology.

We look forward to receiving your submissions.

Guest Editor

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