Special Issue

Ultra-Wide Bandgap Semiconductors and Devices

Message from the Guest Editor

Emerging ultrawide bandgap (UWBG) semiconductors have attracted more and more attention due to their potential advantages for use in many applications, such as high-voltage power switches, RF amplifiers, solar blind photodetectors, and harsh environment electronics. Theoretically, with an even wider bandgap than the previously established GaN (3.4 eV) and SiC (3.3 eV), UWBG materials offer many far superior properties, such as a larger breakdown electric field, higher temperature tolerance, and potentially higher radiation hardness. These materials include but are not limited to gallium oxide (Ga2O3), diamond, aluminum nitride (AlN), and boron nitride (BN). In recent years, remarkable progress has been made in the development of UWBG semiconductors in terms of both material synthesis and device applications. However, there are still many obstacles to be addressed.

Guest Editor

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