



New Semiconductor Materials, Devices, Power Applications, and Radiation Effects

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Message from the Guest Editors

Dear Colleagues,

New materials include wide bandgap semiconductors (GaN, SiC), ultra-wide band gap semiconductors (Ga₂O₃, diamond, AlGa_N, AlN), carbon-based materials and other semiconductor materials. New structural devices include lateral HEMT, grooved VDMOSFET, trench MOSFET, vertical Fin MOSFET, super junction, etc. New semiconductor materials have superior characteristics, such as high breakdown electric field, low specificity of resistance and high temperature resistance. Combined with innovations in device structure, they can make power circuits, such as DC–DC and AC–DC, more efficient, smaller and more powerful. In addition, new materials, devices and circuits have also received extensive attention in total dose, single event effect and other radiation aspects.

The topics of interest include, but are not limited to:

- Wide bandgap semiconductor (SiC, GaN);
- Ultra-wide bandgap semiconductor (Ga₂O₃, diamond, AlGa_N, AlN, BN);
- Compound semiconductor materials and devices;
- Power conversion circuits;
- Packaging of wide bandgap semiconductor devices;
- Devices and circuits reliability;
- Total dose and single event effects.



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Message from the Editor-in-Chief

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