Special Issue

Robustness and Reliability of GaN Technology in Power Switching Applications

Message from the Guest Editor

GaN devices are now much more than a promise in modern electronics. Dozens of manufacturers market GaN devices that have found applications in various fields of electronics, from power supplies to RF power amplifiers. However, in addition to the well-known benefits of using WBG devices, new challenges arise. On the one hand, we have devices whose reliability is linked to degradation phenomena that are very different from those of traditional silicon devices. On the other hand, to take full advantage of the benefits deriving from the use of GaN devices, it is necessary to rethink the general rules used in the design of circuits based on silicon devices. This requires the careful design of driver circuits, the application of new high-frequency design principles, reliable switching and optimal energy efficiency. The purpose of this Special Issue is to address the problems of GaN devices together with those of the circuits in which they are inserted, to define the system-level reliability of GaN.

Guest Editor

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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