Special Issue

Advances in Wide Bandgap Technologies for Power Electronics

Message from the Guest Editors

Wide-bandgap (WBG) semiconductor technologies such as those based on silicon carbide and gallium nitride address high-performance power conversion applications in the context of a fast-growing power electronics market. The higher critical electrical field of WBGs with respect to silicon, which is currently the most widely used semiconductor in power electronics systems, has allowed the introduction of novel devices with lower conduction and switching losses. The majority of commercial gallium nitride devices have a lateral architecture, and silicon carbide ones have a vertical design; both originate from substrate type availability and specific material properties. Novel device-driving strategies and power circuit optimizations are developing with the increased availability of WBG power electronics devices. The objective of this Special Issue is to cover all research activities related to WBG and ultra-WBG power electronics from materials, process development, devices, circuits and systems to applications and markets.

Guest Editors

Dr. Julien Buckley

Dr. Matthew Charles

Dr. René Escoffier

Deadline for manuscript submissions

closed (10 June 2024)

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/si/111227

Energies
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
energies@mdpi.com

mdpi.com/journal/energies

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/journal/energies

About the Journal

Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

Editor-in-Chief

Prof. Dr. Enrico Sciubba
Department of Mechanical and Industrial Engineering, University Niccolò Cusano, 00166 Roma, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, RePEc, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

CiteScore - Q1 (Control and Optimization)