Special Issue

New Advances in Magnetic Materials for Power Electronics Applications

Message from the Guest Editors

Thanks to the recent advances in optimization algorithms, magnetic materials study and powerful simulation tools, the design of passive devices has been greatly improved. This not only increases the accuracy of the mathematic models, it also reduces the time of design consumption. Nowadays, passive components rule over the size, weight, and loss of many power electronics systems, with magnetics being the most challenging devices to design. Therefore, the academic and industry research challenge is focused on:

- The selection of proper magnetic materials to construct inductors that can achieve an efficiency increment trough magnetic permeability and hysteresis improvements;
- Modelling and designing improved high-frequency power magnetics, addressing skin and proximity effects.

where both high-frequency magnetic materials and designs can yield improved performance. The main aim of this Special Issue is to seek high-quality submissions that highlight contributions in new magnetic materials' selection, and its design for power electronic applications.

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Deadline for manuscript submissions

closed (31 December 2021)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/62080

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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