Special Issue

Wide-Bandgap Semiconductor Materials in Power Electronics

Message from the Guest Editor

Wide bandgap (WBG) semiconductor materials, such as silicon carbide (SiC), gallium nitride (GaN) or gallium oxide (Ga2O3), allow power electronic components to be smaller, faster, more reliable, and more efficient than their silicon (Si)-based counterparts. Currently, around half of the world's total energy consumption of any kind is electrical, and it is estimated that 80% of all electricity will flow through a power-electronic device by 2030. Yet, there is a lot of room for basic and material science; WBG materials are indeed all over the place; almost the entire Earth crust is formed by wide bandgap oxides, and there are many chalcogenides, halides, organic and biomaterials that are also wide bandgap materials, among many other possibilities. The present Special Issue is devised as a collection of articles, reporting both concise reviews of recently obtained results, and new findings produced in this broad research area.

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Deadline for manuscript submissions

closed (25 February 2022)

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/62353

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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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