Special Issue

Soft Magnetic Composites: Manufacture, Properties and Applications

Message from the Guest Editor

During the past three decades, most of the effort in magnetic composites has focused on the development of powder cores, also known as soft magnetic composites (SMCs). SMCs have been constructed of micrometer-scale particles (most often Fe but sometimes alloys such as Fe-Si-Al, Fe-Si, or Fe-Ni), which appears to be a feasible concept to be applied in strategic topics for modern society, including sensing, energy generation, and conversion. With a unique freedom regarding material selection based on powder metallurgy techniques, this class of engineering magnetic materials allows novel designs able to drive operation conditions to new limits, unlocking the potential of novel applications. The Special Issue will comprise articles on soft magnetic composites regarding their manufacture, magnetic performance, applications, and future trends. Manuscripts will be welcomed from both fundamental scientific researchers and authors belonging to industrial companies involved in the field.

Guest Editor

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Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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