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Recent Advances in Field-Assisted Sintering Technologies

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Deadline for manuscript submissions:
closed (31 December 2021)

Message from the Guest Editors

Field-assisted sintering techniques include field assisted sintering/spark plasma sintering, flash sintering, microwave sintering, discharge sintering, and other technologies where electric or magnetic fields drastically enhance the sintering kinetics. These technologies have been intensively investigated over the last decades. Now, many of them are in transition from laboratories to industrial applications. Despite a number of excellent research papers, reviews, and books are newly published, the development is so fast, that a new look into the actual results is needed. The aim of this Special Issue is to update the achievements, open a discussion about the appearing problems, and present examples of the upscaling and industrial applications of field-assisted sintering technologies. Papers on physics, chemistry, technology, industrial application, and equipment for the realization of these technologies are welcome. We are particularly interested in small or large reviews in special topics such as the mechanisms and modeling of field-assisted sintering, field-assisted sintering of oxide ceramics, reactive field-assisted sintering, and so on.

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Message from the Editor-in-Chief

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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