Special Issue

New Advances in Powder Metallurgy Technology

Message from the Guest Editor

Powder metallurgy is an important process to manufacture various products via compaction and sintering of powders. It is widely used to manufacture porous or dense materials. To date, several advanced powder metallurgy technologies have been developed to manufacture high-performance products. The advanced processes of powder compaction and sintering include high-velocity compaction, magnetic pulse compaction, hot pressing, hot isostatic pressing, spark plasma sintering, flash sintering, microwave sintering, and so on. Moreover, numerical simulation has been performed to investigate the powder metallurgy process. Numerical models are usually based on continuous media or multi-particle hypotheses. They are beneficial for the process design or mechanism investigation of powder metallurgy. In this Special Issue, we welcome articles that focus on the advanced technology of powder metallurgy and accurate modeling of the powder metallurgy process. The multi-physics field-assisted compaction and sintering processes of powder metallurgy especially remain of interest, with enormous potential for manufacturing high-performance structural or functional materials.

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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