



Spark Plasma Sintering

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Deadline for manuscript
submissions:

closed (31 August 2020)

Message from the Guest Editors

Over the course of the last three decades, a novel sintering technique known as spark plasma sintering (SPS), plasma activated sintering (PAS) or field-assisted sintering technique (FAST), has emerged. This technique has shown great versatility in the development, synthesis, and consolidation of both novel materials and improvements on traditional materials. The technique enables rapid densification of various materials, including metals, ceramics, polymers, and composites, to high or even full density within a period of minutes. Moreover, SPS allows the fabrication of refractory materials, composites or functionally graded materials (FGMs) for a wide range of applications. Even though SPS shows promising ways to obtain materials with properties that cannot be achieved by other conventional methods, the fundamental mechanisms of this fast sintering process are still under debate.

One of the latest, fascinating developments in this field is a high-pressure SPS (HPSPS), which has been demonstrated as a suitable route for the development of nano- and ultrafine grained materials with enhanced properties.

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Message from the Editor-in-Chief

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Materials Processing* Editorial Office
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