



Spark Plasma Sintering-A Key Technology towards the Development of New Materials

Guest Editor:

Prof. Dr. Massimo Pellizzari

Department of Industrial
Engineering, University of Trento,
38123 Trento, Italy

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Message from the Guest Editor

Dear Colleagues,

Spark Plasma Sintering (SPS) and field-assisted consolidation technologies are representing a great opportunity for the production of new materials. Nevertheless, the challenge to achieve properties that cannot be obtained by other conventional methods is strictly related to know-how of this fast sintering process, which permits the production of near full dense materials, using lower temperatures and shorter time. The combination of SPS with severe plastic deformation processes like mechanical milling has been proved to be a suitable route for the development of nano- and ultrafine grained materials. Mechanical alloying with ceramic reinforcement has extended the benefits of SPS to the fabrication of composite materials. Moreover, SPS has also been successfully used for the development of functionally graded materials (FGM) and materials for many other applications.

Aim of this Special Issue is to collect papers about SPS and field-assisted consolidation technologies of metals, alloys, and composite materials.





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30 Xueyuan Road, Beijing 100083,
China

Message from the Editorial Board

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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MDPI, St. Alban-Anlage 26
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