

Special Issue

Severe Plastic Deformation and Thermomechanical Processing: Nanostructuring and Properties

Message from the Guest Editors

Severe plastic deformation (SPD) is a very attractive research field for metallic materials because it provides new possibilities for manufacturing nanostructured materials in large quantities and allows microstructural design on different hierarchical levels. In addition, through Thermo-Mechanical Processing (TMP) or combinations of TMP and SPD, an ultra-fine-grained structure in bulk materials can be achieved by the refinement of phases using hot, warm, cold, and even cryogenic deformations, or a combination thereof. The papers included in this issue address the following topics: Novel SPD processes as well as recent advancements in established processing methods, deformation mechanisms, microstructure evolution and grain refinement in single- and multi-phase alloys as well as composites, strategies to enhance the microstructure stability at elevated temperatures, mechanically driven phase transformations, surface nanocrystallisation by SPD, gradient and layered nanostructures and multilayered materials, and mechanical and physical properties of SPD-processed materials.

Guest Editors

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Deadline for manuscript submissions

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About the Journal

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.

Editor-in-Chief

Prof. Dr. Yong Zhang

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