

Special Issue

Ultrasonic Processing of Alloys

Message from the Guest Editor

Ultrasonic processing is a relatively new environmentally conscious technology with wide application in the commercial production of high-quality cast and worked alloys. About 45 years ago, G.I. Eskin presented a variety of applications of ultrasound in cleaning, degassing, casting, deformation, and post-deformation processing of metals and alloys. Since then, research in high-power ultrasound propagation in liquid and solid metals has led to the understanding of some effects occurring at interfaces and contributed to the development of ultrasonic processing. This Special Issue aims to address the latest research devoted to exploring the potentialities of ultrasonic processing in liquid alloys, solid alloys, and liquid-solid slurries. Advances in fundamental studies and the commercial prospects of this process to control the structure and properties of cast and worked metals are also welcome. Research articles focusing on the improvement of product quality, the development of integrated environmentally friendly, and cost-effective ultrasonic processes are encouraged as well.

Guest Editor

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About the Journal

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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