



Electromagnetic Preparation of Metallic Materials

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Message from the Guest Editors

Dear Colleagues,

The electromagnetic field as a contactless physical field can act on substances at different scales and the diversity of electromagnetic effects leads to the emergence of many new physical and chemical phenomena. Regarding metallic materials, many novel phenomena, such as thermoelectric magnetic effect, magnetic field-induced-diffusion, and magnetic orientation, have been discovered. The application of the electromagnetic field has become an important method to regulate the microstructure and mechanical properties of metallic materials. New progress of the electromagnetic preparation of metallic materials has been made recently. Therefore, the Special Issue is organized to present state-of-the-art research work on this topic and articles including but not limited to the following topics are welcome:

- Fundamentals of electromagnetic preparation
- Solidification processing; Heat treatment
- Flow simulation and modeling
- Particle removal/addition, stirring, braking, and vibration
- Electromagnetic shaping, mixing, and separation or levitation
- Recycling of metallic materials by the electromagnetic process
- New theories and techniques related to electromagnetic





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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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