Special Issue

Design, Preparation and Properties of High Performance Steels

Message from the Guest Editors

Currently, for high-performance steels, not only have mechanical properties such as high strength and toughness been sought but more attention has also been focused on improving application performances, such as ensuring better weldability and formability, longer service life and higher safety. According to different engineering scenarios, more specific performance requirements are also proposed. The development of high-performance steel is inseparable from the support of physical metallurgy theory. The design of alloy elements and multi-scale regulation of microstructure became more and more accurate and comprehensive. It is believed that the continuous innovation of physical metallurgy theory and the continuous progress of industrial technology and equipment will undoubtedly promote the improvement of steel performances. In this Special Issue, we welcome the articles that propose novel designs of alloying and processing to achieve high performance. Research works with bright engineering application prospects are particularly welcomed.

Guest Editors

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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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