Special Issue

Modern Steel Development and Modelling

Message from the Guest Editor

The choice of materials has become the key element in lightweight design due to transportation growth and the increasing demand to reduce greenhouse gas emissions. For automotive and aerospace applications. advanced steel concepts remain the material of choice. despite the competition of new materials such as polymer composites, aluminum alloys, or also magnesium alloys. The modeling of phase diagrams, phase transformation, and mechanical properties is crucial for the development of advanced steels and innovative steel concepts. This Special Issue aims to address the latest research devoted to advanced steels and their modeling, especially their microstructure, mechanical properties, and processing. The latest developments in modeling using the CALPHAD method will be reviewed in detail. New developments in simulation software, such as Thermo-Calc. OpenCalphad, MatCalc, etc., will be presented in this Special Issue. The Special Issue is a selection of manuscripts from the symposium "Modern Steel Development and Modelling" (MSDM 2021).

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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