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Experimental and Numerical Analysis of Metals and Alloys and Their Industrial Applications

Guest Editor:

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Deadline for manuscript
submissions:

closed (31 January 2022)

Message from the Guest Editor

Dear Colleagues,

Engineering problems in different branches of mechanical and civil engineering design and technology require the use of powerful tools in everyday practice. Understanding the complex behavior of materials is crucial, including unusual loadings. Describing the constitutive properties of modern materials, which are employed under these demanding conditions, is not trivial and involves combining knowledge from laboratory tests, theoretical material modeling, and, finally, practical computations.

This Special Issue will cover all three fields and focus attention on experimental tests, their interpretation, and theoretical modeling and numerical aspects of using these results in computations of metals and alloys. It is obvious, that using numerical methods in every analysis problem requires a proper constitutive relation. Therefore, correct and accurate constitutive relation is a key factor in applications to computer codes.

Metals and alloys are still the principal structural materials in some branches of industry. In recent decades, however, many new alloys have been introduced in a variety of manufacturing industries, including automotive and aerospace.



mdpi.com/si/76801

Special Issue



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Message from the Editor-in-Chief

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