

Special Issue

High Temperature Oxidation Behavior of Alloys

Message from the Guest Editor

This issue is dedicated to presenting new results, providing new advances in the field of high-temperature oxidation of metallic materials in different types of atmospheres, such as air, CO₂, vapour-containing atmospheres, steam, as well as the oxidation behaviour under subcritical and supercritical applications involving high temperatures and high-pressure processes. Studies aiming to unveil the effect of compositional changes or microstructural changes associated with the processing route on the kinetics, the structure of the oxide scale, and the oxidation mechanism are welcome. Additionally, manuscripts evaluating the effect of variables related to the atmosphere (composition, temperature, pressure, etc.) or those modelling the oxidation behaviour of the alloys match the scope of this Special Issue. Contributions are not limited to structural materials for high-temperature applications, such as superalloys, high/medium entropy alloys, refractory alloys, intermetallic-based alloys or multiprincipal complex alloys, but also could involve other applications and metallic materials, which could undergo degradation as a result of exposure to high temperatures.

Guest Editor

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Deadline for manuscript submissions

closed (15 July 2024)



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About the Journal

Message from the Editor-in-Chief

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.

Editor-in-Chief

Prof. Dr. Yong Zhang

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