Special Issue

Thermomechanical Performance of Metallic Alloys

Message from the Guest Editors

Thermomechanical processes are widely used to manufacture critical components of aeroengines and turbine engines, including forging, hot steaming, heat treatment, hot isostatic pressing, coating and so on. Moreover, aeroengine and turbine engine parts often endure thermomechanical loads in practice. Therefore, the thermomechanical performance of metallic alloys is a fundamental factor for the production and service of aeroengine and turbine engines. Currently, advanced metallic alloys encompassing ultra-high strength steel, aluminum alloy, magnesium alloy, and titanium alloy are usually processed under high temperatures in the automobile and aerospace industry. In this Special Issue, we welcome articles that focus on the thermomechanical performance of metallic alloys in the manufacturing process or practical applications. Advanced metallic alloy and non-conventional processes are of special interest, with a high implementation potential in producing metallic alloy parts with a high manufacturing ability and a high service life.

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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

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