

Special Issue

Fracture Mechanics of Metallic Materials—the State of the Art

Message from the Guest Editors

Fracture mechanics studies how materials develop and propagate cracks under load, leading to failure. It plays a crucial role in engineering design, material selection, structural integrity assessment, and material life prediction. By understanding fracture mechanics, engineers can predict potential failure modes of materials or structures, enabling preventive measures to avoid catastrophic failures. Knowledge of fracture behavior aids in selecting the most appropriate material for specific applications. As an analytical tool, fracture mechanics helps determine the cause of failures, improving design standards and preventing future accidents. Ultimately, it ensures the safe and reliable operation of engineering structures, impacting both individual projects and broader socio-economic development. This Special Issue invites articles focusing on fracture mechanics of materials and structures. We welcome theoretical analysis, experimental tests, and numerical simulations. Contributions are highly valued and appreciated, and we encourage research on the practical benefits of fracture mechanics in today's world.

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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.

Editors-in-Chief

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