Special Issue

Characterization and Modeling on Complex Metallic Materials

Message from the Guest Editors

Complex metallic materials have gained significant attention and are at the cutting edge of scientific research and industrial development activities. Diverse leading techniques like aberration-corrected scanning transmission electron microscopy, synchrotron radiation diffraction and tomography, 2D and 3D electron backscatter diffraction, powder and single-crystal X-ray diffraction, etc., as well as multiscale numerical simulation approaches including density-function theory, molecular dynamic simulation, and finite element analysis have been utilized to characterize the atomic-level crystal structure and microstructure peculiarities, with the purpose of understanding and tailoring the properties of the studied system. **General topics:**

- Multiscale calculations on CMM design and properties prediction
- Phase transformation
- Characterization of microstructure
- Characterization of crystal structure
- Plasticity, fatigue, fracture, and corrosion resistance physical properties
- Vacancy, dislocation, and twin defects
- Innovation hardware and software

Guest Editors

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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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