Special Issue

Study of Microstructure and Irradiation Damages in Metals and Alloys

Message from the Guest Editor

Under the irradiation environments of the nuclear systems, severe damage may occur in the structural materials, mainly metals and alloys, which would degrade the mechanical property and/or accelerate corrosion behavior. Investigation on the mechanism of defect evolution and on the response of different structure to irradiation condition is of great importance for understanding the irradiation behavior and promoting the development of advanced irradiation-resistant materials.

In this Special Issue, we seek a wide set of articles on various aspects of microstructure and irradiation damage of metals and alloys. Articles on irradiation damage including characterization of irradiation-induced defects, computer simulation on the mechanism and evolution of defects, and effect of irradiation defects on mechanical properties, are welcome. Articles employing but are not limited to electron microscopy, positron annihilation spectrum, as well as first-principles calculation, molecular dynamics simulation, and other simulation methods to investigate neutron/ionbeam/electron-beam irradiation of metals and alloys are all welcome.

Guest Editor

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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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