

Special Issue

Radiation Damages in Metallic Materials

Message from the Guest Editor

The irradiation of metallic materials by energetic particles (e.g., ions, neutrons, protons, or electrons) is frequently encountered in many applications, such as nuclear power systems, electron- or ion-based characterization techniques, and aerospace-oriented devices. Irradiation usually comes with undesired damages in the form of defect accumulation and physical property degradation. In general, the resulting damage effects are strongly dependent on the material microstructure and composition, as well as the radiation conditions. This Special Issue aims to present the latest experiments and simulations that can advance our understanding of the fundamentals of radiation damages in conventional or advanced metallic materials. We are inviting researchers in relevant fields to submit their original work to this Special Issue. We encourage submissions covering a wide range of topics, including, but not limited to, radiation-induced point defects and defect clusters, diffusion and segregation, hardening, volume swelling and surface modification, radiation-enhanced precipitation, recrystallization and grain growth, etc.

Guest Editor

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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.

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