

Special Issue

Laser Processing and Thermophysical Characterization of Polymeric and Bio-Based Materials: Advances, Challenges, and Applications

Message from the Guest Editors

Radiation tolerance is critical for the safe application of materials in nuclear power generation, fusion energy, space exploration, high-energy physics experiments, and related fields. Radiation damage typically initiates with the production of Frenkel pairs. Subsequent aggregation of excess self-interstitial atoms (SIAs) and vacancies leads to the formation of secondary defects, including dislocation loops, stacking fault tetrahedra, bubbles, and voids, ultimately causing material degradation. Understanding the underlying mechanisms of radiation damage, encompassing the generation, evolution, interaction, and recovery of irradiation-induced defects, and their impact on material properties, is therefore essential. It is with great pleasure that we announce the launch of a Special Issue entitled "Radiation Damage and Radiation Defects of Materials" in *Materials*. This Special Issue aims to provide comprehensive insights into the characterization of irradiated materials using neutrons, ions, electrons, and plasma. We cordially invite you to submit your original research manuscripts for consideration in this Special Issue.

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About the Journal

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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