Special Issue

Exploration of Novel Metallic Materials by Synchrotron Radiation X-ray and Neutron Technologies

Message from the Guest Editor

The synchrotron X-ray is a powerful source to study metallic materials. The unique advantages include high flux, high resolution, availability for in situ measurements, etc. These features allow researchers to obtain information that could not be obtained before. Consequently, new phases and new characteristics are easy to present. The evolution of phase transformation and the details of novel properties can be determined clearly. Nowadays, the utility of synchrotron X-ray in metallic materials becomes wider alongside the development of new synchrotron X-ray technologies. For example, integrating synchrotron X-ray diffraction and tomography techniques (DCT) can provide a diffraction contrast image to distinguish the origin of fracture and understand the contribution of different phases to the property. Synchrotron X-ray technology becomes important not only in science, but also for industrial applications. This Special Issue intends to feature state-of-the-art research on synchrotron X-ray technology, and means to encourage more and more people to gain interest in this topic. We invite you to submit your research, as your contribution will be highly appreciated.

Guest Editor

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Deadline for manuscript submissions

closed (30 September 2023)

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

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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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