metals

an Open Access Journal by MDPI

IMPACT FACTOR 2.9

CITESCORE 4.4

Mechanical Testing of Nuclear Materials in Small Length Scales

Guest Editors:

Dr. Dhriti Bhattacharyya
Nuclear Fuel Cycle Research, Australia's Nuclear Science and Technology Organization, New Illawarra Road, Lucas Heights, NSW 2234, Australia

Dr. Peter Hosemann
Department of Nuclear Engineering, University of California, Berkeley, 4169 Etcheverry Hall, Berkeley, CA 94720, USA

Deadline for manuscript submissions:
closed (31 January 2023)

Message from the Guest Editors

Dear Colleagues,

In recent years, small-scale mechanical testing techniques, such as nanoindentation, micro compression testing, micro-tensile testing and others have become increasingly popular in the nuclear materials community for several reasons. Firstly, ion irradiation is being increasingly used as an alternative method of simulating radiation damage in materials, reducing the duration of the radiation experiments by many orders of magnitude. Small-scale testing allows one to assess the mechanical properties of ion-irradiated materials which otherwise would not be accessible due to limited beam penetration. Secondly, in the case of neutron irradiation, it reduces the amount of active material that one must handle due to reduced sample size. Thirdly, it allows one to target specific microstructural regions of interest, be they individual grain boundaries, oxide layers or phases and orientations.

The editors solicit papers with original research or review papers in these and related topics for publication in this Special Issue on "Mechanical Testing of Nuclear Materials in Small Length Scales".

metals

IMPACT FACTOR 2.9

CITESCORE 4.4

an Open Access Journal by MDPI

Editors-in-Chief

Prof. Dr. Hugo F. Lopez
Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

Prof. Dr. Yong Zhang
Beijing Advanced Innovation Center of Materials Genome Engineering, State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083, China

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.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.
High Visibility: indexed within Scopus, SCIE (Web of Science), Inspec, CAPlus / SciFinder, and other databases.
Journal Rank: JCR - Q2 (*Metallurgy & Metallurgical Engineering*) / CiteScore - Q1 (*Metals and Alloys*)

Contact Us

Metals Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/metals
metals@mdpi.com
𝕏@Metals_MDPI