crystals

an Open Access Journal by MDPI

IMPACT FACTOR 2.4

CITESCORE 4.2

Fatigue and Fracture of Crystalline Metal Structures

Guest Editors:

Dr. Xiangnan Pan
Institute of Mechanics Chinese Academy of Sciences, Beijing 100190, China

Dr. Abílio M. P. De Jesus
Department of Mechanical Engineering, Faculty of Engineering, University of Porto, 4200-465 Porto, Portugal

Deadline for manuscript submissions:
18 August 2024

Message from the Guest Editors

Fatigue and fracture cause massive losses to the economy, about 4% GDP (gross domestic product). Crystalline metal structures are intensively developed by materials science and extensively used in many applications, such as mechanical, civil, and aerospace engineering.

This Special Issue (SI) aims to publish high-quality, original papers that provide new data, fatigue and fracture phenomena and insights into the behaviors, processes, and mechanisms dominating fatigue and fracture of metallic materials with crystal structures in theoretical formulations, numerical simulations, physical and machine learning based models, laboratorial experiments and case studies.

Fatigue and fracture are highly dependent on the microstructure bearing the external loads, including monotonic, cyclic, shock, and waves. Thus, microstructure investigations associated with the damage accumulation and elastoplastic deformations are strongly recommended, including but not limited to the following: characterizations of XRD (X-ray diffraction), TEM (transmission electron microscopy), FIB (focused ion beam), FEM (finite element method), crystal plasticity and MD (molecular dynamics).

crystals

an Open Access Journal by MDPI

IMPACT FACTOR 2.4

CITESCORE 4.2

Editor-in-Chief

Prof. Dr. Alessandra Toncelli
Department of Physics, University of Pisa, 56126 Pisa, Italy

Message from the Editor-in-Chief

Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

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 (*Crystallography*) / CiteScore - Q2 (*Condensed Matter Physics*)

Contact Us

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

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

mdpi.com/journal/crystals
crystals@mdpi.com
𝕏@Crystals_MDPI