



Friction Stir Welding and Processing of Lightweight Alloys

Guest Editors:

Dr. Fang Chai

Hubei Key Laboratory of
Advanced Technology for
Automotive Components, Wuhan
University of Technology, Wuhan
430070, China

Prof. Dr. Bolv Xiao

Institute of Metal Research
Chinese Academy of Sciences,
Shenyang, China

Deadline for manuscript
submissions:

20 March 2025

Message from the Guest Editors

Dear Colleagues,

As a new solid-phase bonding technology, friction stir welding and processing are considered one of the most important methods for lightweight alloys due to their lower thermal cycle. Compared to fusion welding and processing, friction stir welding and processing exhibit great advantages such as less deflection and residual stress, and thus reduce the possibility of hot crack initiation. Therefore, friction stir welding and processing of lightweight alloys have become an important research direction, and more research should be deeply carried out.

This Special Issue of Crystals provides a platform for researchers to report results and findings in friction stir welding and processing of lightweight alloys, including magnesium/aluminum/titanium/steel alloys, experiment/modeling methods, microstructure, properties, and relevant crystallization studies.





an Open Access Journal by MDPI

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](#), [CAPus / SciFinder](#), and [other databases](#).

Journal Rank: JCR - Q2 (*Crystallography*) / CiteScore - Q2 (*Condensed Matter Physics*)

Contact Us

Crystals Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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

mdpi.com/journal/crystals
crystals@mdpi.com
[X@Crystals_MDPI](#)