Special Issue

Grain Boundary Transport of Solid Oxide Materials

Message from the Guest Editor

Dear colleague, Polycrystalline solid oxide electrolytes are increasingly attracting research attention from the viewpoint of their utilisation as energy materials for various electrochemical devices, from lithium ionic batteries to solid oxide fuel cells. The success in the application of such electrolytes largely depends on the level of their electrical conductivity, which, in turn, is regulated by the bulk and grain boundary conductivities. Although the conductivity values can be quite precisely determined for simple (unipolar- and single-phase) systems, the investigation of multi-phase compositions and/or multi-conducting materials frequently represents a challenging task.This Special Issue aims to provide a unique platform for exchanging opinions and discussing recent achievements in the analysis of “complicated” solid oxide materials, with a particular focus on their grain boundary transportation features. Original research papers, state-of-the-art reviews, and short communications of the theoretical and experimental character are welcome.

Guest Editor

Dr. Dmitry Medvedev

Institute of High-Temperature Electrochemistry, Ural Branch, Russian Academy of Sciences, 620066 Ekaterinburg, Russia

Deadline for manuscript submissions

closed (15 July 2020)

Crystals

an Open Access Journal by MDPI

Impact Factor 2.4
CiteScore 5.0

mdpi.com/si/39074

Crystals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
crystals@mdpi.com

mdpi.com/journal/crystals

Crystals

an Open Access Journal by MDPI

Impact Factor 2.4
CiteScore 5.0

mdpi.com/journal/crystals

MDPI

About the Journal

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.

Editor-in-Chief

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

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, Ei Compendex, CAPlus / SciFinder, and other databases.

Journal Rank:

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