Special Issue

Synchrotron X-Ray Techniques in the Study of Nanomaterials

Message from the Guest Editors

Fundamental physical properties such as optical emission, electrical conductivity, and magnetic ordering are directly affected and can be tailored by phenomena occurring at the nanoscale. Investigating the structure of nanomaterials can open up new avenues for developing advanced devices that exploit properties that are absent in their bulk counterparts. X-rays offer a compelling alternative, thanks to their high penetration depth and flexible experimental geometries with relatively large working distances. Historically, the spatial resolution of X-ray techniques was constrained by beam sizes on the order of millimeters. However, recent advances in X-rays focusing on optics and the appearance of the new generation of synchrotron machines with improved brilliance have enabled State-of-the-Art techniques capable of exploring local phenomena at the nanoscale with high spatial and temporal resolution. The present Special Issue on 'Synchrotron X-ray Techniques in the Study of Nanomaterials' may summarize novel approaches, including multi-setup experiments, developed on synchrotron facilities to investigate crystals' basic properties at the nanoscale.

Guest Editors

Dr. Lucas Atila Bernardes Marçal

Dr. Ângelo Malachias de Souza

Dr. Yen-Po Liu

Deadline for manuscript submissions

10 January 2026

Crystals

an Open Access Journal by MDPI

Impact Factor 2.4
CiteScore 5.0

mdpi.com/si/245704

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)