

## Special Issue

# Structural, Electronic and Vibrational Properties of Crystals

### Message from the Guest Editor

Crystals are a very important class of condensed matter finding extensive applications in pure and applied science. The variety of crystal properties determines the necessity of an integrated approach to the analysis of their properties. The most important characteristic of crystals, which determines their basic fundamental properties, is their structure. The study of the crystal structure is associated with experts in X-ray diffraction, and neutron and electron diffraction. These studies are especially relevant for the design of new crystals, ceramics, and thin crystal layers. Any real crystal structure is not in a static state. Vibrations of the crystal lattice lead to completely new material properties: nonelastic neutron, X-ray, and light scattering.

Nonelastic (Raman and Brillouin) light scattering and IR absorption can provide information on the type of crystal lattice, vibrations and rotations of atoms and atomic aggregates, relaxation processes, velocities, and damping of elastic waves in a crystal.

This Special Issue is devoted to theoretical and experimental studies of the main crystal properties under various experimental and theoretical methods and external conditions.

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### Guest Editor

Dr. Alexey M. Pugachev

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### Deadline for manuscript submissions

closed (20 April 2021)



## Crystals

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## 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.

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### Editor-in-Chief

Prof. Dr. Alessandra Toncelli

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