

Special Issue

Radioactive Isotopes Based Materials Characterization

Message from the Guest Editors

Over the last few decades, excited nuclei, while incorporated into materials, have been delivering local, exotic, and exciting information on the physical properties of crystals. The probe atoms can be located at unique lattice sites, which cannot be directly investigated with conventional characterization techniques. In particular, techniques such as perturbed angular correlation, emission Mössbauer spectroscopy, emission channeling, radiotracer photoluminescence and self-diffusion are outstanding examples of used experimental methods. They can provide detailed investigation of hyperfine fields, lattice location, different diffusion mechanisms, the nature of ionized donors, and optically active impurities. Results are challenging our understanding of nuclear solid-state physics and density functional theory combined with conventional characterization support the interpretation of our data. The use of these methods keeps our research program on the frontiers of materials science.

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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.

Editor-in-Chief

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