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Time-Resolved X-ray Diffraction and Scattering Techniques Applied to Dynamical Processes

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Message from the Guest Editors

The discovery of X-ray radiation by Röntgen in 1895 has initiated the development of powerful structural characterization techniques, including non-resonant and anomalous diffraction and scattering (WAXS, SAXS), imaging and tomography. These tools, which possess intrinsic atomic resolution, are applied routinely in Material Sciences, Physics, Chemistry and Biology. When the measurements are performed with temporal resolution, they deliver feedback in the form of “molecular movies” for a wide range of dynamical processes, such as (bio)chemical reactions, clustering or phase transitions.

This Special Issue, “Time-Resolved X-ray Diffraction and Scattering Techniques Applied to Dynamical Processes”, aims to regroup a wide collection of original studies based on the development or use of time-resolved X-ray diffraction and scattering techniques across all time scales (from ultraslow to ultrafast), and across the physical phases (gas, liquid, powder and crystal). The multidisciplinary contributions will provide an overview of the current state-of-the-art and will participate in the elaboration of scientific roadmaps that will guide future investigations.



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Special Issue



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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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