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Scintillator Crystals: Structure, Characterization and Models for Better Performances

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Message from the Guest Editor

Scintillating crystals are the primary sensitive part in radiation and particles detectors. Fundamental for high-energy physics, they are crucial in a number of fields, which span from industry to applications, such as medicine, security, geological prospections, astronomy, and aerospace. The challenges, brought by these fields, strongly stimulates scientific research on scintillators themselves and motivates the improvement of production techniques, involving scientists, technologists and crystal growers.

New crystals are proposed in addition to traditional ones. In turn, new theoretical efforts must be dedicated to reach the goals of higher light performances, energy and spatial resolution, and a fast response. At the same time, effort in the analysis and quality control of crystals is required, taking into account that improvements to quality, at the production stage, also result in cost reductions.

The aim of this Special Issue is to collect contributions about scintillators, involving crystal structures, performances, crystal quality, growth and production. This Special Issue is aimed at giving the reader the state-of-the-art and new achievements in scintillating crystals.



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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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