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New Trends in Lithium Niobate: From Bulk to Nanocrystals

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Message from the Guest Editors

Since its first preparation in 1937, and especially after its Czochralski growth in 1964/65 as a homogeneous artificial crystal with outstanding ferroelectric, non-linear optical, and holographic properties, the widespread use of lithium niobate as a workhorse for testing and realizing new ideas and applications seems to continue in a number of fields. Recent examples are THz phenomena, ultrashort transients, nanocrystals, and delayed electronic response spanning a time range from femtoseconds to minutes. Miniaturized integrated optics and expected quantum optics applications also require further development and deeper understanding of the technology and functioning of this paradigmatic material in its new forms, including bottom-up assembly and top-down techniques and methods for their control, as well as the investigation and optimization of the modified properties. The sometimes controversial earlier results and new experiments call for new interpretations and their confirmation by theoretical modeling using also recent progress in computational tools. This Special Issue is dedicated to the memory of Prof. Dr. Ortwin F. Schirmer.



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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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