



Dynamic Properties of Ferroelectric Liquid Crystals

Guest Editor:

Dr. Yuri Panarin

1. Department of Electronic and Electrical Engineering, Trinity College Dublin, The University of Dublin, Dublin 2, D02 PN40 Dublin, Ireland

2. Department of Electrical and Electronic Engineering, Technological University Dublin, Dublin 7, D07 EWW4 Dublin, Ireland

Deadline for manuscript submissions:

closed (31 May 2024)

Message from the Guest Editor

Ferroelectric Liquid Crystals (FLCs) are a unique example of ferroelectricity in liquid subphases. The existence of spontaneous polarization in such systems leads to new dynamic and switching properties due to the linear interaction with electric fields. Ferroelectricity was initially predicted and observed in chiral-tilted smectic phase SmC* almost half century ago, when dynamic behaviour was infrequently studied using number of experimental techniques, including electro-optic and dielectric spectroscopy. Since then, ferroelectricity has been exclusively attributed to molecular chirality. However, relatively recently, ferroelectricity was observed in non-chiral LC systems such as bent-core smectic and even nematic phases. Some of these phases show giant permittivity in the order of ~ 10000 , which is governed by molecular dynamics, opening a new area of FLC application as hyper-paraelectric media for supercapacitors.

In this Special Issue, we will publish recent advances and developments in the dynamic properties of FLCs, including traditional chiral and novel non-chiral LCs.





crystals



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Alessandra Toncelli

Department of Physics, University
of Pisa, 56126 Pisa, PI, Italy

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.

Author Benefits

Open Access: free for readers, with [article processing charges \(APC\)](#) paid by authors or their institutions.

High Visibility: indexed within [Scopus](#), [SCIE \(Web of Science\)](#), [Inspec](#), [CAPus / SciFinder](#), and [other databases](#).

Journal Rank: JCR - Q2 (*Crystallography*) / CiteScore - Q2 (*Condensed Matter Physics*)

Contact Us

Crystals Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/crystals
crystals@mdpi.com
[X@Crystals_MDPI](#)