Special Issue

Structure, Dynamics, Phase Behavior and Applications of the Complex Disordered Systems

Message from the Guest Editors

In recent years, researchers have made significant strides in establishing theoretical frameworks within solid-state physics, particularly focusing on crystalline structures. However, disordered systems—such as liquids, liquid crystals, glasses, polymers, active matter, biological systems, and climate systems—are far more prevalent in both nature and daily life. The interconnectedness and nonlinearity inherent in these complex disordered systems can lead to unexpected phenomena, highlighting the complexity and unpredictability that characterize them. A central challenge in studying complex disordered systems lies in accurately describing their structures and the ways in which they evolve under varying conditions. This Special Issue invites submissions that address the structure, dynamics, phase behavior, and applications of complex systems. Topics of interest include the mechanisms of crystallization and glass transition, the dynamical and mechanical properties of complex systems, liquid–liquid phase transitions, and the two-state model. The development of new theoretical/experimental tools for disordered systems is also of interest for this topic.

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Deadline for manuscript submissions

31 January 2026

Entropy

an Open Access Journal by MDPI

Impact Factor 2.0
CiteScore 5.2
Indexed in PubMed

mdpi.com/si/230079

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