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Research on High-Temperature Superconducting Materials

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Deadline for manuscript
submissions:

closed (10 December 2023)

Message from the Guest Editors

The properties of high-temperature superconducting materials are determined by both their intrinsic characteristics (e.g., crystal structure, grain, defect, etc.) and the external environment (e.g., temperature, pressure, electromagnetic field, etc.). Nevertheless, the physical mechanism behind the superconductivity of such inorganic crystalline ceramics remains unclear, as it cannot be fully explained by either the Bardeen-Cooper-Schrieffer theory, the resonating valence bond theory, or the spin fluctuation theory.

In view of the above, it is worth further investigating the correlation between the high-temperature superconductivity and the microscopic structures of HTSs and exploring their electromagnetic, mechanical, as well as thermal characteristics in various physical/chemical/engineering scenarios. This Special Issue is aimed at providing a useful platform for scientists and researchers working in superconductivity related domains to share new insights and advancements in understanding, characterisation, and application of HTSs, addressing a variety of facets of the topic.



mdpi.com/si/116822

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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