



## X-ray Absorption Fine Structure and Symmetry

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### Message from the Guest Editors

Dear Colleagues,

Symmetry is one of the most important concepts in natural science. It lies at the heart of fundamental laws of nature and is an important tool for understanding the properties of complex systems including condensed matter physics, materials science, and technology. The concept of symmetry plays an important role in phase transition, exotic electronic structure, and chemical reactivity in condensed matter and chemical systems.

The other trend, which has been developed in recent years along with synchrotron radiation sources, X-ray absorption fine structure (XAFS) is becoming a powerful technique to study the local atomic structure, electronic structure, and structure dynamics for ferroelectric and magnetic materials, semiconductors, molecules, and gas-phase systems. XAFS is a hybrid technique to study both structure and electronic state, which is strongly correlated with the symmetry in the condensed matter. We will discuss the physical properties and chemical reactivities of modern functional materials from the symmetry point of view, which has a key concept of recent industrial innovation...





## Editor-in-Chief

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## Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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