

Special Issue

Design, Phase Transition and Magnetic Properties of Transition Metal Compounds

Message from the Guest Editors

This Special Issue of *Magnetochemistry* is dedicated to the vibrant and rapidly evolving field of transition metal compounds, with a focus on the intricate interplay between their design, phase transitions, and magnetic properties. These materials, characterized by the rich electronic complexity of their d-orbitals, are discovering emergent quantum phenomena and engineering novel functional materials. The central challenge and opportunity lie in the deliberate design of crystal structures, dimensionalities, and chemical compositions to direct electronic correlations and exchange interactions. This Special Issue seeks to highlight cutting-edge research that explores this interconnected triad. We welcome contributions that advance our understanding of the synergy between conduction electrons and localized magnetic moments, leading to phenomena such as giant magnetoresistance, field-induced superconductivity, and other technologically relevant effects. By bringing together studies on design strategies, the physics of phase transitions, and emergent magnetism, this issue aims to chart the future of these compounds for applications in spintronics, quantum computing, and beyond.

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About the Journal

Message from the Editor-in-Chief

Magnetochimica constitutes a multidisciplinary field where chemists and physicists not only study magnetic properties but also design and synthesize chemical compounds with desired magnetic properties.

Magnetochimica is inviting contributions in any field related with this area, such as theoretical models, crystal engineering, molecular magnetism, SMM, SIM, SCM, SCO, magnetic nanostructures, magnetic MOFs, magnetic recording, qubits, magneto-caloric materials, etc. Our goal is to share your contribution in a timely fashion and in a manner that will be valued by the scientific community.

Editor-in-Chief

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