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Development and Application of Novel Characterization Techniques for Magnetic Materials and Devices at the Nanoscale

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Deadline for manuscript
submissions:

closed (31 October 2023)

Message from the Guest Editors

Dear Colleagues,

In recent decades, the fundamental understanding of static and dynamic magnetic processes at the nanoscale has improved. We have seen progress in the development of novel techniques for nanoscale magnetic characterization with ultrahigh spatial, temporal, and energetic resolutions. Notably, ultrafast laser technologies combined with X-ray- and electron-based pump-probe approaches have made fast strides. Therefore, a summary and collections of the current status of technologies and respective applications of nanoscale magnetic materials devices are highly valued.

This Special Issue focuses on the theoretical developments and practical applications of magnetic characterization techniques that have been successfully established and applied on various nanoscale magnetic materials and devices. We aim to attract both academic and industrial researchers in order to pool the current knowledge of nanoscale characterization of nanomagnetism and to present new ideas for future application and new technologies for advancing nanomagnetism research.

See more information in: <https://www.mdpi.com/si/149679>

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Special Issue



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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal-organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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