Special Issue

Electromagnetic and Microwave Absorption Properties of Magnetic Nanomaterials and Superstructure

Message from the Guest Editors

Electromagnetic interference (EMI) problems have recently become extremely serious due to the accelerated development of wireless communication tools and electronic systems. The electromagnetic (EM) wave absorbers can avoid or attenuate the hazards of EMI by absorbing EM waves. Among them, magnetic loss materials and superstructures enhance the diffuse scattering of incident microwave and polarization of interface charges, given their high magnetic anisotropy, shape anisotropy, complex interface, and large specific surface.

This Special Issue aims to include the magnetic materials and superstructure applied for microwave absorption. Research areas may include but are not limited to:

- Design of magnetic-based composites, superstructure and their microwave absorption, concerning not only the fabrication processes, the materials employed (Fe, Co, Ni-based materials, magnetic metal oxide, Magnetic phase change material, etc.);
- Special design of structures (1D, 2D, 3D structures, porous structures, core/yolk-shell structures, hollow structures, 3D printing structure, etc.) but especially reports of their practical application in microwave absorption.

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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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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