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Nanomaterials for Field Emission

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

Field-emission is a quantum tunneling phenomenon in which electrons pass from an emitting material (cathode) to an anode through a vacuum barrier by the effect of a high electric field. For a given material, cathodes with higher aspect ratios and sharper edges produce higher FE currents. For this reason, nanostructures are considered promising for commercial applications as flat-panel displays, vacuum electronics, microwave power tubes, electron sources, etc. From a theoretical point of view, FE experiments can be analyzed in terms of Fowler–Nordheim theory, the most commonly used model for FE from a metallic or semiconductor surface under a strong applied field, which is also widely used to investigate the FE from CNTs, graphene, other 2D materials, etc.

This Special Issue aims to collect experimental and theoretical investigations related to the field emission phenomenon.

Dr. Filippo Giubileo
Guest Editor

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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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