Special Issue

Advances in Electronic and Optical Properties of Nanostructured Materials

Message from the Guest Editor

Nanostructured materials have attracted considerable interest due to their novel physical properties and diversity for potential electronic and optoelectronic device applications. Two main methods were mostly developed to form well-defined and controlled nanostructures, namely, the top–down approach, which uses lithography and etching technologies, and the bottom–up approach or self-assembly, which uses chemical or physical forces operating at the nanoscale to assemble basic units into larger structures. In the past twenty years, a combination of these two methods has developed to design nanostructured materials with desired electronic and optical properties. At the same time, as the material sizes decrease, the surface plays a major role in their physical properties, and specific attention should be paid to take into account these effects and/or to passivate the surface. Currently, nanostructured materials are the basic building blocks of almost all devices used in the microelectronics and optoelectronics fields.

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Deadline for manuscript submissions

closed (20 June 2022)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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