

Special Issue

Optical Properties of Rare-Earth Doped Nanostructured Materials

Message from the Guest Editor

Rare-earth doped nanostructured materials have attracted great interest because of their luminescence properties (wide spectral range, intense and sharp bands, and long lifetime), with a high potential for applications in various fields, such as optoelectronic devices, radiation detection, white light generation displays, photovoltaics, telecommunications, solid state lasers, or nano-labels, in biological imaging and nanomedicine. Great efforts have been devoted to searching for new and controllable synthesis methods, by using various chemical methods, along with a better understanding of the nanosize and surface-related effects. A promising development of the rare-earth doped nanostructured materials is represented by luminescent hybrid composite materials. These are based on stabilized rare-earth doped nanoparticles homogeneously dispersed in a glassy or polymeric matrix—nano-glass ceramics or inorganic-polymer composites, respectively. Such nanocomposites would allow for the exploitation of their favorable optical functionalities and optical transparency (because of a lack of scattering).

Guest Editor

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Message from the Editor-in-Chief

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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