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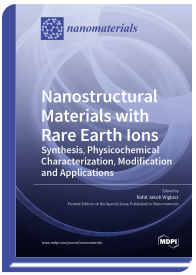
Special Issue Reprint

Nanostructural Materials with Rare Earth Ions: Synthesis, Physicochemical Characterization, Modification and Applications



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This Special Issue of "Nanostructural Materials with Rare Earth Ions: Synthesis, Physicochemical Characterization, Modification and Applications" is related to studies of nanometer-sized materials doped and co-doped with rare earth ions and the creation of periodically ordered nanostructures based on single nanoparticles. A small particle size implies a high sensitivity and selectivity. These new effects and possibilities are mainly due to the quantum effects resulting from the increasing ratio of surface-to-volume atoms in low-dimensional systems. An important factor in this context is the design and fabrication of nanocomponents displaying new functionalities and characteristics for the improvement of existing materials, including photonic materials, conductive materials, polymers and biocomposites. With this concept in mind, the aim of the Special Issue is to publish research on innovative materials and their applications.
Topics to be covered in this Special Issue include, but are not limited to, the following:

- Technology and applications of nanomaterials with rare earth ions;
- Advanced physicochemical properties, characterization and modification of nanomaterials with rare earth ions;
- Novel active materials, especially organic and inorganic materials, nanocrystalline materials, nanoceramics doped and co-doped with rare-earth ions with bio-related and emerging applications;
- ic properties of nano-sized rare-earth compounds;
- tions of nano-sized rare-earth-doped and co-doped optical materials.

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