Special Issue

Crystal Chemical Design of Inorganic Materials: From Structural Features to Advanced Physical Properties

Message from the Guest Editors

Modern chemistry of inorganic materials is based on a detailed analysis of the features of crystal structures of compounds, since even the slightest changes in chemical composition or atomic coordinational environment can lead to a significant change in the quality of observed physical properties. This basic principle is realized in a wide range of types of inorganic materials used in modern technologies.

The crystal chemical design of new compounds involves a direct synthesis of compounds with optimal compositions taking into account structural data, which makes it possible to use one type of inorganic matrix for different technological applications. Thus, the basic principle of solid state chemistry is realized: from chemical composition and crystal structure features to advanced physical properties.

The purpose of this Special Issue is to summarize the data on different types of inorganic matrices exhibiting crystal chemical variability and isomorphic capacity, which is expressed in different types of physical properties.

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Deadline for manuscript submissions

closed (30 September 2021)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/57188

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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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