Special Issue

Advances in Halide Perovskite Materials: Preparations, Properties and Applications

Message from the Guest Editor

In recent decades, significant research efforts in physics, chemistry and material science have been directed towards the development and study of halide perovskites, which are certainly among the most promising class of materials for applications in the field of renewables, photonics, sensing and, more recently, medical diagnostics/therapy. Indeed, their composition and design can be tuned to satisfy requirements such as highly efficient radiative recombination, band-gap design, controllable material morphology/nanostructure, integration in photonic cavities and micro-resonators, etc. Such properties have already opened the way for innovative optoelectronic devices. This Special Issue will focus on:

- Modeling of the electronic and optical properties with a focus on lead-free perovskites;
- Defects and defect passivation: theory and experiments;
- High-resolution optical/electrical studies of films and nanostructures;
- Photonics and metasurfaces;
- Non-linear optics;
- Applications to light emitters (LEDs and lasers), sensing and radiation detection.

Please note: this list is not exhaustive and contributions on other topics can be considered.

Guest Editor

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Deadline for manuscript submissions

closed (20 September 2023)

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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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