



Advances in Halide Perovskite Materials: Preparations, Properties and Applications

Guest Editor:

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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.



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Message from the Editor-in-Chief

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