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Halide Perovskites as Emergent Semiconductors: Materials Preparation, Basic Physics and Possible Applications 2

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Message from the Guest Editors

Lead halide perovskite thin films have been receiving increasing attention in the last few years, initially stimulated by the impressive improvement in the performance of perovskite solar cells, recently reaching a record power conversion efficiency close to 23 %.

Beyond the excellent photovoltaic properties, lead halide perovskites also show excellent optical properties, including high photoluminescence quantum yield (QY), tunable emission from the blue to the near infrared, and high optical gains at room temperature. All these properties, together with the possibility of the realization of thin films from solutions, make halide perovskites the most promising novel class of semiconductor for photonics and optoelectronic applications.

This Special Issue aims to describe the actual state of the art of the wide research on perovskite semiconductors, including the open issues that still require a fuller understanding, and possible future development directions.

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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