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Development and Characterization of High Performance Thermoelectric Materials

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Message from the Guest Editors

Thermoelectric (TE) materials can directly convert heat into electricity. The process is eco-friendly, increases the sustainability of energy resources, and offers an alternative that can be implemented to alleviate the emerging energy crisis. Another very important application of TE materials is the replacement of compression-based refrigeration with solid-state Peltier coolers. The goal of the Special Issue “Development and Characterization of High-Performance Thermoelectric Materials” is to highlight the key challenges associated with the design of new materials, and to underline the recent advances in the synthesis and characterization of high-efficiency TE materials. This Special Issue welcomes original research papers (experimental, theoretical, and modelling) on new thermoelectric compounds, structure–property relationships, bulk and thin-film oxides, chalcogenides, oxychalcogenides, skutterudite materials, alloys, and intermetallic compounds. We also welcome research papers on flexible organic and polymer TE materials, organic and inorganic hybrid thin-film TE materials, multilayers, and nanomaterials.



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Special Issue



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Message from the Editor-in-Chief

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