

Special Issue

Advanced Materials for Application in Solid State Refrigeration

Message from the Guest Editors

One of the solid-state physics applications, among the countless technologies, is refrigeration, which has been used by humanity since prehistoric times. Currently, most refrigerators are based on the compression/decompression of gases, highlighted as being primarily responsible for the destruction of the ozone layer, as well as contributing to the greenhouse effect. An ecofriendly alternative would be to replace these gases with solid materials that exhibit one (or more) of the caloric effects, which correspond to the thermal responses when an external field is applied. This external field can be, for example, a magnetic field (magnocaloric), pressure (barocaloric), and stress (mechanocaloric).

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