



Advance of Magnetocaloric Effect and Materials

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Message from the Guest Editor

In recent years, magnetic refrigeration at room temperature has seen renewed interest thanks to the development of new materials with enhanced magnetocaloric effects and new thermal engineering techniques. High potential efficiency and environmental compatibility make magnetic refrigeration competitive as an alternative to conventional technologies based on the compression–evaporation cycle. New magnetocaloric materials for solid-state caloric refrigeration are emerging, and their various applications demonstrate that they are essential in our everyday lives. Thus, these magnetocaloric materials play important roles in addressing today's challenges, particularly those concerning fossil fuel consumption and climate change. This Issue represents the state of the art in the field of new magnetocaloric materials and new cooling techniques, which aim to highlight the latest developments in the shaping of magnetocaloric materials. Researchers are invited to present original articles of experimental and theoretical studies on a wide range of materials and processes. Topics should include magnetocaloric materials, systems, and applications in heating, cooling, and energy conversion.

