Thermodynamics of Heat Pump and Refrigeration Cycles

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

In terms of physics, the operating principle of a heat pump is the same as that of a refrigerator: Moving heat from a low-temperature level to a high-temperature level. If in a refrigerator, the cold at lower temperature is used, and a heat pump provides heat at temperatures high enough for heating. Refrigeration and heat pump systems use various types of thermodynamic processes based on vapor compression, sorption, or caloric technologies.

The purpose of this Special Issue is to highlight the results of research on how to increase the efficiency of thermodynamic processes for heat pump and refrigeration systems. While room remains for further efficiency improvements of classical thermodynamic processes, it is precisely new heat pump and refrigeration technologies that most of the major new discoveries and applications in thermodynamics are expected to yield.

Special Issue

Editor-in-Chief

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Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

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