Recent Advances of Entropy in Nanofluid Engineering

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Message from the Guest Editors

Recent applications in nanotechnology have allowed the development of a new category of fluids termed nanofluids. A nanofluid refers to the suspension of nano-size particles, which are suspended in the base fluid with low thermal conductivity. The base fluid, or dispersing medium, can be aqueous or non-aqueous in nature. Due to the suspension of nanoparticles, one can increase the heat transfer coefficient and consequently enhance the heat transfer value and performance of base fluids. Nanofluids also strengthen solar energy applications, such as heat exchanger design, and some medical applications, including cancer therapy and safer surgery, by heat treatment. Investigations on entropy in nanofluid could be based on numerical/analytical simulations or experimental data that extend the bounds of existing methodologies to new contributions addressing current challenges and engineering problems. The submitted manuscripts must be related with entropy generation in complex and simple fluid models. Furthermore, exergy analysis and entropy generation in different systems, i.e., heat exchangers with distinct sizes from micro- to conventional and renewable energy devices are welcome.

Special Issue

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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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