

Special Issue

Analysis of Thermal Performance of Passive Two-Phase Heat Transfer Systems

Message from the Guest Editors

Thermal management has become a critical factor in the development of modern high-performance systems, including microelectronics, aerospace technologies, and high-power industrial devices. Among various thermal control methods, passive two-phase heat transfer systems, such as heat pipes (HPs), loop heat pipes (LHPs), and pulsating heat pipes (PHPs), offer efficient, compact, and reliable solutions that do not require external power input. In particular, pulsating heat pipes (PHPs), with their complex thermo-hydrodynamic behavior and high heat transport capabilities, are receiving increasing interest from scientific and engineering communities. Despite their advantages, their operation and performance remain strongly influenced by factors such as geometry, orientation, working fluid, and start-up characteristics, which continue to be active areas of research. We are pleased to invite you to contribute to this Special Issue, which aims to provide a comprehensive overview of the latest advances in the thermal performance analysis, optimization, and applications of passive two-phase thermal control devices.

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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