Entropy in Computational Fluid Dynamics III

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Message from the Guest Editors

In order to better understand the physics of these loss-producing mechanisms, fluid mechanic and heat transfer considerations might be complemented by some thermodynamic concepts with respect to the irreversible processes involved.

The second law analysis (SLA) is often used in thermodynamics in order to assess an irreversible process. According to the SLA, the quality of a flow and heat transfer process, and how reversible it is can only be assessed by the entropy generation rate. In our special issue, "Entropy in Computational Fluid Dynamics", the SLA was applied to both engineering applications and fundamental studies with respect to flow and heat transfer problems.

The current special issue will further enhance the knowledge about how to interpret CFD results with the SLA. Analysis of irreversibility in traditional flow or heat transfer processes, e.g., evaluating irreversibility in gas turbines, is still a main topic of this special issue. Besides the traditional problems, irreversible processes in emerging subjects, such as nano- and micro-fluid flows, biological and physiological flows, are also of interests.

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Guest Editors

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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