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Special Issue Reprint

CFD Based Researches and Applications for Fluid Machinery and Fluid Device

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The demand for computational fluid dynamics (CFD)-based numerical techniques is increasing rapidly with the development of the computing power system. These advanced CFD techniques are applicable to various issues in the industrial engineering fields and especially contribute to the design of fluid machinery and fluid devices, which have very complicated unsteady flow phenomena and physics. In other words, to aid the rapid development of CFD techniques, the performances of fluid machinery and fluid devices with complicated unsteady flows have been enhanced significantly. In addition, many persistently troublesome problems of fluid machinery and fluid devices such as flow instability, rotor–stator interaction, surging, cavitation, vibration, and noise are solved clearly using advanced CFD techniques.

This Special Issue on “CFD-Based Research and Applications for Fluid Machinery and Fluid Devices” aims to present recent novel research trends based on advanced CFD techniques for fluid machinery and fluid devices. The following topics, among others, are included in this issue:

- CFD techniques and applications in fluid machinery and fluid devices;
- transient phenomena in fluid machinery and fluid devices: compressors, hydraulic turbines, pump turbines, valves, etc.

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