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<<计算流体动力学导论>>

图书基本信息

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内容概要

The use of computational fluid dynamics (CFD) to predict internal and externalflows has risen dramatically in the past decade. In the 1980s the solution of fluid flow problems by means of CFD was the domain of the academic, postdoctoral orpostgraduate researcher or the similarity trained specialist with many years ofgrounding in the area. The widespread availability of engineering workstationstogether with efficient solution algorithms and sophisticated pre- and post-processing facilities enable the use of commercial CFD codes by graduateengineers for research, development and design tasks in industry. The codes thatare now on the market may he extremely powerful, hut their operation still requires a high level of skill and understanding from the operator to obtain meaningful results in complex situations. The long learning curve, previously including apprenticeships of up to four years - more widely known as MPhil and PhD studies - meant that the users of the 1980s were, through their own experiences, very conscious of the limitations of CFD. However, the pressure on engineers in industry to come up with solutions to problems implies that there is not always the time available for the new type of user of the 1990s to learn about the pitfalls of CFD by osmosis and frequent failure.

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