Rezensionen

Lecheler, S.
Numerische Strömungsberechnung
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Stefan Lecheler, heading the department Technische Thermodynamik at the Universität der Bundeswehr München, is trying to fill a gap concerning introductory materials on Computational Fluid Dynamics (CFD). His german book entitled "Numerische Strömungsberechnung" (Numerical Flow Computation) has been recently (2009) published by Vieweg+Teubner.

The role of CFD is not questionable anymore, for research as well as for solving a wide range of industrial problems. This rapidly expanding area is essential for various higher scientific and technical professions, e.g., for civil engineering, process engineering or transportation specialists.

The governing equations and the basics of the finite difference discretization are first discussed, following mesh generation and some well-known solution methods. The practical nature of CFD is emphasized throughout the book, describing in particular a detailed workaround for two common practical problems. Only one (well-known) commercial tool is considered for all the examples, without mentioning other alternatives. Users with a practical knowledge of CFD, skipping the practical examples, may find the theoretical part a useful overview.

Advanced CFD issues, like combustion, multi-phase flows or rotating systems are not considered in this introductory work. Nevertheless, this book should be a worthwhile source of information for German-speaking students discovering CFD for the first time, as well as for more advanced users that wish to get a description of ANSYS CFX.

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