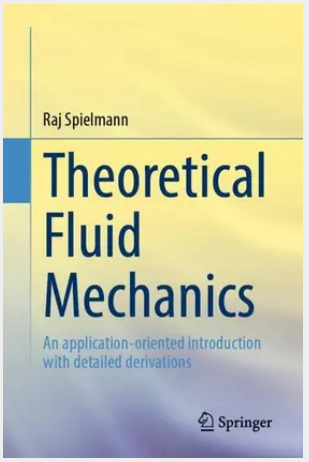
Spielmann

Theoretical Fluid Mechanics

An application-oriented introduction with detailed derivations



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The book offers a didactically elaborated introduction to theoretical fluid mechanics and provides insights into the diversity of its applications in nature and technology. The focus is on aerodynamics for lower flight speeds, which continues to be of high practical value.

In the derivations, emphasis is placed on illustrating the corresponding terms and relationships. The text is primarily aimed at students of university colleges in the mathematical-scientific field who are seeking a bridge to engineering applications. At the same time, it should be useful for engineers who are interested in the derivation of the formulas and backgrounds.

For better comprehensibility, numerous intermediate steps in calculations, which are usually left to the reader, are formulated as problems that are fully recalculated in the solution part. This keeps the presentation useful for both beginners and more experienced readers.

- Bridges the gap between theoretical mathematics and application
- Explains and illustrates the basic terms in detail
- Provides detailed calculation steps in the solution part

The translation of this book was done with the help of artificial intelligence. A subsequent human revision was done primarily in terms of content.

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Raj Spielmann holds a PhD in mathematics and is the author of several textbooks. His areas of interest include fluid mechanics and the modeling of biological processes.

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