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Three-Dimensional Attached Viscous Flow

Basic Principles and Theoretical Foundations

- ▶ **Presents the basic principles and theoretical foundations of three-dimensional attached viscous flow**
- ▶ **Focuses on properties of three-dimensional viscous flow past realistic shapes of finite extension with a flight speed range from civil air transport vehicles up to hypersonic flight vehicles**
- ▶ **The authors are deeply involved in phenomenological, mathematical and computational issues of attached three-dimensional viscous flow - in teaching, research, and industrial application**
- ▶ **Gives researchers, student and, in particular, the practical aerospace engineer the needed knowledge about three-dimensional attached viscous flow**
- ▶ **Presents detailed examples in order to illustrate the treated concepts and phenomena found in attached three-dimensional viscous flows**

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Viscous flow is usually treated in the frame of boundary-layer theory and as a two-dimensional flow. At best, books on boundary layers provide the describing equations for three-dimensional boundary layers, and solutions only for certain special cases.

This book presents the basic principles and theoretical foundations of three-dimensional attached viscous flows as they apply to aircraft of all kinds. Though the primary flight speed range is that of civil air transport vehicles, flows past other flying vehicles up to hypersonic speeds are also considered.



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