the uninitiated reader or a beginning undergraduate textbook. The reader is strongly advised to refer to more technical books if guidance is required for the practical building and operation of UAS systems.

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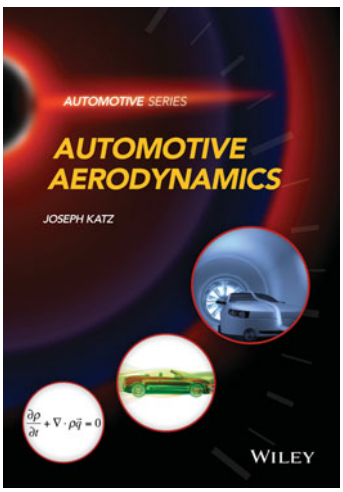

Automotive Aerodynamics

J. Katz

John Wiley and Sons, The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK. 2016. 608pp. Illustrated. £74.95. ISBN 978-1-119-18572-7.

Understanding the interaction between vehicles travelling at high speed, the surrounding air and the resulting forces is becoming increasingly important in the automotive and motorsport sector. Although a reader interested in this field will have a very large choice of published material focusing on fluid mechanics/dynamics and also a good number of quality publications on vehicle aerodynamics, the transition from fluids mechanics to aerodynamics is not very well covered in a single publication. This is where the book by Katz excels and the fundamental fluid principles are extensively covered under a vehicle aerodynamics title.

The book opens with an introductory chapter which introduces the most important parameters in vehicle aerodynamics, drag and lift force, laminar and turbulent attached and separated flows. The fundamental principles of subsonic fluid flow are covered in Chapters 2 to 6. A good number of examples are provided within these chapters, which allow the user to see the concepts and the equations associated with them being applied to a simple case.

This volume covers the fundamental concepts of fluid flow from a theoretical rather than an applied approach. While the author is not afraid to delve into the complex mathematical formulations for the equations governing the fluid flow, this is not a book where results from experimental/numerical vehicle aerodynamics investigations are scrutinised or changes in vehicle/component design are associated to the changes in the aerodynamics performance parameters.

Compared to other books on similar topics, this book focuses much more on the flow fundamentals governing the airflow behaviour, at speeds where the flow could still be considered incompressible, rather than the design, testing and development of vehicles. It has three chapters looking into some aspects of heat transfer, fluid machinery

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and aeroacoustics but the main focus is on incompressible flow without heat transfer.

Chapter 7 is closer to what would be expected to find in a vehicle aerodynamics book, including a good number of examples showing how the vehicle shape and aerodynamic add-on affect the aerodynamic performance.

Katz's book will make a prime-choice textbook for an undergraduate Automotive Engineering course, as fluid-related modules in various academic years can cover the topics presented in various chapters of the book. However, the title can be misleading as, while the book covers the fundamental principles of vehicle aerodynamics, it only includes a limited number of applications.

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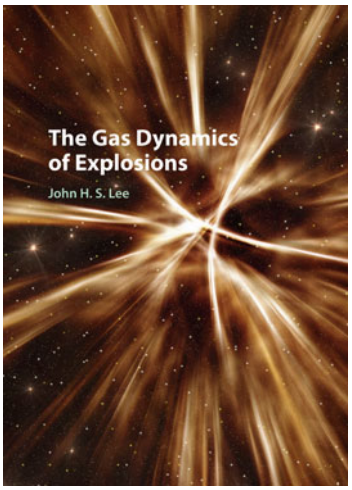

The Gas Dynamics of Explosions

J. H. S. Lee

Cambridge University Press, University Printing House, Shaftesbury Road, Cambridge, CB2 8BS, UK. 2016. 205pp. Illustrated. £89.99. ISBN 978-1-107-10630-7.

The understanding and modelling of explosions has wide-reaching applications from the desired (quarrying and mining), the hazardous (industrial accidents) and the criminal (terrorism). The study of such events is a strongly interdisciplinary area with diverse inputs including those from chemistry, physics, mathematics, mechanical and civil engineering all supported by theory, experiment and numerical modelling. There are several introductory texts in this area but probably the classic by Kinney and Graham, *Explosive Shocks in Air* (Berlin: Spinger-Verlag. 1985 – Second edition) is where

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