

is very much an interdisciplinary subject. It means that these technique chapters can only really serve as introductions to these topics which each warrant books in their own right. Understandably then, some technical subtleties and things like new techniques are glossed over. However, the really nice aspects of these chapters are the real-world practical examples, which come from the author's own experience. I can see these examples being of significant use to readers who already have an NDT background in a different sector. They would also be useful for engineering students or practicing engineers who need to understand this application.

Having viewed NDT from a technique perspective, the book then changes tack and considers two particular aerospace application challenges: detection of corrosion in aluminium structures and the inspection of composite materials. The book then concludes with a comprehensive chapter describing how the performance of NDT is measured, a critical yet overlooked subject that is very clearly described here.

In summary, this is a welcome book on NDT in aerospace. It is jam-packed with numerous real-world examples and has nice chapters that consider the big picture of why NDT is performed.

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Elements of Propulsion: Gas Turbines and Rockets – Second edition

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American Institute of Aeronautics and Astronautics, 1801 Alexander Bell Drive, Suite 500, Reston, VA 20191–4344, USA. 2016. Distributed by Transatlantic Publishers Group, 97 Greenham Road London N10 1LN. 948pp. Illustrated. £96. (20% discount available to RAeS members on request; email: mark.chaloner@tpgltd.co.uk Tel: 020–8815 5994) ISBN 978-1-624103-71-1.

Elements of Propulsion is an excellent textbook for any general undergraduate-level aerospace propulsion course. There is an extremely useful introduction to the area covering the breath of propulsion technologies from small and large civil aviation engines to rocket technology. In addition, the key thermofluids fundamentals are covered in two introductory chapters.

The book then comprehensively covers the core aspects of gas turbine technology focusing on both cycle analysis as well as component analysis. There is a final chapter in the book that focusses on chemical rocket technology. In addition to the printed text, there is a wealth of online supporting material, including an additional chapter on propeller analysis and technology.

While the main focus of the book is gas turbine engines, the sections on rockets and propellers (in digital format) ensure that the breath of aerospace propulsion technology is covered in sufficient detail for most undergraduate courses.

The additional online resources also include a number of programmes that can be used to analyse the performance of various engine cycles and also undertake

more detailed analysis of component design, such as compressor and turbine design. These tools are an interesting addition to the text and help support understanding of some of the more complex design issues for gas turbine engines and are used effectively throughout the text. They could also be of use for undergraduate students wishing to undertake projects in the study of gas turbine engine cycle analysis and component design; however, further documentation on the details of the models and assumptions employed in these programmes would be helpful for this type of use.

In summary, this is a comprehensive undergraduate-level textbook for general aerospace propulsion with an excellent set of supporting material.

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