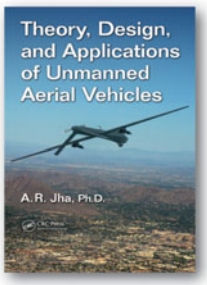
- Basic Elasticity
- Torsion of solid sections
- Thin plate theory
- Buckling of columns and plates
- Material properties
- Fatigue
- Bending, shear and torsion of open and closed thin-walled beams
- Stress analysis of wing spars, fuselages, and wings
- Laminated composite structures

Problems and solutions are given at the end of each chapter. These are helpful for students and reflect the fact that the author was an academic at Leeds University.

The reader will not find this book helpful for finite element methods, although, to be honest, there is a chapter explaining numerical methods with examples of triangular and quadrilateral elements. It shows its age by calling these 'Matrix Methods'. No details are given why it is crucial to use the same numerical mapping for both shape and displacements. No discussion either of modern codes and their power to quickly create models, display results, use multi-layer sub-structuring, etc. It is clearly a dated book in this respect, and no surprise that all references to numerical analysis occur before 1967.

Professor G. A. O. Davies, CEng, FRAeS



Theory, Design and Applications of Unmanned Aerial Vehicles

A. R. Jha

CRC Press, Taylor & Francis Group, 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL, 33487-2742, USA. 2017. Distributed by Taylor & Francis Group, 2 Park Square, Milton Park, Abingdon, OX14 4RN. 294pp. Illustrated. £57.99. (20% discount available to RAeS members via www.crcpress.com using AKQ07 promotion code). ISBN 978-1-4987-1542-3.

The aim of the author was to provide a 'complete overview of the theory, design, and applications of unmanned aerial vehicles'. The book falls short of this ambitious task, perhaps due to the 'tight time schedule' cited in the preface.

The book mostly focuses on military systems, although there is an introduction to civil Unmanned Aerial Vehicles (UAVs) in the first chapter. The second chapter provides an introduction to ground control stations and the roles of the ground crew followed by a short description of a number of military UAVs operative in various countries. The other chapters deal with technical topics

https://doi.org/10.1017/aer.2018.33 Published online by Cambridge University Press

such as the selection of electro-optical components, navigation systems, propulsion systems and the UAV survivability in the battlefield.

The choice of topics is peculiar for an introductory book, with the author focusing on subjects such as electronic connectors and neglecting completely disciplines such as aerodynamics and structural design. Many of the topics are presented in a descriptive way with very little technical knowledge provided to the reader, while on a few occasions, the author presents the subjects in more detail (for example, when describing the Kalman filtering).

Overall, the book is not well structured and topics are presented in a disorganised and inhomogeneous way, with multiple repetitions and important omissions. Some of the pictures appear more than once. There is often the lack of evidence or reference to reputable sources to support the author statements. In several occasions, the author cites 'Wikipedia articles' or 'studies performed by the author' as the main source of the presented information.

Dr. Mario Ferraro

Introduction to Engineering: A Project-Based Experience in Engineering Methods

M. L. Post *et al.*

American Institute of Aeronautics and Astronautics, Reston, VA, USA. 2017. Distributed by Transatlantic Publishers Group, 97 Greenham Road, London, N10 1LN, UK. xix; 317pp. + USB data card. Illustrated. £106. (20% discount available to RAeS members on request; email: mark.chaloner@tpgltd.co.uk Tel: 020 8815 5994). ISBN 978-1-62410-459-6.

This book, and the accompanying digital resources, comprises background and teaching materials for a basic design project intended to be part of an introductory module. Unusually, the book is intended as a companion and expansion of the digital files, which are stored on a memory stick and are the primary teaching tools.

The original project on which the book is based was created for students at the US Air Force Academy, where the authors are past or current academics. As such, it was intended

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