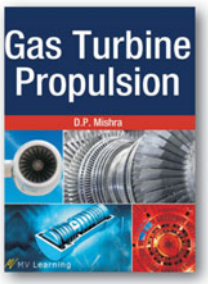


Gas Turbine Propulsion

D.P. Mishra

M.V. Learning, 3 Henrietta St., London WC2E 8LU, UK. 2016. 355pp. Illustrated. £22.50. ISBN 978-81-309-2752-7.

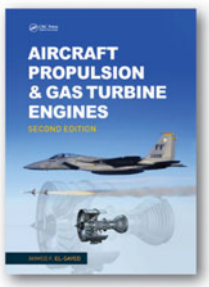
This book is for undergraduate and postgraduate students interested in gas turbine propulsion systems. The book has substantial chapters on the major engine components as well as dealing with engine cycles. A particular strength of this book is that each chapter contains within it additional references and suggested readings, review questions and problems. These are likely to be of particular value to students undertaking a formal course of study in the subject of gas turbine propulsion.

For the undergraduate student, the book has a significant emphasis on technology, perhaps beyond the scope and need of most undergraduates. Equally, the underlying fundamentals are not readily apparent and therefore would need to be supported by selected references identified by the author.

For the postgraduate student, the book needs to be seen as a support text to be consulted along with a couple of other recent well-established texts in this field. This is inevitable given the complexity of the subject.

Many of the problems suggested at the end of chapters are interesting and appropriate, particularly for postgraduate researchers.

Professor Riti Singh, CEng, FRAeS



Aircraft Propulsion and Gas Turbine Engines – 2nd Edition

A. F. El-Sayed

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, UK. 1447pp. Illustrated. £130. (20% discount available to RAeS members via www.crcpress.com using AKQ07 promotion code). ISBN 978-1-4665-9516-3.

This book is truly a broad scope text on aerospace propulsion covering the whole spectrum of technologies from gas turbine engines to propellers and space propulsion technologies. The book at its heart is a comprehensive text on aircraft gas

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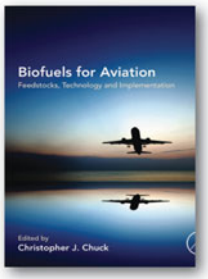
turbine engines, hence the title. However, the author has updated the first edition of this text to include more contemporary topics such as a discussion on biofuel economic viability and Unmanned Aerial Vehicle (UAV) propulsion technologies as well as extending the scope to cover rocket and space propulsion technologies. While the topics of other propulsion systems such as space propulsion are more introductory, this is not dissimilar to other comparable texts.

For instructors, keep in mind that the end of each chapter contains a good set of example problems and supplementary material is also provided; however, at the time of writing this was not available online! The book is also available in ebook format which is becoming the standard for most engineering textbooks. The book is well laid out with and contains many useful and relevant graphs and figures that support the mathematical and physical treatment of the key design aspects of the propulsion technologies; however, the quality of these figures is not always consistent and some figures have not reproduced well in the print version.

Overall, this is a good comprehensive textbook for Aerospace Propulsion and for instructors looking for a catch-all text, this is certainly an excellent option and it would serve well on any undergraduate aerospace engineering course as a good introduction to most aerospace propulsion technologies. The more comprehensive gas turbine sections would cover more senior undergraduate and taught postgraduate courses.

Dr. K. L. Smith, MRAeS, FHEA
Senior Lecturer in Aerospace Engineering,
University of Manchester



Biofuels for Aviation: Feedstocks, Technology and Implementation

Edited by C. J. Chuck

Academic Press, Elsevier, The Boulevard, Langford Lane, Kidlington, Oxford, OX5 1GB, UK. 2016. xv; 374pp. Illustrated. £138. ISBN 978-0-12-804568-8.

Air traffic is estimated to be rising by some 5% per year, and exponentially thereafter, yet petroleum, the conventional source of jet fuels, has a life index of a mere 50 years. Since hydrogen fuel and all-electric propulsion are still long-term prospects (12,000 Wh/kg for jet fuel cf. 200 Wh/kg for best batteries), supplementation of jet fuels by energy-dense liquids is essential. Of the various alternative sources (e.g. coal and natural gas), only biomatter offers perpetual availability, with the bonus of absorbing atmospheric CO_2 during growth. Hence, there is a need for a comprehensive, authoritative review of the procurement, properties and performance of bio-derived jet fuels.

Dr. Chuck's book provides exactly that. This book comprises 15 presentations by

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