CAMBRIDGE AEROSPACE SERIES 4

FLIGHT MECHANICS OF HIGH-PERFORMANCE AIRCRAFT

Nguyen X. Vinh

This text, written at a level accessible to advanced undergraduate and beginning graduate students, covers all aspects of flight performance of modern day high-performance aircraft, from take-off to landing, through different phases of flight in climb, cruise, turning and descent.

The book begins with an introduction to equations of motion, aerodynamic forces, and propulsion systems and then goes on to apply what has been learned to performance during descent and glide, cruising, climb, turning and take-off and landing. A final chapter discusses the performance of hypervelocity re-entry vehicles. Challenging exercises are included at the ends of chapters. These are designed to give readers a deeper understanding of the material covered in the text.

This text will serve as an introductory text for advanced undergraduates and beginning graduate students. It will also be of value to researchers in universities and industry.

Nguyen Vinh has been a Professor of Aerospace Engineering at the University of Michigan since 1972, and is a prolific author of books and technical papers on flight dynamics. For his contribution to aerospace engineering sciences, he was elected a foreign member of the French Academy of Air and Space in 1984. He has received the Excellence in Teaching and Excellence in Research Awards from the College of Engineering at the University of Michigan.

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