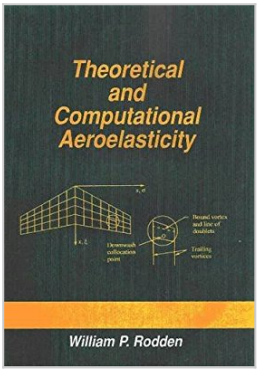

Theoretical and Computational Aeroelasticity

By Dr. William. P Rodden

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This is an advanced text for practicing aerospace, structural, and mechanical engineers as well as graduate engineering students. The emphasis is on the problems fixed-wing aircraft experience in flight. It includes discussions of the history of aeroelasticity, the fundamentals of steady and unsteady aerodynamics as well as structural deflection and vibration theory. Issues of quasi-steady maneuvering flight and flutter stability are considered along with transient response to landing and gust loads and random response to atmospheric turbulence and runway roughness. The final chapters of the book cover aeroservoelasticity wing movement and flight control matters; aerothermoelasticity wing movement and the effects of temperature and thermal stresses; and, aeroelastic design by optimization based on the author s lifetime of work as a consulting aeronautical engineer and teacher in the field of aeroelasticity. The alphabetical reference list is comprehensive. Several appendices review relevant prerequisite material and historical topics.

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Editorial Review

Review
Your book is a very impressive print ... Its neat presentation is by far a better edition than those previously published in Aeroelasticity. --Dr. Danny D. Liu, President, Zona Technology, Inc.

I found [this a] really ... wonderful book for [an] aeroelastcity engineer and it is different from ... previous aeroelasticity books [by Hodges and Pierce and Wright and Cooper] because of its special characteristics. --Dr. Zhiqiang Wan Associate Professor, School of Aeronautic Science and Engineering, Beihang University, China Visiting Scholar, Dept of Aerospace Engineering, University of Michigan, USA

About the Author
WILLIAM P. RODDEN is a consulting aeronautical engineer widely known for his archive and industrial publications and teaching of all aspects of aeroelasticity. The contents of this book reflect a lifetime of experience in all theoretical and computational aspects of aeroelasticity. After graduation from the University of California, Berkeley, with a Master s Degree, Rodden began his career as a stress analyst and an aerodynamic stability and control analyst in the Southern California aerospace industry. He worked at Northrop and Douglas Aircraft companies on military aircraft and eventually received his Ph.D. on a Douglas scholarship from UCLA, specializing in matters of flutter. Subsequently, he taught at UCLA and the University of Southern California. In 1965, Dr. Rodden opened his consulting practice. He notes that his purpose was to be independent, not to become rich and we succeeded on both counts. As a consultant, he worked on such projects as the DC-10, F-20, F-23, and the B-2 stealth bomber. In addition, he earned his private pilot s license, testified as an expert witness in several trials on airframe in-flight problems, and continued his lifelong interests in sports. Dr. Rodden formally retired in 1999 to begin work on this book. He is a Fellow of the American Institute of Aeronautics and Astronuatics.

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