

Book Review

Advanced Stress and Stability Analysis: Worked Examples, by V.I. Feodosiev, Springer Verlag, Berlin, 2005; ISBN 3-540-23935-9 and ISBN 978-3-540-2395-2

First of all, a short note on the author of this book, Professor Vsevolod I. Feodosiev, who was one of the pillars of the Russian mechanical engineers in general and of the elite Moscow Bauman State Technical University, in particular. He spent there over half a century, both as a student and a famous educator. He headed the Department of State Missile Engineering. His renown textbook titled “Strength of Materials” was and is utilized in Russia for decades, and was translated into several languages, including English. Another book, “Strength Analysis in Mechanical Engineering” of which he was one of the co-authors, represents a three-volume encyclopedia on the subject and brought its authors the top prize of the country. (In parenthesis one can mention that it appears paradoxical that in the country where appreciation of an individual desired much, the authors of scientific books were duly recognized. In the free world, where individual is the center of the entire enterprise, scientific book authors appear to be overlooked; perhaps the West could adopt some good things from even terrible systems).

This book contains clever and subtle collection of problems along with their solutions. (By the way, and unfortunately, the subtitle that appears in the inner page, is missing on the cover, and the potential reader may not detect the book’s true nature. As the author mentions in the preface to the second Russian edition, “This book is not a collection of problems in the ordinary sense. The exercises are not intended for beginning students in a “Strength of Materials” course but for those who have completed the course.”

It appears to this reviewer, that this book is directed at engineers, lecturers, and all those who want to know more, who pursue knowledge for its own sake. These will be amply rewarded by intellectual satisfaction while reading and knowing the “underground stones” in the “ocean” of mechanics, when “sailing” in the professional life.

The book’s first part covers topics of tension, compression and torsion (Chapter 1), bending (Chapter 2), combined loading and anisotropy (Chapter 3), static and dynamic stability (Chapter 4) and miscellaneous questions and problems (Chapter 5). Part 2 of this book provides extensive solutions and discussions.

The translators, Professors S.A. Voronov and S.V. Yaresko ought to be congratulated with a smooth and highly professional translation. The book is forwarded by Professor Valery A. Svetlisky, a long-time colleague of the late author. The series editors, Professor Vladimir I. Babitsky and Professor Jens Wittenburg, and obviously, Springer Verlag, do a great service to the international community of engineers, by bringing the Russian books to the English-reading world. By doing this important work, Springer Verlag demolishes the scientific “Iron Curtain” that was erected for decades.

This translation will certainly lead to a grater globalization of knowledge by all, not confined only to those who read Russian. To sum up, this book is a jewel written in the highly sophisticated manner by the Dean of the Russian Applied Mechanics. It must become a necessary reference for everyone who deals with theoretical and applied mechanics, both in industry and academia. Serious readers will find it indispensable. Every engineering library ought to have it.

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