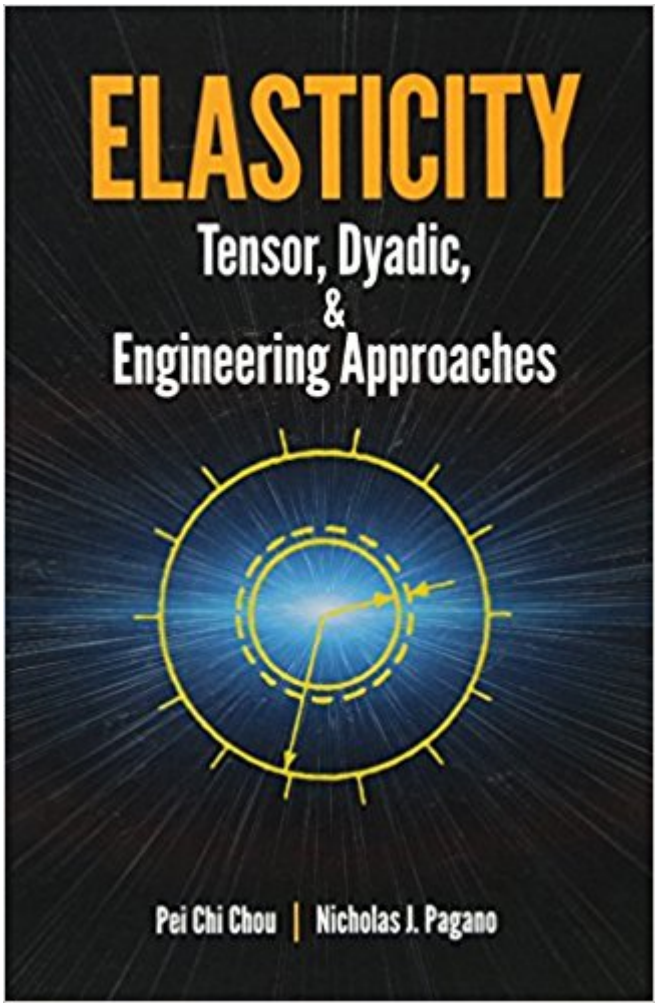
Elasticity: Tensor, Dyadic, And Engineering Approaches (Dover Civil And Mechanical Engineering)



Synopsis

Written for advanced undergraduates and beginning graduate students, this exceptionally clear text treats both the engineering and mathematical aspects of elasticity. It is especially useful because it offers the theory of linear elasticity from three standpoints: engineering, Cartesian tensor, and vector-dyadic. In this way the student receives a more complete picture and a more thorough understanding of engineering elasticity. Prerequisites are a working knowledge of statics and strength of materials plus calculus and vector analysis.The first part of the book treats the theory of elasticity by the most elementary approach, emphasizing physical significance and using engineering notations. It gives engineering students a clear, basic understanding of linear elasticity. The latter part of the text, after Cartesian tensor and dyadic notations are introduced, gives a more general treatment of elasticity. Most of the equations of the earlier chapters are repeated in Cartesian tensor notation and again in vector-dyadic notation. By having access to this threefold approach in one book, beginning students will benefit from cross-referencing, which makes the learning process easier.Another helpful feature of this text is the charts and tables showing the logical relationships among the equations â ” especially useful in elasticity, where the mathematical chain from definition and concept to application is often long. Understanding of the theory is further reinforced by extensive problems at the end of each chapter.

Book Information

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Customer Reviews

Written for advanced undergraduates and beginning graduate students, this exceptionally clear text

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This book concisely goes through the derivations of elasticity; it is well written and relatively easy to read for a textbook. The numerous tables and flowcharts make this book a very good quick look up reference.As I am coming at elasticity from another background, I found that a quick review of this book allows me to read and understand papers in this field much more clearly.The "rosetta stone" table for tensor and vector/dyadic notation of common operators in one of the later chapters is quite useful. I don’t think I have seen that spelled out anywhere else. Most books just use one convention or the other.Another two good backgound chapters are the summary of the introduction of JeffreysÂ Cartesian TensorsÂ book and a chapter summarizing formulas from general curvilinear coordinates.

Little hard to understand type of textbook but once you taste you really like it. It is a great book if you wanna learn Elastcity.

Good

I received the product in excellent shape. Its always nice once in a while to get a product that seems "too good to be true" but is in fact a very good product and not a hoax.

This book cannot be a textbook for neither graduate or undergraduate students

It is really a good book for this prize. Though there are plenty of books on theory of elasticity subject, there is no book concisely explains the subject like this one. It is meant for a first time learner also helps little bit to understand the complex notations in tensor, dyadic approach for elasticity problems. Overall it is a good buy for a beginner who ants to learn the elasticity subject from the scratch. I would strongly suggest this book for both senior and graduate students who are interested in theory of elasticity.