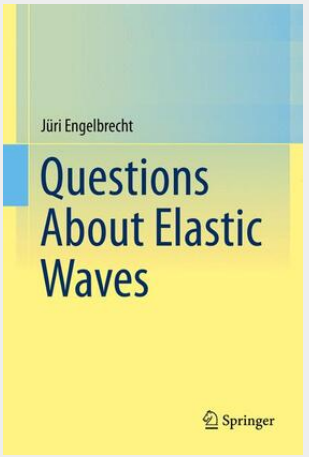
Engelbrecht

Questions About Elastic Waves

This book addresses the modelling of mechanical waves by asking the right questions about them and trying to find suitable answers. The questions follow the analytical sequence from elementary understandings to complicated cases, following a step-by-step path towards increased knowledge. The focus is on waves in elastic solids, although some examples also concern non-conservative cases for the sake of completeness. Special attention is paid to the understanding of the influence of microstructure, nonlinearity and internal variables in continua. With the help of many mathematical models for describing waves, physical phenomena concerning wave dispersion, nonlinear effects, emergence of solitary waves, scales and hierarchies of waves as well as the governing physical parameters are analysed. Also, the energy balance in waves and non-conservative models with energy influx are discussed. Finally, all answers are interwoven into the canvas of complexity.

This book addresses the modelling of mechanical waves by asking the right questions about them and trying to find suitable answers. The questions follow the analytical sequence from elementary understandings to complicated cases, following a step-by-step path towards increased knowledge. The focus is on waves in elastic solids, although some examples also concern non-conservative cases for the sake of completeness. Special attention is paid to the understanding of the influence of microstructure, nonlinearity and internal variables in continua. With the help of many mathematical models for describing waves, physical phenomena concerning wave dispersion, nonlinear effects, emergence of solitary waves, scales and hierarchies of waves as well as the governing physical parameters are analysed. Also, the energy balance in waves and non-conservative models with energy influx are discussed. Finally, all answers are interwoven into the canvas of complexity.



90,94 €
84,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783319147901
Medium: Buch
ISBN: 978-3-319-14790-1
Verlag: Springer International Publishing
Erscheinungstermin: 25.03.2015
Sprache(n): Englisch
Auflage: 2015
Produktform: Gebunden
Gewicht: 4439 g
Seiten: 196
Format (B x H): 160 x 241 mm