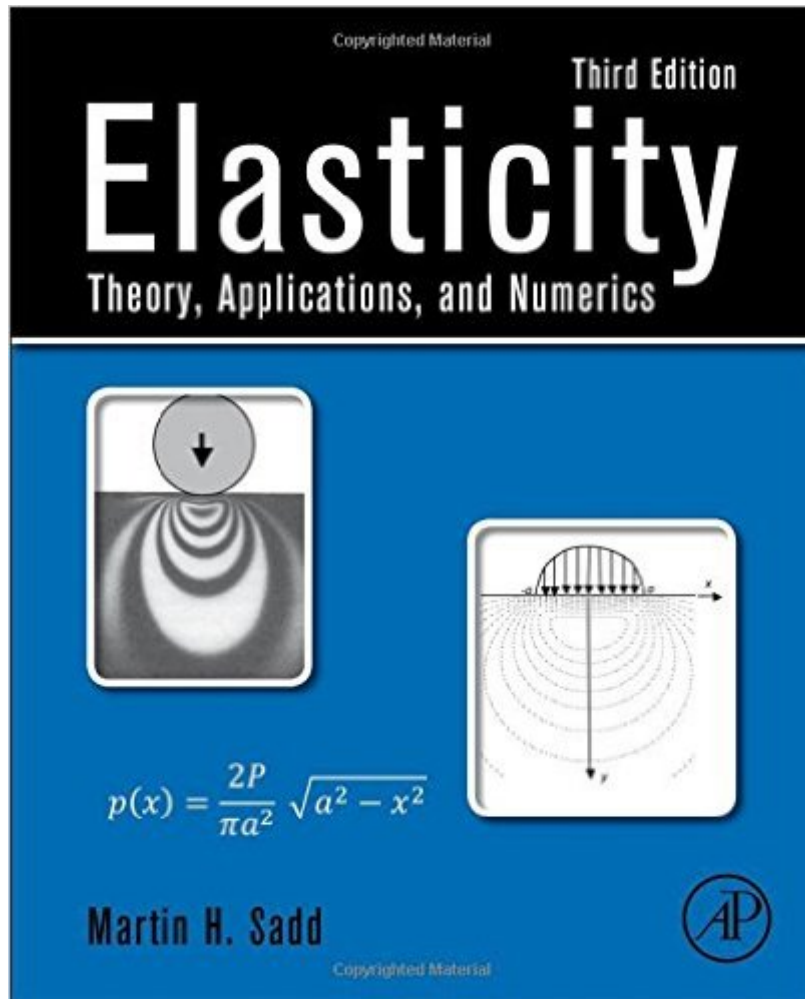# Elasticity, Third Edition: Theory, Applications, And Numerics

Synopsis

Elasticity: Theory, Applications, and Numerics, Third Edition, continues its market-leading tradition of concisely presenting and developing the linear theory of elasticity, moving from solution methodologies, formulations, and strategies into applications of contemporary interest, such as fracture mechanics, anisotropic and composite materials, micromechanics, nonhomogeneous graded materials, and computational methods. Developed for a one- or two-semester graduate elasticity course, this new edition has been revised with new worked examples and exercises, and new or expanded coverage of areas such as spherical anisotropy, stress contours, isochromatics, isoclinics, and stress trajectories. Using MATLAB software, numerical activities in the text are integrated with analytical problem solutions. These numerics aid in particular calculations, graphically present stress and displacement solutions to problems of interest, and conduct simple finite element calculations, enabling comparisons with previously studied analytical solutions. Online ancillary support materials for instructors include a solutions manual, image bank, and a set of PowerPoint lecture slides.Thorough yet concise introduction to linear elasticity theory and applicationsOnly text providing detailed solutions to problems of nonhomogeneous/graded materialsNew material on stress contours/lines, contact stresses, curvilinear anisotropy applicationsFurther and new integration of MATLAB softwareAddition of many new exercisesComparison of elasticity solutions with elementary theory, experimental data, and numerical simulationsOnline solutions manual and downloadable MATLAB code

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Customer Reviews

Took a graduate course in elasticity. Although this book was not prescribed as text, but after scrambling over half a dozen of hieroglyphic texts I stumbled upon this one. It is by no means the perfect text, but in my opinion, if you read through, its probably the easiest reads among the current graduate texts available in elasticity. Examples are well designed and helps grasp abstract theories better. I wish there were more rigorous examples worked out.

Good

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