



# Probabilistic Structural Mechanics Handbook: Theory and industrial applications

By C.R. Sundararajan

Springer. Hardcover. Book Condition: New. This item is printed on demand. Hardcover. 760 pages. This volume offers the most comprehensive coverage of probabilistic structural mechanics available. A vast array of analytical methods for structural reliability are explained in depth and their applications in every major industry are described using concrete examples. Thirty nine distinguished international contributors in industry and academia: - demonstrate the entire spectrum of structure reliability techniques, from simulation and first-order/second-order reliability methods to probabilistic finite-element/boundary element methods, enabling the reader to select the most appropriate method for all types of projects; - discuss special areas such as seismic risk assessment, extreme-wind assessment, and structural systems evaluation; - illustrate state-of-the-art applications and their results in a wide range of structures, including nuclear power plants and offshore structures; aircraft, ships, and bridges; and steel, concrete, timber, and ceramic structures; - cover topics seldom addressed in probabilistic structural mechanics books, such as human errors, nondestructive examination, expert opinions, and fuzzy probabilities; - provide 300 figures, graphs, charts and tables; over 1,000 references; and 30 industrial applications including results and conclusions. This encyclopedic reference details the latest developments in this rapidly expanding area of structural engineering. It will be an invaluable resource...



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