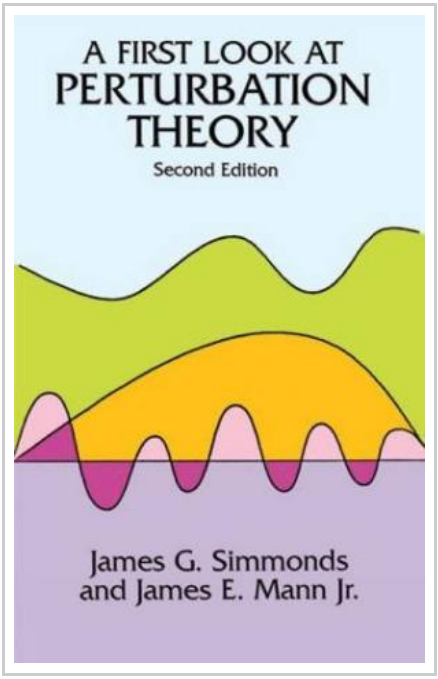

A First Look at Perturbation Theory

By James G. Simmonds

Dover Publications. Paperback. Book Condition: New. Paperback. 158 pages. Dimensions: 8.3in. x 5.3in. x 0.5in.Undergraduates in engineering and the physical sciences receive a thorough introduction to perturbation theory in this useful and accessible text. Students discover methods for obtaining an approximate solution of a mathematical problem by exploiting the presence of a small, dimensionless parameter the smaller the parameter, the more accurate the approximate solution. Knowledge of perturbation theory offers a twofold benefit: approximate solutions often reveal the exact solutions essential dependence on specified parameters; also, some problems resistant to numerical solutions may yield to perturbation methods. In fact, numerical and perturbation methods can be combined in a complementary way. The text opens with a well-defined treatment of finding the roots of polynomials whose coefficients contain a small parameter. Proceeding to differential equations, the authors explain many techniques for handling perturbations that reorder the equations or involve an unbounded independent variable. Two disparate practical problems that can be solved efficiently with perturbation methods conclude the volume. Written in an informal style that moves from specific examples to general principles, this elementary text emphasizes the why along with the how; prerequisites include a knowledge of one-variable calculus and ordinary differential equations....

Reviews

An exceptional ebook along with the font applied was interesting to read through. it was actually writtern really completely and beneficial. Once you begin to read the book, it is extremely difficult to leave it before concluding.
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