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Autore	Debnath Lokenath
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Continuous Wavelet TransformsThe Discrete Wavelet Transform; Multiresolution Analysis; Examples of Orthonormal Wavelets; Exercises; Optimization Problems and Other Miscellaneous Applications; Introduction; The Gateaux and Frechet Differentials; Optimization Problems; Minimization of Quadratic Functionals; Variational Inequalities; Optimal Control Problems; Approximation Theory; The Shannon Sampling Theorem; Linear and Nonlinear Stability; Bifurcation Theory; Exercises; Hints and Answers to Selected Exercises; 1.7 Exercises; 2.16 Exercises; 3.8 Exercises; 4.12 Exercises; 5.13 Exercises
6.7 Exercises

Sommario/riassunto

Building on the success of the two previous editions, *Introduction to Hilbert Spaces with Applications*, 3E, offers an overview of the basic ideas and results of Hilbert space theory and functional analysis. It acquaints students with the Lebesgue integral, and includes an enhanced presentation of results and proofs. Students and researchers will benefit from the wealth of revised examples in new, diverse applications as they apply to optimization, variational and control problems, and problems in approximation theory, nonlinear instability, and bifurcation. The text also includes a popular cha
