

WAVELETS

Adapted Wavelet Analysis from Theory to Software

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Hardcover, ca. 400 pages

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This detail-oriented text is intended for engineers and applied mathematicians who must write computer programs to perform wavelet and related analyses on real data. It should also be useful to the pure mathematician with questions about wavelet theory applications and to the instructor or student as a textbook in the mathematics and latest techniques in transient signal analysis and processing. Beginning with an overview of mathematical prerequisites, successive chapters rigorously examine the properties of waveforms used in adapted wavelet analysis: discrete "fast" Fourier transforms, orthogonal and biorthogonal wavelets, wavelet packets, and localized trigonometric or lapped orthogonal functions. Other chapters discuss the "best-basis" method, time frequency analysis, and combinations of these algorithms useful for signal analysis, denoising, and data compression. Each chapter discusses the technical aspects of implementation giving examples in pseudocode backed up with a Standard C source code (included on optional disk) and closes with a list of worked exercises.

Wavelets, Images, and Surface Fitting

Pierre-Jean Laurent, Alain LeMéhauté,

Larry Schumaker, editors

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This volume contains a selection of full-length papers on connections between curve and surface methods—in such areas as computer vision, data fitting, image processing, and computer-aided geometric design—and the theory and applications of wavelet analysis. These carefully refereed and edited papers were delivered at the Second International Conference on Curves and Surfaces in Chamonix, France, in June of 1993.

Wavelet Packet Laboratory for Windows

Digital Diagnostics Corporation
& Yale University

June 1994

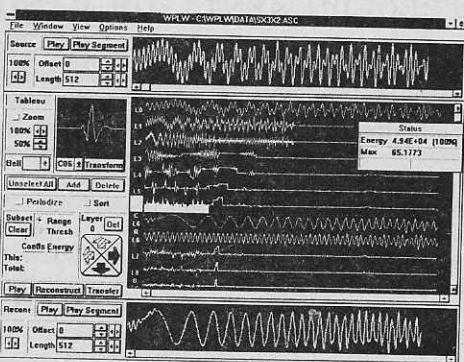
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(3 1/2" Disk & Manual)

\$300.00, £210.00, DM 495,00

The *Wavelet Packet Laboratory for Windows* is an interactive software tool for the Microsoft Windows™ operating environment that allows you to explore the properties of the Wavelet Packet and Local Trigonometric Transforms by performing adapted waveform analysis on digital signals. The objective of adapted waveform analysis is to find the "best" representation of a digital signal through its adequate display with a relatively small number of coefficients. The new representation can

then be used more effectively in applications such as signal compression and feature extraction. This unique package includes a user's manual and program PC diskette that allows hands-on signal analysis. It features an instructional Tutorial to get you started; however, the Tutorial is by no means an exhaustive study of the program, and you can later move on to actually designing specialized algorithms using the various transforms. The laboratory also includes an applications guide which presents the mathematical background of the program and some practical examples. The broad range of applications and the clear informative approach of the *Wavelet Packet Laboratory* will appeal to mathematicians, engineers, and physicists alike.



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Besides, The Editorial Board has recently published the **collection of abstracts** of the International Conference on Interval and Computer-Algebraic Methods in Science and Engineering (Interval'94), which was held in St.Petersburg, Russia, March 7-10, 1994. Abstracts are in English, two pages average, including postal and e-mail addresses of the authors (total 226 p.).