

Practical Time-Frequency Analysis, Volume 9: Gabor and Wavelet Transforms, with an Implementation in S (Wavelet Analysis and Its Applications)

By Rene Carmona, Wen-Liang Hwang, Bruno Torresani



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Time frequency analysis has been the object of intense research activity in the last decade. This book gives a self-contained account of methods recently introduced to analyze mathematical functions and signals simultaneously in terms of time and frequency variables. The book gives a detailed presentation of the applications of these transforms to signal processing, emphasizing the continuous transforms and their applications to signal analysis problems, including estimation, denoising, detection, and synthesis. To help the reader perform these analyses, **Practical Time-Frequency Analysis** provides a set of useful tools in the form of a library of S functions, downloadable from the authors' Web sites in the United States and France.

Key Features

- * Detailed presentation of the Wavelet and Gabor transforms
- * Applications to deterministic and random signal theory
- * Spectral analysis of nonstationary signals and processes
- * Numerous practical examples ranging from speech analysis to underwater acoustics, earthquake engineering, internet traffic, radar signal denoising, medical data interpretation, etc
- * Accompanying software and data sets, freely downloadable from the book's Web page





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Editorial Review

Review

"The authors have crafted a well-organized, up-to-date and highly readable presentation of some of the major components of time-frequency/time-scale analysis techniques of 1-D signals using Gabor and wavelet transform methods. The development of the basic concepts is implemented with a useful set of S-tools in the form of S-code, a library of S-functions and a companion Swave toolbox which they make available as freeware."

--MATHEMATICAL REVIEWS, Issue 2000a

From the Back Cover

Time-frequency analysis has been the object of intense research activity in the last decade. Wavelets have become known as a powerful took with which to manipulate signals of a complex nature, such as those with random, noisy, or nonstationary features Practical Time-Frequency Analysis is the ninth volume in the series Wavelet Analysis and Its Applications. The purpose of this book is to give a self-contained presentation of the techniques of time-frequency/time-scale analysis and to provide a set of useful tools, in the form of computer programs, to perform the analysis. This unified approach should appeal to applied mathematicians, statisticians, and signal processing engineers alike.

Users Review

From reader reviews:

Hector Naranjo:

Nowadays reading books become more than want or need but also get a life style. This reading addiction give you lot of advantages. Associate programs you got of course the knowledge the particular information inside the book that will improve your knowledge and information. The information you get based on what kind of publication you read, if you want attract knowledge just go with knowledge books but if you want sense happy read one together with theme for entertaining for example comic or novel. The actual Practical Time-Frequency Analysis, Volume 9: Gabor and Wavelet Transforms, with an Implementation in S (Wavelet Analysis and Its Applications) is kind of reserve which is giving the reader erratic experience.

Sandy Gonsalves:

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Janet Baltimore:

The particular book Practical Time-Frequency Analysis, Volume 9: Gabor and Wavelet Transforms, with an Implementation in S (Wavelet Analysis and Its Applications) will bring one to the new experience of reading a book. The author style to elucidate the idea is very unique. Should you try to find new book to see, this book very suitable to you. The book Practical Time-Frequency Analysis, Volume 9: Gabor and Wavelet Transforms, with an Implementation in S (Wavelet Analysis and Its Applications) is much recommended to you to read. You can also get the e-book from the official web site, so you can more easily to read the book.

Kim Free:

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