HOW (AND WHY) THIS BOOK IS DIFFERENT

Wavelets are incredibly powerful, but if you can't ***understand*** them, you can't ***use*** them—or worse, blissfully ***misuse*** them! ***"Conceptual Wavelets"*** is unique as a complete, in-depth treatment of the subject but from an intuitive, conceptual point of view. In this book we stress informed ***use*** of wavelets and leave the mathematically rigorous ***proofs*** to other texts. We do look at some key equations (at a high-school algebra level)--but only ***after*** the concepts are demonstrated so you can see the wavelets (and their associated equations) ***in action.***

FEATURES

- More than 400 illustrations, figures, graphics, tables, visual comparisons, etc. are provided to simplify and clarify the concepts. All of these "visual aids" are explained in detail using familiar language and terminology.

- Specific properties and suggested applications of the various wavelets and wavelet transforms are clearly shown using step-by-step walk-throughs, demonstrations, case studies, examples, and short tutorials.

- Numerous "Jargon Alerts" and other "Plain English" explanations bring you up to speed with the current wavelet nomenclature.

- References to some of the best traditional (and non-traditional) texts, papers, and websites are given for further application-specific study. We also familiarize you with wavelet software and show you how to "read" the results of their various displays.

- Both the ***strengths*** and the ***weaknesses*** of the various wavelet transforms are revealed to help you avoid common traps and pitfalls (such as loss of alias cancellation).

- This book clearly explains how to add (literally) ***another dimension*** to your signal processing capability by using wavelets to simultaneously determine the frequency, the time, and even the general shape of events and/or anomalies in your data.

ABOUT THE AUTHOR

D. Lee Fugal is founder and president of Space & Signals Technologies, LLC, a technical consulting firm doing business with corporations of all sizes, government, military, and academia since 1991. In addition to his 35 years of industry experience, he has taught upper-division university courses in DSP and in Satellite Communications. Most recently he has presented his 3-day short course "Wavelets: A Conceptual, Practical Approach" (the basis for this book) at universities, corporations, government agencies, and various other venues from coast to coast. He holds a Masters in Applied Physics (DSP) from the University of Utah, is a Senior Member of IEEE, is Chairman of the IEEE Signal Processing Society San Diego Chapter, and is a recipient of the IEEE Third Millennium Medal.

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