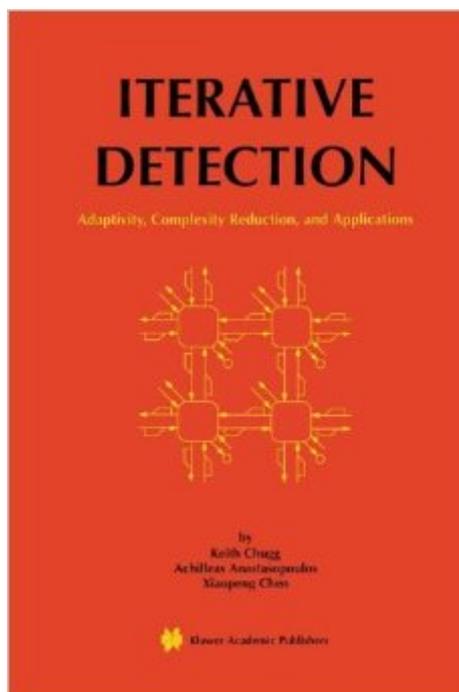# Iterative Detection: Adaptivity, Complexity Reduction, And Applications (The Springer International Series In Engineering And Computer Science)

Synopsis

Iterative Detection: Adaptivity, Complexity Reduction, and Applications is a primary resource for both researchers and teachers in the field of communication. Unlike other books in the area, it presents a general view of iterative detection that does not rely heavily on coding theory or graph theory. The features of the text include: Both theoretical background and numerous real-world applications.   Over 70 detailed examples, 100 problems, 180 illustrations, tables of notation and acronyms, and an extensive bibliography and subject index.   A whole chapter devoted to a case study on turbo decoder design.   Receiver design guidelines, rules and suggestions.   The most advanced view of iterative (turbo) detection based only on block diagrams and standard detection and estimation theory.   Development of adaptive iterative detection theory.   Application of adaptive iterative detection to phase and channel tracking in turbo coded systems and systems representative of digital mobile radio designs.   An entire chapter dedicated to complexity reduction. Numerous recent research results.   Discussion of open problems at the end of each chapter. Among the applications considered in this book are joint equalization and decoding, turbo codes, multiuser detection and decoding, broadband wireless channel equalization, and applications to two-dimensional storage and imaging systems. Audience: Iterative Detection: Adaptivity, Complexity Reduction, and Applications provides an accessible and detailed reference for researchers, practicing engineers, and students working in the field of detection and estimation. It will be of particular interest to those who would like to learn how iterative detection can be applied to equalization, interference mitigation, and general signal processing tasks. Researchers and practicing engineers interested in learning the turbo decoding algorithm should also have this book.

Book Information

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Customer Reviews

There are two key issues that authors must be acutely aware of when writing a book:1) They must have an idea of who the audience is2) They must try to educate and not impressOn both these counts, this book is a disaster.First the audience issue. Presumably, this book is targeted at both academia and industry. If you are in the industry and have an interest in Turbo codes, LDPC codes, Turbo Equalization, Iterative receivers etc., look elsewhere to understand these topics. This book is incomprehensible. IF you are in academia, perhaps you have a better chance of getting something out of it. But I believe the authors complicate very simple, elegant and subtle concepts to show how much they know. There are many well written papers on some of these topics and reading them is a better use of your time.There are hilarious posters that show how one can complicate the equation 1+1=2. This book is a larger version of this pathology.The topics addressed are very interesting indeed. It is a travesty that one of the first books addressing them is such a poor read.

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