

# ITERATIVE DETECTION

Adaptivity, Complexity Reduction, and Applications



by  
Keith Chugg  
Achilleas Anastasopoulos  
Xiaopeng Chen



Kluwer Academic Publishers

## Iterative Detection

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## **Iterative Detection:**

*Iterative Detection* Keith Chugg, Achilleas Anastasopoulos, Xiaopeng Chen, 2012-12-06 *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

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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.

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**Iterative Detection Processes** M. S. Raja, 1981 *Detection Algorithms for Wireless Communications* Gianluigi Ferrari, Giulio Colavolpe, Riccardo Raheli, 2004-10-08 Presenting a unified approach to detection for stochastic channels with particular attention to wireless channels, this book illustrates how the three main criteria of sequence detection, symbol detection and graph based detection can all be described within a general framework.

**IEEE Circuits & Devices**, 2002 *Quasi-Maximum-likelihood Detection in Digital Communications* Mikalai Kisialiou, 2007 *On Iterative Detection for Channels with Memory* Gianluigi Ferrari, Università di Pavia, 2001 **Proceedings**, 2006 **Conference Record**, 2001 **Conference Proceedings**, 2004

*Bayesian Inference and Maximum Entropy Methods in Science and Engineering* Ali Mohammad-Djafari, 2006-12-13 The MaxEnt workshops are devoted to Bayesian inference and maximum entropy methods in science and engineering. In addition, this workshop included all aspects of probabilistic inference such as foundations, techniques, algorithms and applications. All papers have been peer reviewed.

**Dissertation Abstracts International**, 2008 **Journal of Southeast University**, 2007 **Annales des télécommunications**, 2006 *International ITG Conference Source and Channel Coding*, 2004

Recommended Promotions to the Ranks of Professor and Associate Professor University of Michigan. Office of the Provost and Vice President for Academic Affairs, 2005 Technical Program, Conference Record, 2002 Detection and Modeling of 2-dimensional Signals Marcus Marrow, 2004

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